

# Atlantic States Marine Fisheries Commission

## Atlantic Coastal Cooperative Statistics Program Coordinating Council

October 21, 2024

1:15 – 2:45 p.m.

### Draft Agenda

The times listed are approximate; the order in which these items will be taken is subject to change; other items may be added as necessary.

1. Welcome/Call to Order (*J. McNamee*) 1:15 p.m.
2. Council Consent 1:20 p.m.
  - Approval of Agenda
  - Approval of Proceedings from April 2024
3. Public Comment 1:30 p.m.
4. Consider FY2025 Project and Administrative Proposals for Funding (*J. Simpson*) **Action** 1:35 p.m.
5. Program and Committee Updates 2:10 p.m.
6. Elect Chair and Vice Chair 2:30 p.m.
7. Other Business/Adjourn 2:40 p.m.

The meeting will be held at The Westin Annapolis (100 Westgate Circle, Annapolis, Maryland; 88.627.8994) and via webinar; click [here](#) for details.

**DRAFT PROCEEDINGS OF THE**  
**ATLANTIC STATES MARINE FISHERIES COMMISSION**  
**ATLANTIC COASTAL COOPERATIVE STATISTICS PROGRAM**  
**COORDINATING COUNCIL**

**The Westin Crystal City**  
**Arlington, Virginia**  
**Hybrid Meeting**

**April 29, 2024**

**TABLE OF CONTENTS**

Call to Order, Chair Jason McNamee .....1

Approval of Agenda.....1

Approval of Proceedings from October 17, 2023 .....1

Public Comment .....1

Consider Funding Decision Document and FY2025 Request for Proposals .....2

Update on Program and Committee Activities .....2

Other Business..... 21

Expansion of MRIP Data Collection ..... 21

Adjournment ..... 23

## INDEX OF MOTIONS

1. **Approval of Agenda** by consent (Page 1).
2. **Approval of Proceedings of October 17, 2023** by consent (Page 1).
3. **Move to approve the 2025 ACCSP RFP and funding documents as presented to the Coordinating Council** (Page 3). Motion by John Carmichael; second by Marty Gary. Motion passes by unanimous consent (Page 3).
4. **Move to adjourn** by consent (Page 23).

These minutes are draft and subject to approval by the Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council. The Coordinating Council will review the minutes during its next meeting.

## ATTENDANCE

### Council Members

Bob Beal, ASMFC	Carrie Kennedy, MD
Megan Ware, ME, proxy for P. Keliher	Stephanie Iverson-Carson, VMRC
Renee Zobel, NH, proxy for C. Patterson	Brandi Salmon, NC, proxy for K. Rawls
Dan McKiernan, MA	Ben Dyar, SC DNR
Raymond Kane, MA	Chris McDonough, SC
Jason McNamee, RI, Chair	Jeff Renchen, FL, proxy for J. McCawley
Greg Wojcik, CT, proxy for J. Davis	Ingrid Braun-Ricks, PRFC
Marty Gary, NY	Brandon Muffley, MAFMC
Heather Corbett, NJ, proxy for J. Cimino	John Carmichael, SAFMC
Loren Lustig, PA	Max Appelman, NOAA
John Clark, DE	Richard Cody, NOAA

### Staff

Toni Kerns	Joe Myers	Caitlin Starks
Tina Berger	Marisa Powell	Kristen Anstead
Tracey Bauer	Jamal Oudiden	Pat Campfield
Alex DiJohnson	Trevor Scheffel	Jennifer Ni
Katie Drew	Madeline Musante	Emilie Franke
Ed Martino	Julie Defilippi Simpson	Gabe Thompson
Daniel Mestawat	Anna-Mai Christmas-Svajdlenka	Geoff White

### Guests

Pat Augustine	Fisherman's Association	Alexandre Meirhaeghe, NYS
John Bello, Virginia Saltwater	Corrin Flora, ME DMR	DEC
Sportfishing Assn.	Tom Fote, Jersey Coast Anglers	David Meservey
Alan Bianchi, NC DMF	Association	Thomas Newman, North
Nicole Caudell, MD DNR	Alexa Galvan, VMRC	Carolina Fisheries Assn.
Haley Clinton, NC DEQ	Keilin Gamboa-Salazar, SC DNR	Ronald Owens, PRFC
Caitlin Craig, NYS DEC	Matthew Gates	Cheri, Patterson
Scott Curatolo-Wagemann,	Lewis Gillingham, VMRC	Andrew Petersen, Blue Fin Data
Cornell Cooperative Extension	Angela Giuliano, MD DNR	Story Reed, MA DMF
of Suffolk County	Maryellen Gordon, NJ DEP	Sefatia Romeo Theken, MA
Jessica Daher, NJ DEP	Melanie Griffin, MA DMF	DMF
Conor Davis, NJ DEP	Jesse Hornstein, NYS DEC	James Rosato
Anna Dorrance, ME DMR	Cecil Jones	Mike Ruccio, NOAA
Roman Dudus	Amy Karlnoski, Office of NYS	David Sikorski
Julie Evans, East Hampton Town	Assemblyman Fred Thiele, Jr.	Somers Smott, VMRC
Fisheries Advisory Committee	Nicole Lengyel Costa, RI DEM	Kristen Thiebault, MA DMF
Lynn Fegley, MD DNR	John Maniscalco, NYS DEC	Anna Webb, MA DMF
James Fletcher, Unites National	David McCarron, NEFMC	Chris Wright, NOAA

These minutes are draft and subject to approval by the Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council. The Coordinating Council will review the minutes during its next meeting.

The Atlantic Coastal Cooperative Statistics Program Coordinating Council of the Atlantic States Marine Fisheries Commission convened in the Jefferson Ballroom of the Westin Crystal City Hotel, Arlington, Virginia, via hybrid meeting, in-person and webinar; Monday, April 29, 2024 and was called to order at 1:30 p.m. by Chair Jason McNamee.

### CALL TO ORDER

CHAIR JASON McNAMEE: Welcome, everybody to the April 29, 2024 meeting of the ACCSP Coordinating Council. My name is Jason McNamee; I'll be chairing the meeting this afternoon. Why don't we get to it, get this meeting going here. We'll call the meeting to order.

### APPROVAL OF AGENDA

CHAIR McNAMEE: The first thing we will look at is the agenda. I believe we have at least one addition to the agenda, which we will put in Other Business. Geoff, do you want to describe that for the group?

MR. GEOFF WHITE: I wanted to briefly touch on the potential expansion of MRIP data collection in unsampled months, and states. We've added that as just a brief item under Other Business.

CHAIR McNAMEE: Excellent, thank you, Geoff. Are there any other additions, deletions, corrections to the agenda that anybody would like to see? Seeing none around the table. If anyone has a modification online, please raise your hand. Anything online? Okay, no one on line. With that, why don't we go ahead and approve the agenda as modified. Are there any objections to approving the agenda as modified? Anyone around the table, please raise your hand. Seeing none around the table, anyone online please raise your hand. No one on line, agenda is approved. Great, thanks everybody.

### APPROVAL OF PROCEEDINGS

CHAIR McNAMEE: Next up is the approval of the Proceedings from our last meeting. Are there any edits, additions, deletions to the proceedings from the last meeting of the ACCSP Coordinating Council?

Not seeing anybody around the table, anyone online with any corrections? None on line either. Are there any objections to approving the proceedings as submitted? Anyone around the table, please raise your hand if you have an objection. No hands at the table, anyone online? No hands online. All right, we will consider the proceedings approved by consensus as well.

### PUBLIC COMMENT

CHAIR McNAMEE: Let's take a quick moment here to see if there is any Public Comment for things that are not on the agenda. I believe there is exactly one person in the room here, who I know, and I know is not going to have anything to say. Anyone online wishing to make a public comment? Oh, okay. James Fletcher, please go ahead whenever you're ready.

MR. JAMES FLETCHER: James Fletcher; United National Fishermen's Association. We have been trying to manage fish for years, and it comes up that nano-plastics and microplastics are floating at the surface, both in freshwater and saltwater, and that the eggs and the larvae of most of the species we manage are consuming those plastics and starving to death or about to.

The best eggs float closest to the surface, thereby getting the most plastics. Nano plastics microplastics, it is imperative that ASMFC and the Mid-Atlantic Fisheries Council and the Northeast Science Center throw a full-on press to discover the effects of nano and microplastics on the survival of larval fish, and see if we can't come up with a better management scheme.

I know it is out of the box, but for years the United National Fishermen's Association has brought forth the pharmaceuticals, pesticides and manmade chemicals. If you look at it, the plastics are a manmade chemical. ASMFC Council, National Marine Fisheries have been on notice for 15 or 20 years. Is there any chance that ASMFC would delegate a group to investigate this? Thank you very much for your time, James Fletcher, United National Fishermen's Association.

CHAIR McNAMEE: Thank you very much, Mr. Fletcher. Any other hands for public comment? I'm seeing no. I think we are set with public comment, so thanks for that. We can get into the heart of our agenda here.

### **CONSIDER FUNDING DECISION DOCUMENT AND FY2025 REQUEST FOR PROPOSALS**

CHAIR McNAMEE: Let's start off with our Consideration of the Funding Decisions Document, and so for that Julie, I'm going to go to you.

MS. JULIE DEFILLIPI SIMPSON: The first thing we wanted to do today was just start with the FY24 funding status. This is the list of proposals that this group approved in October. The reason that we wanted to put this up there is that the economic impact of Rhode Island fishing industry, and the improving catch and effort data collection from recreational tilefish anglers, those were the two projects that the group had decided would split that money.

We just wanted to let you know that both of those projects got \$65,134. Everyone else got the money that was approved in October. We just wanted to update you on the status of that. Also, to the best of our knowledge, most of the partners have not yet gotten their money. There are federal things that still need to be worked out for that distribution.

Okay, so the next item is the Reviewing and Approving of the FY25 RFP. The summary of changes on the general changes would be basically update of the dates. In the Funding Decision document, the RFP, and in the timeline for proposal review there were no changes to the biological priority matrix, the bycatch priority matrix, the Recreational Technical Committee priorities, the Socioeconomic priority, data elements for the Ranking Criteria Document.

I do want to note that Kathy Knowlton did point out that American lobster was listed twice in the bycatch prioritization matrix, and that is because there are two fleets. We did edit that to say Mid-

Atlantic lobster, American lobster pots and also New England American lobster pots, but that is not actually a change, it was just a typo from last time. Then the only actual contextual change was in the Funding Decision Document in Appendix A. The Potomac River Fisheries Commission Electronic Reporting Project is now entering Year 5. They have a maximum value of \$142,344. Those are all of the changes that I have, Mr. Chair.

CHAIR McNAMEE: Great, thank you, Julie. A couple of minor edits and changes to the dates is basically all that has changed in the Funding Decision Document. We're looking for a motion to approve that so we can move that forward. Is there anybody willing to make that motion? John Carmichael. Sorry, just to get that up on the board there. If you wouldn't mind reading that, John, I can't twist my head that far.

**MR. JOHN CARMICHAEL: Move to approve the 2025 ACCSP RFP and funding documents as presented to the Coordinating Council.**

CHAIR McNAMEE: Thank you, John, I see a couple of seconds. I saw Marty first, thank you, Marty. We've got a motion, it's been seconded. Any discussion on the motion from anybody on the Coordinating Council? Any hands online? No hands online. Why don't we see if we can do this easy. **Are there any objections to the motion that is up on the board, if so, please raise your hand. Anyone at the table? Anyone online with objections, please raise your hand. No hands online, so we will consider the motion approved by unanimous consent.** Thank you all very much. I think that is the big action item on our agenda.

### **UPDATE ON PROGRAM AND COMMITTEE ACTIVITIES**

CHAIR McNAMEE: We're going to go now to go to our Updates on Program and Committee Activities. Just a quick note from me. We've got a couple of folks up here, so we have already heard from Julie, we have Geoff up here as well, and Ed over here on my left. They are going to switch it a little bit as they are going through the presentations, so you

can hear from a few more folks at ACCSP, switch it up a little bit. With that, Geoff, I believe you're up first, so I'm going to hand it off to you.

MR. WHITE: Actually, we have Julie up first.

MS. SIMPSON: We're going to start with the spring data load. ACCSP has completed the staging and review of the 2023 data, and some of the other updates to historical data. We have passed that over to the folks at NOAA Headquarters, and they are doing their review. They are going to be getting back to us this week, and so we are scheduling our public release of data on May 7. Look for that announcement. We will put that out on our website, and make sure that you all get an e-mail notifying you of that.

Some of the highlights for this year is that we do have a new contact in Florida for American eel data. American eel is one of those species that often has data contacts that are not within the standard fisheries offices. In the case of Florida, American eel data all comes from their freshwater division. We always have to reach out to the freshwater folks to get those data.

In addition, with the conversion factor changes in SAFIS was going to be reflected in historical eDR data in the Data Warehouse for this spring load. Then also, Maine did submit updates to 2022 data, as well as their 2023 data, so those will be reflected in this release as well. The next item we wanted to talk about was the Accountability Workshop that we held earlier this year, it was in February in Charleston. We had a great time in Charleston, as we always do. We brought state and federal partners, and so we wanted to thank everybody for making sure that somebody was there in person from your Agency. It was really helpful to have everyone there to discuss things and be in the breakout groups. We appreciate everybody being able to come. The facilitators we had were Jorge Fraga.

We consulted with him and had a contract with him, and then also Jennifer Cudney, who is in HMS, and in Miami she is part of a quality management

group, and she came as well, and assisted. The scope of that workshop, the group determined was the most appropriate and optimal data and accountability toolkit, so that the ACCSP partners have standard and efficient methods of providing data that is complete, accurate, accessible, trusted and timely to the Data Warehouse, for use for science and management purposes.

Just as a reminder, this workshop is part of the charge that came from this group a number of years ago. There was an accountability report, where we did a number of surveys, and that small group recommended this workshop. This workshop is a follow up to the report that we did previously.

The workshop objectives were to identify when and how to appropriately use different accountability tools, identify the best tools to verify the data that were collected, with minimal effort and requirements. Also understand the return on investment for the tool, and to standardize the data accountability processes across partners.

The workshop came up with a data accountability tool prioritization. This will be part of a report from this workshop that should be completed and distributed in June of this year. Tier 1, we have data entry validation, both electronic and paper. We also have data audits, and then we have outreach, both proactive and reactive.

Tier 1, these were the tools that were determined to be the most easily accessible and the most return on investment for most of the partners. Tier 2 was in the second level, a little bit less accessibility and a little less ease of use, and they are not used by quite as many partners. Inspect the fisher trip to dealer report comparison, obviously that is only for two-ticket systems. Then interagency comparisons and in the for-hire sector dockside monitoring.

These are used by a number of folks, but they are not used quite as standard across the board, they are usually used in certain fisheries and not all fisheries. Tier 3, these are ones that are used much more rarely, and that is positional data such as VMS, onboard observing data, and then also



electronic monitoring data. Then Tier 4 was more of a validation.

This was also part of compliance, you know usually things that are less used to validate the data, and more used to make sure that people are actually reporting. They are a little bit more of a compliance tool. This included the pre-trip notifications, negative reports, dockside monitoring and again, that was not in the for-hire sector, because dockside monitoring for that sector was in Tier 2, and then also law enforcement. The other workshop that we held was last year in May of 2023. That was the SAFIS eTRIPS at-entry Validation Project. Again, we had excellent partner participation at that, so we thank all of you for making sure that folks came to that. We did develop a requirement document out of that workshop, and what we've done so far is we have hired a contractor at the end of last year, and that person is working on developing an interface in the SAFIS management system, so that partners could go in and create their own validations.

That will be for a few of the core fields, but also for all of the attributes that each partner can turn on or off in eTRIPS. We are going to be finishing that project also in June of 2024. We will probably be reaching out to your staff next week to get feedback on that SMS interface. The next item that we have is SciFish, which was launched in April 1 of 2024. We have been working on this project for about three years.

It originally started as a collaboration between the South Atlantic Fishery Management Council and North Carolina, who built similar projects, and realized that there was an opportunity for moving from a stovepipe approach to a more ACCSP one-place approach. They put in a proposal for making that happen, and this group funded that proposal for a number of years.

The approach for developing projects under the SciFish is to focus on data collection for marine or diadromous fisheries along the Atlantic coast. We especially want to focus on projects that build data gaps or data efficiencies. We're asking folks to

address what identified research needs they are going to be needing with their projects. It can't just be, hey, we think it would be really great to collect this data, okay, which stock assessment is asking for those data?

That is the kind of thing that we're looking for there. We also want folks to use intentional design and clearly articulate how the collected data is going to be used in either management or assessments. We are very much encouraging scientists and fishermen collaboration, because this is a citizen science project.

The Organizing Committee that has been working on this for a couple of years, includes the folks that are listed on this slide, again from the South Atlantic Council, North Carolina, ACCSP, Georgia DNR, Rhode Island DMF, NOAA, and also Harbor Light Software. A big thank you to all of these folks. They have been meeting every Tuesday morning at 8:30 for the last three years, so a lot of meetings.

I'm actually going to really miss not seeing these folks on 8:30 on a Tuesday morning this week, because this is our first week without that meeting. Brandi is smiling, so she is also going to miss this meeting. Lots and lots of work that was put into this. There were actually two babies born in the group during this time period. Lots of things happening.

The group that is called the SciFish Advisory Panel is part of the policies that this group approved in October. That is the group that is going to be taking over the administration of SciFish. There were a number of applications that the ACCSP leadership approved. That includes Julia Byrd from the South Atlantic Council, myself, Angela Giuliani from Maryland DNR, Fran Karp, who is an Advisor from Rhode Island.

Kathy Knowlton from Georgia DNR. Dee Lupton, who is the Advisor from North Carolina. George Maynard works at the Northeast Fisheries Science Center, Laura Oremland is at NOAA S&T, and works in their Citizen Science Group. Brandi Salmon from North Carolina and David Sikorski, who is an Advisor

from Maryland. The SciFish annual application timeline, as I said, we did launch this in April, and that was when we accepted our first round of pre-application. We did get two applications at that time.

We've also had a number of inquiries from folks who are interested in putting in a pre-application, but didn't do so in April. The next deadline for that is going to be on June 1st, and then we will start taking full applications in August. This timeline will repeat every year, so it will just keep cycling.

The next thing I wanted to move into was some of the cross-team projects that we've been working on. The first one is the VMS project for the VTA application. This is a vessel tracking application, and so this is related to the trackers that are on the lobster vessels in the northeast and somewhat in the Mid-Atlantic.

We have built an application, and worked very closely with the state partners who are using that application variable to view tracks and view the trips that have been matched to those vessel pings. We are also working now on putting together a proposal, so that we can enhance that software, now that it has been in use in Massachusetts for about a year.

Massachusetts, Rhode Island, Maine and other states are working together to put together that proposal. But so far it has been very successful, and it gets daily use through that application. The next item is the new eTRIPS map-based feature. This is an item that requires a lot of programming, but is pretty seamless for the user.

The users are asked for their latitude and longitude, they are also asked for the statistical area that they harvest in, and then in many cases they are asked for either a sub area or even a local area in certain states. In order to populate all that, they have to choose each one of those. What we're building now is a map feature, so they open the map, they click on the place that they fished, and it will populate the latitude, the longitude and the area fished for them.

We want to keep enhancing that, but the idea is to streamline their data entry by allowing them to answer multiple questions, just by clicking on the map, because they know where they are on the map, and that one click can help them to answer all of those. From a data quality perspective, they are still able to repopulate the field, but the field is still editable.

If they've clicked in an area and then they realize, oh that is not really what I wanted, obviously. That's not where I am. They can still edit that area if they need to at the same time. The next project is the Internal Commission Finance and Administrative Tools. This is a project that the software team has been working on crossing over with the F and A Department for our requirements and other needs that that group has for meeting managements and contracts and all kinds of things.

There has been a lot of great collaboration on that and a lot of good progress made on that application. Then the final item is the new recreational and other reports in the Data Warehouse. This is something that the Recreational Team, the Software Team, and the Data Team have all been working on. Where we used an agile approach for this project, and there are more details on what those new recreational reports entail in the Recreational updates, so I will let Geoff cover that later on. That brings us to the end of my section, so any questions?

CHAIR McNAMEE: Thank you, Julie. Opportunity to ask some questions on the items that Julie covered. I see a couple of hands, so I am going to start with Dan McKiernan first. Go ahead, Dan.

MR. DANIEL MCKIERNAN: Julie, there was an early slide where you depicted the four levels of, I guess I would use the term auditing, and there was Level 2 talked about Agency collaboration. Could you shed some light on that?

MS. SIMPSON: Sure. When we talk about interagency comparison, what we're referring to is if there is a state that might be having, I'm looking at the state dealer report, but I might be looking at

a federal VTR, or I might collaborate with my neighboring state, so perhaps Massachusetts and New Hampshire had a lot of examples of a fishermen who maybe landed in one state, or was supposed to land in the other state.

The states really kind of have to work together on the reporting, because people tend to not always follow the rules the way they are supposed to. That was one of those things where again, it fell into Tier 2, because you do it sometimes, but you don't do it for literally every report.

CHAIR McNAMEE: Go ahead, Dan.

MR. McKIERNAN: Did anyone bring up the question, because when I saw interagency comparisons, I was thinking about like law enforcement. If a marine patrol officer were to witness a boat fishing, you know that could be cross-checked to the SAFIS system that there should be a report. Did that ever come up?

MS. SIMPSON: It did come up. That's in Tier 4, but with law enforcement, because again it is something that some people use, but it isn't used quite as often. It's more often used from a compliance standpoint more than from a, did this person report the right number of poundage's. We put it in Tier 4 for compliance.

CHAIR McNAMEE: Yes, go ahead, Dan.

MR. McKIERNAN: I have a third question. Under the cross-team projects you described an initiative for map-based data elements for area fished. Does this also require the request that we made for MRIP to be able to identify fishing locations? No.

MS. SIMPSON: No.

MR. McKIERNAN: Okay, thank you.

CHAIR McNAMEE: Great, Richard Cody, go ahead.

DR. RICHARD CODY: Julie, on the second round of SciFish proposals that are due on June 1st, is there a cutoff period for feedback to the applicants?

MS. SIMPSON: Our goal is to try to get back to folks within a month, so we'll try to get back to folks by July 1st, and then you can fill in and we would give you feedback on whether we felt a new pre-proposal was necessary, or more likely give you the go ahead for a full application.

CHAIR McNAMEE: Okay that's the hands in the room. Go ahead, John.

MR. CARMICHAEL: Yes, I appreciate that, Julie. I appreciate the SciFish thing, you know involved in this conversation when it started, and it's really nice to see it get to this point. Three years of weekly meetings, wow! Hats off to that crew, we know they are dedicated, but they really were for this, and it is great to see so many of them sticking around for the advisor role. Look forward to lots of great projects coming out of this.

CHAIR McNAMEE: Okay, any hands online? Okay, no hands online. One last call for folks in the room. Okay, thank you very much, Julie, and we will move on now to Ed Martino's part of the presentation, so Ed, whenever you're ready.

DR. ED MARTINO: I think I know a lot of folks in this room, but I don't think I've ever presented to you. I apologize, I tried to keep it high level. If it's too far in the technical weeds just tell me to stop, and we can talk about the details later. I think I did an okay job keeping the topic on point for this group.

I lead the Software Team at ACCSP, and I'm just kind of walking through some of the projects we've completed in the last 15 or 16 months or so, so since the March, 2023 Information System meeting. That is where I usually present updates like this. That first update there is kind of, it's a common theme. I'm going to talk a lot about APIs.

But just to keep it really simple, just for those that don't know, it's just mobile connection, any way that data comes in through a mobile device or a server process over the web, it's basically hitting an application program or interface or an API. That's all I mean, just mobile connection. SAFIS has seen a real uptick in that kind of submission with dealer

reports, trip reports, and now like the VMS location data that Julie just mentioned.

It's kind of important, it's behind the scenes a lot of this work, but it's important to kind of keep that thing tuned up and really working well. It's also important to make sure it addresses partner needs, so has to meet partner needs, work well, not have bugs or anything. We're constantly maintaining that, and those two examples there are basically one just feature where we've made it more flexible to update trip reports through this mobile-based submission process.

We call it the TRIPS upload API end point. But you can now update any field, with the exception of commercial fishing license and vessel, because that would essentially change the trip questions. But partners can update any field through the API now. That further down in the weeds item there, "rapid fire" duplicate submissions is just occasionally the mobile devices have these hiccups, and just blast us with the same trip, sometimes within milliseconds apart, so we kind of put some rate limiting code in place, to make sure that we don't see those as unique trips, we see them as duplicates. The next big item there is the partner footer, which is a bit more public facing. That is kind of like an additional screen and mobile or an additional page in eTRIPS online to ask questions that are triggered by what we call downstream responses, so you would select a certain species down at the catch level, or a certain gear at the effort level.

You can still ask a trip level question if those downstream responses trigger it, so it's kind of like you could ask start\_port still. That whole feature was developed for HMS initially, but we knew it would have kind of like a broader application. We expected more partners to start using it, and that is kind of what is happening right now.

We expect it to be used for some of the new lobster fishery questions, based on the lobster fishery regulations that went into place earlier this month. The next release of eTRIPS will start using that for more than we're currently using it. That next item is the lookup list. It's kind of somewhat simple, but

it is a critical part of mobile services that we put out.

It's basically a list of allowed or accepted values by ACCSP, or determined by partners for value like species, gears, fishing areas. It's all the allowed values that need to go out to the mobile devices, and we push it out through that lookup list endpoint. Then that same endpoint has had some more specific use cases, where we realized they were kind of a problem with the way certain features were working, like mobile devices.

If a captain is at sea and submits a trip while they are at sea, if the connection is disrupted, SAFIS might get the trip, we process it, but if the disconnection happens before we can send back the confirmation response, the mobile device is kind of left in limbo. We developed this trip process list to kind of resolve that issue, where the mobile device at any time can say, did you get that trip and data process? That helped resolve that one particular issue.

The next items here are kind of, you know that top right one on the list is kind of a general goal to get eTRIPS online and eTRIPS mobile more consistent, with respect to the interface and the user experience. There are some reasons these Aps or these platforms are different, but we've been constantly trying to kind of homogenize the appearance for users.

I am not really going to go into details, but one simple example is just we had these things called state port and state vessel, which were really just parent lists that force the users to select the state before they could pick a vessel or a port. We didn't collect that information, and so there was really no need to ask the user and take up screen real estate.

We didn't do it on mobile, we were doing it online, so we kind of cleaned up that interface and online. These things, they seem kind of trivial, but they are important to the users to kind of have a more homogenous experience. These map tools Julie just mentioned, I don't think I really have anything to

add there, other than the last eTRIPS release we pushed that feature out, so you click a map.

We always auto-populated the Lat and Long, that was the whole point of the map for several years in eTRIPS, but now we kind of auto-determine the statistical area, and we're kind of already thinking about ways to expand that use to things like sub-areas and 10-minute squares, based on that same click. The VMS Project, Julie really highlighted a lot of that work. The Software Team was mostly focused on the API/Mobile side of receiving that data and validating it. That is the trip locations endpoint there.

Then we worked with the Date Team or the Cross-Team Project to work on the VTA, the vessel tracking application. It's an Admin Portal to let partner Admin go in, review the data, plot the trips, and review the compliance of the vessel. The next item again, is a little bit down in the weeds, but it's sort of a modification to overall SAFIS error processing.

The real goal there was to kind of put what we're calling soft-fail errors or warning. It's like the trip will still be accepted, but we might say you're on an old AP version, or you submitted this trip reporting under one federal agency, but it should have been a dual permitted trip. We kind of have a couple one-off cases like that, but with that project that Julie mentioned about the attribute validations with THP Consulting, Taryn Pinnell being the Contractor.

We're going to bring in a whole suite of partner-managed new validation, and warnings of kind of one of the options partners will have. It could set a new validation of the hard-fail, or just a warning. Getting that into the core part of SAFIS internals was an important lift for us. This slide really just, this is something we present at the Information System Committee each year now. It's kind of a high-level view of the priorities for the Software Team.

At the very top, I guess the main item here was that we completed the species QC re-design. I should say the top three projects there are the species QC

re-design, the registration tracking and the eDR re-design. They are kind of longer-term bigger software projects. But I think based on those first few slides you can see that there are a lot of other projects going on, a lot of work that comes up. Some of it is planned, we expected it to happen, other things we didn't expect to happen, but it's a high priority.

We're constantly trying to stay focused on the core projects here, but we're always trying to work and balance with other tasks and keep priorities balanced as new things come up. That is kind of what that big arrow is on the bottom there. The species QC re-design was all about giving partners control of species, we call them GUMPs grade/unit /market/ price, a species type field, giving partners control of the application and the trip-type level, kind of set what values we would accept and how we validate those.

That project was wrapped up, we wrapped that up in June, and we started focusing on these other two big projects, the registration tracking and the eDR re-design project. The registration tracking project is kind of a project that is really about adding this concept of relationships to SAFIS, so giving partners the ability to connect, we call entities or participants together.

Actually, that could be individuals or businesses, and it gives partners a way to kind of define those relationships that exist between that kind of data. It also improves how we connect multiple participants to a single permit or license. It gives the ability to connect participants to vessels, and improves how we connect permits to vessels. That is that one project that we're pretty thick in right now working on that. The eDR re-design, the goal is kind of to centralize the processing of dealer reporting from online API/mobile and file upload. We kind of went through this process with eTRIPS about four years ago. We're trying to do the same thing with the eDR dealer reporting side of SAFIS. Then similar to the eTRIPS re-design, we're adding switchboard-controlled partner attributes.

The SAFIS switchboard is where partners can turn on different questions, turn on what gets validated, and what are the allowed values, whether the question shows up or not. That is all part of the eDR re-design, and then that bottom really small bullet, I added there with the API enhancement work. That fits into that topic of, we didn't see this coming necessarily, but it was a high priority, and that is a task that we added in October, basically of this year.

I'll provide a bit more of an update on that in a slide or two. The eDR API re-design, the goal was basically to modernize a legacy system that had multiple components that involved a bluefin data developed PC trip ticket system. It would generate files, and then the files would get passed around to different servers, and eventually make it into SAFIS.

It's very legacy, it was hard to support, and then it became impossible to support. Well, we knew it was going to be impossible to support early this year, when the Northeast Center, well they had plans to turn off a host that was a critical part of that process flow. We kind of had an urgent deadline to sort of plug this reporting gap for about 100 dealers, and it had to be done by February, last March.

We kind of pushed for a little more time, but the important thing is we modernized that data flow, got it done by March. The data is now flowing in to a more modern API based approach, and the changes to the API included things like taking this really limited use eDR API or dealer reporting end point, and expanding it so it really handles a lot more partner data. It initially focused on GARFO and HMS data.

To add more robust error processing, the previous version of the eDR API was really, it was pretty forgiving, and it just wasn't going to work for something this big and this important of a data flow. To add a report-update feature to it, so you can actually now not just submit new dealer reports with the API, but update those reports. That was a new feature.

It all went well, I mean it wrapped up April 15, and the data is flowing through that new process now. It wasn't really the way we kind of saw ourselves starting eDR re-design, but I still think it was good timing, because we needed to kind of get our heads a little more focused on dealer reporting in SAFIS.

For these last two slides I had, I call it the API System Scaling, and what we're referring to there is this increased use of these mobile data flows. Data flows coming in for trip reports, dealer reports, locations outside the web, online type interface or file uploads, this is specifically talking about mostly mobile clients, but also some server processes, submitting trip, dealer and location data to us.

The plot that shows monthly count, monthly submissions to these endpoints. The gray there is the trip report calls coming to us to send trip data. The important point is, it is slowly increasing. It's kind of noisy, but it really is increasing, largely due to at least in the last year due to an increase in submissions from trips originating at GARFOs through Fish Online, and from Bluefin Data's VSLR program. That data eventually does get to us, even though it starts at those other Aps. There has been an increase, the dealer reporting monthly path there at the very bottom, that blue line. That is starting to pick up pretty quick now as part of the eDR API work, so it is clearly worked by trip reports, but it's changing pretty rapidly right now.

I guess the main point I had here was that overall, the sum total of these submissions to either one of these trip or dealer report input points, it's always under 60 or 70,000 calls per month, so calls to the API per month, and that is really in contrast to what happened to us early this year, when the vessel VMS program really started ramping up and started all these tracking devices started sending us location data.

That orange line is plotted on the same plot that the dealer report and trip report lines are on, they are literally just washed by this massive flux of location data that is coming into the new trip location endpoint. It's really shocking how much more data is coming in. You know these are small payloads,

but they are hitting us really frequently. It's just a time stamp and Lat and Long, but we have to process each of these individually from the VMS tracking devices.

Basically, we were seeing up to 400, we are seeing up to 400 calls per minute, 400 attempts to send this data to us per minute, up to 300,000 calls per day, 3 million calls per month. It's not always hitting us at 400 calls per minute, but across the month it's 50-fold higher than what we saw in the combined dealer and trip reporting through the APIs.

It's all good news, but there was a growing pain. It put a strain on the SAFIS connections database, and we had to really get things tuned up. There were failed connections, it just really ran us over briefly, but we kind of got it resolved. We got it tuned up pretty quick. Within a couple weeks of a little stressful, but within a couple weeks we got basically the database of SAFIS and the AWS, the cloud part of that dataflow to us.

We got things tuned up and the processing times went down, the failures are basically nonexistent, and so that was basically good news that we were able to work through that in a couple of weeks. It's still something that we've got in mind, because that was kind of short-term fixes. But there are other long-term solutions we have in mind, like splitting this VMS processing away from other type SAFIS processing, away from the dealer and trip reporting.

We can isolate that better. These are things we're talking about; we haven't done it yet. Then I put a bullet there at the bottom, just because we did really well on Inflation Reduction Act Proposal that Geoff or Julie might mention, but that is all I've got Geoff or Julie, unless you weren't planning to talk about that I could.

CHAIR McNAMEE: Great, thank you very much, Ed, good stuff. Any questions for Ed before we move on? Renee, go ahead.

MS. RENEE ZOBEL: Thanks, Ed, for the presentation. This is software related. Back in the eons ago when

original eTRIPS was designed, there was intention then, and I know why it has dropped along the way and completely understand, of having dealer reports for individuals who acted as their own dealers, essentially, and had a dealer permit within the system, to have entered those three eTRIPS, so they didn't have to go in and then enter some of that duplicate information in eDR. Has that been discussed at all? I know that from a programming standpoint, I understand that. It's just a curiosity question.

DR. MARTINO: Yes, I am not familiar with it, Renee, but I didn't mention it enough in that second slide. Geoff has a point, and I'll let you jump in. I think what I'm saying is okay. It's just that I didn't mention that we're soliciting input for the overall eDR re-design. Next month we'll try to reach out to partners and say, what do you guys need as part of the broader re-design? I think Geoff might have something specific to that question.

MS. SIMPSON: Again, just to follow up on that. We are moving the E-1 ticket application into eTRIPS. We're working with Georgia on operationalizing that right now. That is something that we can use for other states as well, so common to shellfish dealers, or shellfish, they are their own dealer. We're going to be able to leverage that in eTRIPS as well, so they can essentially generate both the fishermen trip and the dealer report at the same time in one application. That will probably be coming in the next year or so.

CHAIR McNAMEE: Follow up, Renee?

MS. ZOBEL: Yes, so Julie, would we have to roll out a separate application then for, we do have a decent subset of individuals who do that, it's all small scaled, but it just turns into a big burden on a small scale, essentially.

MS. SIMPSON: No, we're doing it, it's all one platform, they would just have different permissions. We would need to know who those individuals are, and you would be able to set that up, and then they would have different questions,

because they will have to answer the dealer report portion as well.

MS. ZOBEL: Thank you very much.

CHAIR McNAMEE: We've got a hand online, David McCarron. David, go ahead whenever you're ready.

MR. DAVID McCARRON: Thanks, this is Dave McCarron at the New England Council. Did I catch that right, two and a half million hits on the API for a month?

DR. MARTINO: Yes, actually higher than that. But just to the trip location end points. That doesn't even include the dealer and trip reporting itself, just the locations coming in. They are hitting us that many times in peak months.

MR. McCARRON: We can connect offline, but I'm curious if you've looked at the quality of those connections, and if those are maybe bot generated. We've had to install, Amazon AWS, depending on what service you're using, we had to install cloud front to keep bots from hitting our website, which is basically a geographic limiting tool for APR requests. Reach out to me offline if you want, and I'll give you our experience.

DR. MARTINO: I did say two and a half or three million per month, right, not per day.

MR. McCARRON: Oh yes, even per month that is extraordinarily high.

DR. MARTINO: Yes, we can definitely talk offline, but I think the math works out when you scale a vessel sending us that data every month, or every minute, I'm sorry.

MR. McCARRON: Oh, okay. I would be curious, if you want to compare numbers at some point.

DR. MARTINO: Definitely, thanks for the comment.

CHAIR McNAMEE: Julie.

MS. SIMPSON: I just wanted to note that for those

that aren't familiar with the program. The lobster vessels that have these trackers have a one-minute ping rate. When you're looking at, I think 6,000 vessels eventually, when they are out on the water they do have to send a ping every minute, so Ed is right, it is a lot of things. In any other situation it would be a red flag, but in this case, it is mathematically correct.

CHAIR McNAMEE: Great, maybe still worth a chat though offline, just in case you see something abnormal start to happen you'll be prepared.

DR. MARTINO: Definitely. Good comment.

CHAIR McNAMEE: Any other hands online? No, Geoff, did you have something or are you ready to go?

MR. WHITE: Relevant to this.

CHAIR McNAMEE: Okay, go ahead, Geoff.

MR. WHITE: Great, thank you, Mister Chairman, thank you, Ed and Julie. This is for the Coordinating Council. A lot of the things that they've been presenting on are action plan items that take a fair amount of time to implement, including the three-year software development plan. I think what is highlighted in this is there are many hidden dependencies at a very detailed software level of what is the user interface, what are the data quality checks that are occurring, and how do we plan to implement those over time.

You are seeing a little bit more about what has gone into that and the levels of success that we were able to do at this point. Madeline, can you go back one slide, please? I did want to highlight, Ed pointed out under the IRA proposal here. This is an area for, we recognized earlier in the year that we needed more scalable redundant cloud interface. ACCSP submitted a proposal to the FIS data modernization request for proposals, using IRA funds. That was a five-million-dollar pool that was highly competitive. I think the proposals that came through asked for maybe four times the available funding. The ACCSP proposal ranked in the top five



in selection for funding, and therefore, we've got about \$350,000 of additional direct funding to do this work over the next two years.

I point that out, because that is something that doesn't need to go in the next RFP for the Admin Grant to make the ACCSP systems more modern, scalable, robust, to handle these types of projects in the long run. Thanks, Ed, for the update. Thanks to Julie and Ed for your work on the proposal and the whole FIS crowd reviewed many, many proposals, and were able to evaluate and participate in that. Thank you for that so far. With that I'm going to move forward to the Recreational Section.

Alex DiJohnson would have preferred to do this, but he's out on sick leave today. I wanted to highlight kind of three areas. Number one, there has been work on a discard pilot project, in terms of developing it. Doing better at identifying discards is Priority Number 2 in the Atlantic Implementation Plan for Recreational Data.

Highlighting a couple things about the way APAIS, MRIP survey at the dock occurs right now. We asked anglers those questions about what is discards after your trip, when they may not have been paying attention. In combination with the fact that there are tighter catch regulations. There is higher effort that kind of looks at a higher proportion of overall release catch, and therefore the public appropriately questions, what are these estimates of released fish?

Are these as good as they could be? In addition to that, the released catch length data, how big was the fish that were released? There is kind of a gap in coverage for private modes that goes into the stock assessment. That is the rationale for this discards group to get going. What has happened? Well, we had this idea over a year ago, a Subcommittee was formed and they met monthly since January, 2023, and finally presented an updated design to the Recreational Technical Committee in March.

MRIP was highly involved in this proposal development. The Rec Tech Committee was guiding

it. But it really was kind of a, how would this work, and the goals were really to analyze the potential of digit bias and recall bias in the current methodology, and to collect additional lengths of these released fish.

The design very broadly, during an assignment it bases the pilot project on the MRIP primary design. This is a, what is the potential to improve MRIP as a core design, instead of replace or supplement it through an extra design? These are extra assignments that can be done in parallel. The idea is to hand out some catch cards, before an angler leaves on their trip, and ask them to fill that out while they are out there.

The draw and the weight, the methodology still prioritizes interviewing anglers when they come back. But one of the tweaks is allowing for about an hour buffer time before an assignment, to hand out these catch cards, so testing a lot of different little assumptions in that. Then because this slide is about during an assignment, if I as an angler have been given a catch card when I leave for my fishing trip, and I happen to return when there is an APAIS interviewer there, I'll just hand them the card. Great way to hand it back in. I'll show you the card and then if the interviewer doesn't happen to be there it can be mailed in later. But that is the basic structure of how it's going to happen.

The catch cards themselves, the group spent a lot of time designing these. They want to get tallies for all species, the lengths on 14 managed species. The box on the lower right says, these are the priority species where we really need more data, get the lengths on these fish, to guide the anglers on how to do it.

The card can be identified, tie it back to that particular site, interviewer and state and timeline in the post processing. It has a QR code on there, not for submitting the data, but another way to get a little bit longer instruction. What happens after the assignment? Well, if an interviewer is not there, you can put that card right in the mail, postage prepaid.

The catch cards ultimately go back to the state, and the state staff, who are already involved in the state connect of MRIP surveys, will be able to enter that data into a new page on the ACCSP Assignment Tracking Application. This is something that we developed, we have it in house, state staff will be able to use their time to enter the information in there.

Then ACCSP and state staff would QA that particular part of the data. The interviewer would use the same tablet application that they are using, just flag it as a pilot assignment to collect the interview data and submit that to the central ACCSP database. These alignments with current methodology really in green, highlight the potential for these overdrawn assignments.

If the work is funded the work happens in 2025, it is done in its own little side area. But if all the math works out, it goes as well as we hope, then those extra assignments can be part of and recalculated as part of the primary MRIP estimates, and that increases sample size, and that might be a good thing across the board.

Who is interested in this? The group spent a lot of time developing it. When would it happen? They are looking at data collection in Waves 3 through 5, best case that would be 2025. In terms of state interest, the individual states by region are listed on the screen with a number of assignments that would be added for this.

The table shows anywhere between 4 and 14 percent increase in that states number of total assignments being done for a calendar year. It's a significant size of a pilot, and the regions will be kind of combined to get an adequate sample size. But what I really take out of this is the ownership of the group, and the process that they've got to develop this, meant that there are 7 states that are interested in participating in this pilot study. That is huge.

I'm not sure that would have been possible before 2016, when we started doing state conduct, and we've had these learning curves and benefits of

having your state staff out in the field doing this. Very excited about the design, the creation of this project. Their plan is of course to submit this to ACCSP as a proposal, to the recently approved RFP. One more slide on this one. Next up is of course making a few changes to the proposal and submit it. I do, because discards are such a big issue, I want to note that the Gulf Commission is also hosting a workshop on release catch methodology sometime this summer. We've been in contact with Greg Bray, as the two ACCSP and GulfFIN talk pretty commonly. We will pass on that information to all of you when it exists.

Greg has told me that the Steering Committee is developing kind of the framework of that particular workshop, but they are planning for pretty open participation through state partners, both in person and remotely. As long as the timeline works out, we would like to have more folks be able to participate in that.

Next slide is what Julie had alluded to a bit earlier on the ACCSP Data Warehouse and website updates. This is cross-team project to update how the ACCSP web public and log-in Data Warehouse presented the MRIP estimates. Aligning with MRIP fields as fishing year, annual versus cumulative summarization, adding confidence intervals, and flagging different color codes for the different levels of PSE or precision.

One great thing about this is the coordination internally with MRIP flagged, just before we were ready to release this at the end of December. We were able to work directly with MRIP and get the redirection that the wave-based estimates were going to be able to stay publicly available, and so we put that back in, and that has been available since January, for anyone looking through the ACCSP recreational query interface.

That was a big desire by a lot of state and federal partners to support stock assessments, and see that level of detail. Thanks to MRIP and thanks to the ACCSP team that were able to make this work. Also, there have been updates that Julie and Marissa have done on the ACCSP website, to add in

some more information about how recreational data and projects are handled within ACCSP, and more information about MRIP.

A lot of that, the MRIP page at least, was modeled after work that was done by the Mid-Atlantic Council, I believe last year, so thanks for that. The third topic in this section is an update on the for-hire logbook methodology technical review. A lot of dates on this slide. I won't read through them all, but basically, it's a bit of a long-term project about how to use logbooks more fully. Right now, logbooks are used through GARFOs vessel trip reporting, as effort in the MRIP catch statistics, and there is a desire to use those more fully for catch estimates.

We want to maintain compatible designs. If there is a move to use logbooks and still keep the FHTS survey design in place. The goal of allowing for that phasing in to work and still keep the survey methodology there and have the outcoming data be compatible, both for two boats in the same marina, and also for states that do use these methodologies a little bit different than our neighbors.

We're really trying to develop the design prior to regulations and implementation, and obtain feedback on these components from the MRIP statistical consultants for eventual certification. That review was put in, we met with the consultants last summer. They got a report to us in October, and now we've been working with MRIP and our Rec Tech Committee a bit more about where that goes. Quick reminder on where does the certification process lie. This is an MRIP slide, thank you, Richard for sharing this long ago. The highlighted box in the middle is kind of where we've at. When it comes to certifying a new design, it's an iterative and kind of long-term process. All I'm really highlighting here is that the top three boxes of the initial stages are where we still are, and we expect a bit more of this technical review adjustments on our end, submit that in to see how that design works.

Last summer, we had a consultant's external review, and there were six terms of reference. I will

kind of pause and let you read some of them here, but we'll share the presentation afterwards. I think you've seen these before. But it's really about survey design components, estimation methodologies, measuring for potential bias, under-coverage, nonresponse and response errors.

Next slide has three more terms of reference about sensitivity of the accuracy to the survey assumptions. Other potential sources of non-sampling error, and to potential error in the implementation. Those are areas that the consultants were able to review on. The green checkmarks here are really areas where there was alignment in the submitted design, and what the consultants were able to review and give us feedback on.

The design as written includes probability sampling. It uses APAIS for both estimation and validation. It appropriately waits for sample data in the variances. These are big things in the overall design, and we were glad to see these things come back. There were no new accuracy concerns. But at the moment there was limited ability to measure and evaluate some of the bias in non-sampling error, and again confirmed that many of these components were the same or similar to other certified MRIP designs.

These are things that were intentional, as ACCSP and Rec Tech were developing this. It was nice to hear that confirmation come back from the consultants. What are the areas of work? Well, one point was, did not fish reports. There were several questions by the consultants and Rec Tech came back and said, yes, we still want to include did not fish reports as a required element of this particular program.

The intention there is to have a clear data point as a fisherman saying. I did go out or I didn't go out, instead of the assumption of no report inherently means, maybe they didn't fish or maybe they didn't report. The did not fish reports are a compliance tool that they wanted to include. In terms of declarations or hail-outs, for the Atlantic Coast design the Rec Tech Committee in general said,

These minutes are draft and subject to approval by the Atlantic Coastal Cooperative Statistics Program (ACCSP) Coordinating Council. The Coordinating Council will review the minutes during its next meeting.

don't require that extra burden, but include that as an optional step, where the partner agency wants to implement that in their program.

It could be fed into the evaluation as a compliance tool. Again, the hail-outs don't exactly help the estimation math, but they are helpful in the compliance and the monitoring tools. One point the consultants raised is about Vessel Frames. If Geoff's boat has a permit that does not require logbooks right now, that boat would be in the effort survey frame.

If Geoff's boat has a permit requiring an electronic logbook that happens to meet all these design criteria, then I could be in the logbook frame. There were some questions about how often a vessel could switch between frames, how that works with the survey. We're working to clarify some of those things about a vessel within a year moving between what type of data collection would apply to it. Then finally, was how well to use APAIS as a required estimation component. There was an idea to use existing data from 2019 to 2023, to evaluate the tablet application from APAIS, the GARFO mandatory VTRs, and look at how well did those things align? What were the overall rates of reporting, and how can we test some of the assumptions on nonresponse or other estimation bias use, by using existing data.

That is a project we need to kind of scope out, and decide on how to approach, because that was something suggested by the contractors that we wanted to continue on with. With that, that is a bit of a quick fly through of some of the recreational side items. The next slide is a pause for questions in the recreational.

CHAIR McNAMEE: Thank you very much, Geoff. Any questions for any of the items that Geoff covered? John, go ahead.

MR. JOHN CLARK: Just curious on the discard study you are going to do. Are you planning to offer any incentives to recreational fishermen to fill out those cards? I mean it seems like you're asking them to take on an extra burden while they're out there.

MR. WHITE: Good question, and at the moment they have not scoped in additional incentives to do that. It would be as people are heading out on their trip, they hand them out a card that keeps it within the trip, like random design of APAIS. But that is something that the Rec Tech and the Subcommittee could look at in the coming weeks before they submit a proposal. We can certainly ask them to clarify that a little bit more.

CHAIR McNAMEE: Good, John? Okay, John Carmichael.

MR. CARMICHAEL: Geoff, on the for-hire methodology, so where does this fit in with all the various for-hire reporting and estimation processes? Is this setting some criteria the program should try to strive to, or is this going to propose maybe some programs change to comply with this or what? Can you fill me in a little bit on sort of what the end game is?

MR. WHITE: Thanks, John, I jumped right in without reviewing that part. Good question. The intent is to come up with a certified design that could be adopted by any of the current logbook programs that exist. It could be GARFO, it could be SEFHIER, it could be South Carolina. It could be a state that doesn't do logbooks now, but wants to.

New York has made some moves in this similar direction to do this as well. The intent is to set a common standard. One certification methodology, and then have partners as they choose to, meet that guideline. That way their fishermen that have those logbooks would be able to have that used for the information. It gets more data in faster.

MR. CARMICHAEL: It seems like then perhaps a benefit to say somebody with a data collection program to doing this and following those standards, is you don't have to go through your own separate MRIP certification process. Is that right?

MR. WHITE: Absolutely, yes. The intent here is to design it as a group, certify it once, and have it get adopted for implementation as partner agencies, be them state or federal, are able to implement that

on their own timeline.

CHAIR McNAMEE: Good, John? Great. Brandi, go ahead.

MS. BRANDI SALMON: I've already talked to Geoff a little bit about this before the meeting, but for the Discard Pilot Project, North Carolina is going to try to participate, but we're a little skeptical, because we, as I mentioned in, I think one of our prior meeting, North Carolina had some legislation come down back in October that is requiring all recreational anglers to report five specific species of their harvest to the Division of Marine Fisheries when they are done with their fishing.

Of course, five of the main species are caught in North Carolina, so we are not only going to have people trying to participate in APAIS, but they are also going to have to be required to report their TEDs for certain species, and have this catch card process? There is going to be probably a lot of push back on the recreational side in North Carolina.

We may even have a little bit of an adverse reaction to requiring a lot of these different ways of trying to collect data, and a lot of people may assume that this is duplicative collection of data as well. We're going to have to really make sure that we're working hard on any kind of messaging or outreach on these types of projects, so that we can make sure that people understand, like what is going on.

CHAIR McNAMEE: Response, Geoff.

MR. WHITE: I think the outreach is a big component of any of that. Certainly, understand the challenges that you have in North Carolina with a couple of these concurrent pilots. Thank you.

CHAIR McNAMEE: One more look around the room here. Before I go, there is a public comment on line, so Dan McKiernan, go ahead.

MR. McKIERNAN: Geoff, to dust off a previous question that I asked of Julie. Is there any progress being made on the request that my agency put together last year to have the MRIP interviewers

have that tablet fishing location option to add, to improve the fishing location? This is especially important for Massachusetts, because we sit at the intersection of different stocks, you know that keep getting redefined. Is there any forward action on that?

MR. WHITE: There is discussion about it, in terms of how to collect more detailed areas, but again, trying to figure that out across all states with the right code. There have been more challenges than solutions identified to date. But it hasn't fallen off the radar, so it's a work in progress, but unfortunately, it's not going to be quick.

MR. McKIERNAN: Thank you.

CHAIR McNAMEE: Okay, if there are no other hands around the table here, Mr. Fletcher you can go ahead with your question.

MR. FLETCHER: Is there any possibility that either the federal under the Council system or ASMFC under their system, could require cell phone reporting by the individual angler? United National Fishermen have pushed for this for the last 15 years. But why, can you explain why we do not have individual cell phone reporting, when Bluefin Data has an AP or system that will work? What is the reason that we have not gone to individual cell phone reporting on all recreational data? Thank you, Sir.

CHAIR McNAMEE: Go ahead, Geoff.

MR. WHITE: Thank you, Mr. Fletcher. It's a good question that has not gone unrecognized. There is a reporting application by Bluefin Data, there are Applications through SAFIS, there are other Apps that exist to collect individual angler fishing reports. However, the biggest challenge is about expansion of those reports.

How does the whole fishing industry get represented, instead of those that choose to use those apps in that moment? When we talk about compliance with overall reporting, we talk about statistical design and being able to expand those

reports out across effort to every fisherman that is out there.

Those are the challenges that exist. At the moment, the survey design and the statistical selection of who reports, is really driving a lot of the factors about how these data collection occur. One of the nice things that we presented about earlier about SciFish or any of the citizen science application, is that can be supplemental information about what is caught where.

That can be used on an individual basis in who selects to report that type of information. That can be used in addition to the MRIP catch estimates and release estimates that citizen science information typically goes into the stock assessment and management process after, or you know in parallel with the MRIP information. I would pause and invite Richard Cody from NOAA and MRIP to speak for it.

CHAIR McNAMEE: Go ahead, Richard, if you would like.

DR. CODY: Yes, I mean I don't want to make excuses as to why we're not adopting a full comprehensive logbook program for recreational anglers, but there are some major challenges to doing that. One is that if it is a logbook, it's complete reporting that is needed all trips, so that would be a challenge, I think, in terms of just the response burden on anglers, as well as just the logistics of managing data of that volume.

That said though, there was a workshop fairly recently in Miami that looked at citizen science-based approaches, so taking app based reporting and pooling data, whether it's processed data collection, in terms of geo-locations from cell phone use, or just reporting citizen science-based reports. I think there is a recognition among us, involved in the data collection end of things, that we need to get a handle on ancillary or auxiliary sources of data to better inform the data we already have. But also, just because it is coming to a point now where there are so many other sources of data available, that it's very difficult to just ignore them. I do

support the idea of getting more comprehensive reporting from anglers. But whether that is for all anglers and all trips, or it is a panel of anglers that can be used to inform say discards, or something else. Those are things that are being looked at.

CHAIR McNAMEE: Great, thank you. We have another online hand, Julie Evans, so Julie, whenever you're ready, please feel to unmute.

MS. JULIE EVANS: Thank you for taking my question. My name is Julie Evans; I am the Secretary of the East Hampton Town Fisheries Advisory Committee. My question is regarding any preliminary data to the response of the recreational groups or individuals that you might have gotten to this point, and how they feel about this new initiative to gain more information. Then I have a follow up, if that is okay.

CHAIR McNAMEE: Geoff, do you want to take that?

MR. WHITE: Could you clarify which part, the discards or the for-hire?

MS. EVANS: For any of them. Any information you might have gotten, is it too much to talk about?

MR. WHITE: It's not too much to talk about, they are all in the planning stages, so there is no feedback from the fishermen at this point.

MS. EVANS: I kind of cut out there.

MR. WHITE: Sorry, there is no feedback from the fishermen at this point. We're still in the planning and design stages of what would be appropriate or possible from the science standpoint.

MS. EVANS: Well you had mentioned that New York is interested in instituting a logbook system that you had gone into, and nobody has commented on that at all, I'm assuming.

MR. WHITE: Working with representatives of New York DEC, they are looking at regulations about for-hire logbook reporting. They have logbook reporting in place at the moment, and it would be

just some changes to go from paper to electronic, and a couple other aspects of their program.

MS. EVANS: Could you go into those other aspects, please?

MR. WHITE: I probably wouldn't cover it as well, and Marty Gary, putting you on the spot, can you help answer that or not at this point?

MR. MARTIN GARY: I would have to phone a friend. Julie, if you can hear me, I would be happy to follow up with staff and give you a call, maybe later today or tomorrow.

MS. EVANS: I would so like to talk to you, Mr. Gary. Thanks for that information, I look forward to learning more about this, and so would the members of the Fisheries Advisory Committee. I'm hoping that it doesn't become too burdensome for people, especially for the for-hire industry, which really should be carved out of the recreational fishery, I believe, and so do many in the for-hire industry here, in East Hampton, especially Montauk, thank you.

CHAIR McNAMEE: Thank you, Julie. Okay, we've got another section to get through here, so Geoff, whenever you're ready, please take it away.

MR. WHITE: Our last section of updates is on Regional Data Coordination. There are four areas that we are going to be going through; MRIP, HMS, GARFO, and Southeast Commercial. For just an update on regional coordination relative to MRIP in 2024. We continue with you as state partners to perform the Access Point Angler Intercept Survey and the For-Hire Telephone Survey.

This year ACCSP staff, Alex and Trevor and Gabe, on our staff were able to complete two regional trainings. They think they had over 100 people in total attend those trainings, and of course the data collection has started on its regular schedule, Wave 1 in North Carolina and Wave 2 for nearly everybody else. Wave 3, the data collection starts up in New Hampshire and Maine.

We're also developing the next cooperative agreement Statement of Work. That includes the Access Point Angler Intercept Survey, the For-Hire Telephone Survey. There are also a few components of the large pelagic survey, that are funded and accomplished through this agreement, as well as catch card census programs in Maryland and North Carolina.

However, those are likely to be changing in 2025. There has been a lot of coordination work going on between those two states, HMS, the MRIP large pelagics group and ACCSP about how those programs will be accomplished in the years 2025 forward. There is a bit more alignment with the standard aspect that HMS has been running, as well as meeting a couple of the state-specific partner needs and how they would be accomplishing that.

Don't have all the answers there at the moment, but it is something that is certainly on the radar, and we are adjusting our statement of work to accommodate. I've already presented on the Discard Proposal and the For-Hire logbook design, but overall, we continue to have monthly or bimonthly MRIP communications meetings, what's going on with ASMFC, ACCSP, all of the regional groups.

There is kind of a northern and a southern contingent that goes through those meetings that we, Tina, Julie, Alex and myself sit in on. Stepping into the next slide of regional coordination with HMS. HMS has been a strong partner of ACCSP for many, many years. They have had continued eDealer support and integration within SAFIS electronic dealer reporting.

That continues and has been improving, including with the projects that Ed was pointing out in software, about how data flow gets in, as well as how additional questions can be asked and standardized and modernized. With HMS there has been a for-hire logbook field that have been added to the eVTR submissions, both in SAFIS eTRIPS and even in the API. If an angler is using an AP other than SAFIS eTRIPS but flowing through the API, so it's a different on-water application but same

database submission, same data flows than those HMS questions are available to be added in through there. Another project approved by the Coordinating Council last October was for South Carolina and HMS to adopt and adjust some of those data fields into another application, and that project is about to get started as well.

The last bullet here is really about private angler reporting systems. There has been moving to electronic for those systems within HMS, and for the MIRP For-Hire Survey. They are kind of considered modernization of those paper or catch-card reporting to electronic options, either within HMS or within a state system that we continue to work on to develop. The last two I'm going to hand over to Julie, because she has done more work on these. Julie, can you handle the GARFO and Southeast?

MS. SIMPSON: Sure, thanks, Geoff. Coordination with GARFO, Ed already mentioned the eDR API enhancement. This took a lot of coordination with GARFO, because they had been manually processing a lot of these data. As Ed said, they were coming in as files and then they would manually process them.

We needed to incorporate a lot of that into our API, as well as a bunch of the other updates that Ed mentioned. The next one is the GARFO Dealer Database Update. As the ACCSP is working on our VTR reporting redesign in the next year, GARFO is also working on dealer database updates on their end as well.

We've been participating in weekly meetings with them, to talk about their database data elements and how to work the updates they are going to be making to their system. A lot of coordination happening at that level with GARFO and the Northeast Fisheries Science Center staff. Then finally, for the mandatory lobster only reporting that went into effect on April 1st.

We had to make changes to our API and application processing. As many of you know, there was an exception for lobster only that was sort of written in

everywhere. We had to go in to make sure that those folks were recognized as now having GARFO mandatory reporting, as well as adding additional lobster fields with that.

We worked with the GARFO staff on updating their switchboard, and we also updated the API that would go out to applications, so that those lobster-only vessels would get recognized as federal, and we ask the correct question. On the next slide is the Regional Data Coordination with the Southeast Commercial Group. We meet with them every other week. They are working on the commercial and HMS logbook.

These are logbooks that they do intend to make electronic at some point. At this point they are only accepting paper. We meet with the Southeast Fisheries Science Center, HMS, and also GARFO staff. We do have GARFO staff coach these meetings, because coordination between the northeast and southeast on the commercial side we felt was really important. Lindsey has been gracious enough to attend these as well, so that we have a lot of coordination on the reporting for folks that hold permits in both regions. We just keep a spreadsheet to track any issues that we have. Then the next one is the adaptations to allow submission of state data. As I mentioned, at this point the Southeast is not accepting electronic reporting. They are only accepting the paper reporting. However, our system was seeing those vessels as being required to answer federal questions.

Instead of showing them Southeast questions, we were showing them a base form, because the Southeast didn't have any questions turned on. However, that was overriding the state questions that would have been asked of that fisherman. Then the fishermen would be required to go report on paper for the Southeast.

What we've done is, if a vessel has only a southeast requirement, we're having that default back to the issuing agency of their fishing permit, so that the state questions are being asked. This way the state can continue to collect data until the southeast



commercial program becomes electronic and online.

This also is sort of the first step toward incorporating the state requirements into the one-stop reporting effort, because that is the next phase of that effort. This is that first sort of next step into that project as well. For now, at least the states aren't losing any data, which is the important part. That leads us to more questions.

CHAIR McNAMEE: Great, thank you Geoff and Julie. Any questions on the regional coordination stuff? No hands around the table, any hands online? Okay, I think we can move on then, and Geoff, I assume I'm going to you for this stuff.

MR. WHITE: Great, thank you, Mr. Chair, and thank you everybody for paying attention to all these things so far. A couple of quick announcements. Every quarter ASMFC has Employee of the Quarter, and for the first quarter of 2024 I just want to share again with you guys, I think it's already in the ASMFCs Fishery's Focus Newsletter. But Alex DiJohnson our Team Lead was awarded Employee of the Quarter, primarily for this team effort to get the MRIP queries redesigned and out there.

Also, we've had a staffing change for our Data Team lead, Mike Rinaldi left us in February, and we have a new team lead starting on May 16th, so we're excited to fill that gap, and again appreciation to both Julie, Ed and Joe Myers on the Data Team, for kind of stepping up and helping to redistribute and fill in things while we had an open position for a few months here.

Thank you for that. Another update that we think was actually pretty wild. It was months in the making, but ACCSP was the focus of an Oracle Business Innovations Webcast, and so this is using APEX, Oracle's application express tool, which is what we use for the Data Warehouse interface. We use it for the ATA, we use it for the SAFIS online electronic Dealer Reporting electronic Trip Reporting.

It's the fisheries use of Application Express driving the data collection and dissemination on the Atlantic Coast of the U.S.A. There were over a hundred people worldwide Oracle programmers and other interested parties, taking a look at what ACCSP has done as kind of an innovative approach to solving cross-agency problems in software, that could be done with a relatively low code base. While we do have Ed and three other kind of classically trained software people on staff, a lot of these applications with some outside help for initial development or some internal development work, are really things that we as classically trained biologists and on-the-job trained ITD specialists, have been able to program and maintain. It was actually a pretty wild audience and group of questions about how we were able to accomplish these things. That is more software development access activity.

We were pretty excited about that as well. The next item is just an opportunity for you guys to ask questions on anything that's been in the Committee Newsletters, so they've been coming out on a monthly basis. We've heard from the Coordinating Council that those updates have been useful, as well as the other committees. But an opportunity here to see if you have any questions there.

CHAIR McNAMEE: All right, thanks, Geoff. Questions for Geoff or Julie. Not seeing any around the table, any online? Okay, Mr. Fletcher, we're doing good on time, so I'm going to go ahead and go to you. I'm just making sure these are questions on the newsletter, so just clarifying that for you. But go ahead and open up your microphone if that what your questions are.

MR. FLETCHER: The question is on these newsletters and stuff. Is there some way to use artificial intelligence to get better input from the public? Thank you.

CHAIR McNAMEE: Thanks, Mr. Fletcher. Geoff or Julie, response.

MR. WHITE: These newsletters are identified to share with ACCSP partners and interested parties of

what our activities have been in the prior month, and what upcoming activities are going to occur. The newsletters aren't, in my understanding, the best forum to gather input, either directly through individuals or through some AI platform.

CHAIR McNAMEE: All right, one more, Richard, go ahead.

DR. CODY: Just a comment on that last question. There are some efforts around the different agencies to look at AI, in terms of large language machine models, so a machine learning. Those are efforts that use algorithms to pull pieces of text out of various types of writings, any kind of writings. It could be an article, it could be a paper, anything.

I think that some of the federal agencies are starting to evaluate the utility of that, because right now there are a handful of different models out there that use certain algorithms, and you have to repurpose them and so on. But there is some, I would say interest, in pursuing that approach, AI, to gather information specific to things like, you know key pieces of text or whatever that might provide some input or categorize or classify input from Council meetings and so on.

CHAIR McNAMEE: Great, thanks for adding that, Richard, appreciate it. Okay, not seeing any other hands around the table, I don't think there are any online either.

### **OTHER BUSINESS**

CHAIR McNAMEE: Why don't we move along to Other Business, and Geoff, feel free to take it away.

### **EXPANSION OF MRIP DATA COLLECTION**

MR. WHITE: Recreational Technical Committee has talked about this. We did put it at the end as a quick discussion item. But there is looking forward the potential for expanding MRIP data collection in unsampled months. Just to kind of reframe folks that may not be as familiar with MRIP. They historically kind of unsampled months in the Atlantic, Wave 1, January/February, would be

Georgia, South Carolina, and then bridging all the way through Maine.

Right now, North Carolina is the one state that does participate in Wave 1 sampling on the Atlantic Coast. Also, Wave 2, which is March/April, and Wave 6, November/December are not sampled very much in Massachusetts or at all in New Hampshire and Maine at the moment. Why would this potential expansion be considered at this time?

Well, number one, the Atlantic Recreational Data Collection Implementation Plan does call for periodic effort sampling, to evaluate shifts in fisheries or fishing effort due to climate change. We've seen fisheries and timelines of fisheries moving over the years. But right now, there is not a lot of data during those unsampled months to evaluate what really is going on, in a similar methodology as the rest of the year.

As mentioned, earlier, the MRIP state conduct has been going, in our belief quite well, and that provides a good structure an opportunity for expanding some of these things as they come online and they are possible. What really brought this to focus was South Carolina came up and said Hey, we would really like to do Wave 1 sampling for 2025. Can we do it?

We've had a bunch of discussion with South Carolina, with MRIP, and the good news there is yes. I think the ACCSP and MRIP can help create those draws, specifically for for-hire telephone survey, and for APAIS the dockside intercept portions. The next slide will get into some more details for that.

In addition to this, talked about the consultants review of the for-hire logbook methodology. One of the gaps there was, what if there are logbooks in Wave 1 from a for-hire fishery, you know charterboat or headboat captain, but there is no APAIS there to balance out the calculation methodology proposed.

Good point, maybe we should look at that. The opportunity to do APAIS sampling in Wave 1 might

also be an opportunity or driver to look at. First, we say, sampling an unsampled data collection in unsampled months. There are really three components to that, and they are kind of listed in bold on the slide here.

The easiest one is the for-hire telephone survey, and I say easiest, because it is possible, with existing staff and available funds, to do a draw and make some more phone calls for the for-hire sector, with the existing methodology. This potential for South Carolina to do this in 2025, and also come to expand that to other regional coverage.

If there are other states that would want to participate in the for-hire telephone survey calls in Wave 1, to kind of expand that, you know, Georgia through North Carolina, potentially through the Mid-Atlantic, please let us know, and let us know soon, meaning in the next month or two, if you want to be considered in that particular approach if the fisheries in your state and your staff, we can work out kind of the details of that. The second zone of this would be APAIS dockside intercepts. With APAIS that is a lot more staffing, you've got to drive out to a site and stand there for six hours, and that takes increased staffing, and also increased funding. One of the things that was identified in the last two Atlantic implementation plans 2016 and 2021, was developing some criteria based on the level of effort of when APAIS dockside sampling would be appropriate, based on how much effort is being seen.

MRIP Has done some work in the past about how much effort occurs in Wave 2 and Wave 6, how much the economies of scale work for efficiency of dockside data collection. There is a bunch more work to be done there, but the idea would be to figure out at what level of effort sampling would adding in the dockside APAIS sampling be appropriate?

That is an effort that is going to take probably the rest of this year to figure out. There are opportunities for you, as a Coordinating Council to talk to us about that, both as a committee, as a council in the room together, as well as over e-mail, and in addition with staff. With that one there is a

bit less of a time pressure, but if you're interested in doing that, please talk to staff about it.

Then the third one is the Fishing Effort Survey for Private Anglers. That's probably the more difficult one, in terms of timing and scoping, because that is not part of the state conduct agreement with MRIP, that is a separate approach, and of course there is a Pilot Study occurring in Calendar Year 2024.

Consulting with MRIP and thinking about it with the states and Rec Tech Committee. The change in methodologies, the FES Pilot Study and when kind of that contract or other things would be able to come in line, and which states and range would be appropriate on what timelines? The short answer for today is really, there is potential for 2026 Fishing Effort Survey in Wave 1, but it's going to need some additional work to scope out what are the requests and requirements for that effort sampling for the private anglers.

We again, have some time to figure that out. Wanted to at least raise these points to you guys, think about for-hire telephone survey and APAIS sampling coming up, and give you an opportunity for some feedback. We raised it at Rec Tech, and of course some folks were trying to figure out what that workload budget and other things might mean to them. With that, questions.

CHAIR McNAMEE: Thanks, Geoff. As Geoff mentioned, it's sort of a heads up, a request, you know if you have interest to reach out to Geoff to discuss further. I think if anybody has anything quick that they want to ask we can do that. I don't know that Geoff can get in too much detail, but Carrie, go ahead.

MS. CARRIE KENNEDY: Yes, I just wanted to remind Geoff and Julie that I want to say circa 2010, Delaware, Maryland and Virginia actually through Rec Tech, put in a proposal to have Wave 1 sampling, and we conducted Wave 1 sampling for a year or two. Our results were pretty poor, because it was really cold winters. But potentially there is room to look at what might have changed between then and now, as a place to start to consider

whether or not we would want to participate, or want or need additional sampling.

CHAIR McNAMEE: Thank you very much. Just an okay sign from Geoff on that one, thank you. Anyone else? Okay, any hands online, no hands online.

#### **ADJOURNMENT**

CHAIR McNAMEE: That brings us to the end of our agenda, thanks to Julie, Geoff and Ed for the very detailed presentation. Good questions from you all, thank you for those. Can I get a motion to adjourn. Moved by Dan McKiernan, is there a second? Okay, Renee seconds a motion to adjourn. Any objection to the motion? Seeing none; we stand adjourned, thank you very much, everybody.

(Whereupon the meeting convened at 3:15 p.m. on Monday April 29, 2024.)



## Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201

703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

### FY25 Proposal Recommendations to Coordinating Council

From the Operations and Advisory Committees

- The Operations and Advisory Committees would like to present the rankings from both groups individually.
- All Maintenance proposals and the Administrative budget should be funded in full.
- The recommendation for new proposals is to follow the average rankings with the suggestions below.
  - Fund the top three (3) projects. It should be noted that the “FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project” project was not ranked as highly by the Advisors.
  - The Operations and Advisors Committees both agree that the following projects, listed in priority order, should be funded.
    1. “Expanding the Commercial Fisheries Research Foundation’s Black Sea Bass Research Fleet into the Gulf of Maine”
    2. “Port Sampling for the Maine Halibut Fishery”

*\* all above are consensus decisions*

*Our vision is to be the principal source of fisheries-dependent information on the Atlantic coast through the cooperation of all program partners.*



## FY2025 Proposal Rankings (Combined)

	<b>Admin Grant</b>	<b>2,353,179</b>	<b>\$44,423</b>	<b>2,397,602</b>
<b>3.35M</b>	<b>Maint @ 75%</b>	<b>714,299</b>	<b>New @ 25%</b>	<b>238,100</b>
<b>3.50M</b>	<b>Maint @ 75%</b>	<b>826,799</b>	<b>New @ 25%</b>	<b>275,600</b>

Project Name	Partner	Score	Cost	Cumulative Cost	3.5M Amt Remaining
1 FY24: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	8.54	\$ 335,537	\$ 335,537	\$ 491,262
2 Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	PRFC	8.22	\$ 142,344	\$ 477,881	\$ 348,918
3 FY25: North Carolina socioeconomic database construction for the management of existing and future data”	NC DMF	7.66	\$ 145,020	\$ 622,901	\$ 203,898

includes carryover from maintenance projects

1 Pilot test of recreational released catch cards into the sampling design of the MRIP PAIS	ACCSP RTC	53.50	\$ 202,487	\$ 202,487	\$ 277,010
2 Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application	RI DEM, MA DMF, NH FGD, ME DMR	53.20	\$ 108,000	\$ 310,487	\$ 169,010
3 FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project	SAFMC	48.89	\$ 137,356	\$ 447,843	\$ 31,654
4 Expanding the Commercial Fisheries Research Foundation’s Black Sea Bass Research Fleet into the Gulf of Maine	ME DMR	48.34	\$ 61,276	\$ 509,119	\$ (29,622)
5 Port Sampling for the Maine Halibut Fishery	ME DMR	48.26	\$ 30,805	\$ 539,924	\$ (60,427)
6 Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems	NCDMF	46.84	\$ 162,000	\$ 701,924	\$ (222,427)
7 Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app	NEFSC	41.00	\$ 200,000	\$ 901,924	\$ (422,427)
8 Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries	RI DEM	40.46	\$ 165,444	\$ 1,067,368	\$ (587,871)



## FY2025 Operations Proposal Rankings

	<b>Admin Grant</b>	<b>2,353,179</b>	<b>\$44,423</b>	<b>2,397,602</b>
<b>3.35M</b>	<b>Maint @ 75%</b>	<b>714,299</b>	<b>New @ 25%</b>	<b>238,100</b>
<b>3.50M</b>	<b>Maint @ 75%</b>	<b>826,799</b>	<b>New @ 25%</b>	<b>275,600</b>

<b>Project Name</b>	<b>Partner</b>	<b>Score</b>	<b>Cost</b>	<b>Cumulative Cost</b>	<b>3.5M Amt Remaining</b>
1 FY24: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	8.86	\$ 335,537	\$ 335,537	\$ 491,262
2 Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	PRFC	8.17	\$ 142,344	\$ 477,881	\$ 348,918
3 FY25: North Carolina socioeconomic database construction for the management of existing and future data”	NC DMF	7.69	\$ 145,020	\$ 622,901	\$ 203,898

includes carryover from maintenance projects

1 Pilot test of recreational released catch cards into the sampling design of the MRIP PAIS	ACCSP RTC	54.31	\$ 202,487	\$ 202,487	\$ 277,010
2 Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application	RI DEM, MA DMF, NH FGD, ME DMR	52.53	\$ 108,000	\$ 310,487	\$ 169,010
3 FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project	SAFMC	49.75	\$ 137,356	\$ 447,843	\$ 31,654
4 Port Sampling for the Maine Halibut Fishery	ME DMR	47.61	\$ 30,805	\$ 478,648	\$ 849
5 Expanding the Commercial Fisheries Research Foundation’s Black Sea Bass Research Fleet into the Gulf of Maine	ME DMR	47.32	\$ 61,276	\$ 539,924	\$ (60,427)
6 Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems	NCDMF	46.58	\$ 162,000	\$ 701,924	\$ (222,427)
7 Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app	NEFSC	41.67	\$ 200,000	\$ 901,924	\$ (422,427)
8 Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries	RI DEM	39.92	\$ 165,444	\$ 1,067,368	\$ (587,871)



## FY2025 Advisors Proposal Rankings

	<b>Admin Grant</b>	<b>2,353,179</b>	<b>\$44,423</b>	<b>2,397,602</b>
<b>3.35M</b>	<b>Maint @ 75%</b>	<b>714,299</b>	<b>New @ 25%</b>	<b>238,100</b>
<b>3.50M</b>	<b>Maint @ 75%</b>	<b>826,799</b>	<b>New @ 25%</b>	<b>275,600</b>

Project Name	Partner	Score	Cost	Cumulative Cost	3.5M Amt Remaining
1 Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	PRFC	8.40	\$ 142,344	\$ 142,344	\$ 684,455
2 FY25: North Carolina socioeconomic database construction for the management of existing and future data”	NC DMF	7.50	\$ 145,020	\$ 287,364	\$ 539,435
3 FY24: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	7.40	\$ 335,537	\$ 622,901	\$ 203,898

includes carryover from maintenance projects

1 Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application	RI DEM, MA DMF, NH FGD, ME DMR	55.60	\$ 108,000	\$ 108,000	\$ 371,497
2 Expanding the Commercial Fisheries Research Foundation’s Black Sea Bass Research Fleet into the Gulf of Maine	ME DMR	51.80	\$ 61,276	\$ 169,276	\$ 310,221
3 Pilot test of recreational released catch cards into the sampling design of the MRIP PAIS	ACCSP RTC	50.60	\$ 202,487	\$ 371,763	\$ 107,734
4 Port Sampling for the Maine Halibut Fishery	ME DMR	50.60	\$ 30,805	\$ 402,568	\$ 76,929
5 Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems	NCDMF	48.00	\$ 162,000	\$ 564,568	\$ (85,071)
6 FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project	SAFMC	45.80	\$ 137,356	\$ 701,924	\$ (222,427)
7 Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries	RI DEM	42.40	\$ 165,444	\$ 867,368	\$ (387,871)
8 Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app	NEFSC	38.60	\$ 200,000	\$ 1,067,368	\$ (587,871)





## FY2025 Proposal Rankings

Operations Rank	Advisors Rank	Average Rank	Project Name	Partner	Operations Score	Advisors Score	Average Score	Cost
1	3	1	FY24: Managing 100% Lobster Harvester Reporting in Maine	ME DMR	9	7	9	\$ 335,537
2	1	2	Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	PRFC	8	8	8	\$ 142,344
3	2	3	FY25: North Carolina socioeconomic database construction for the management of existing and future data"	NC DMF	8	8	8	\$ 145,020
6	5	6	Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems	NCDMF	47	48	47	\$ 162,000
8	7	8	Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries	RI DEM	40	42	40	\$ 165,444
7	8	7	Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app	NEFSC	42	39	41	\$ 200,000
2	1	2	Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application	RI DEM, MA DM	53	56	53	\$ 108,000
1	3	1	Pilot test of recreational released catch cards into the sampling design of the MRIP PAIS	ACCSP RTC	54	51	54	\$ 202,487
3	6	3	FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project	SAFMC	50	46	49	\$ 137,356
4	4	5	Port Sampling for the Maine Halibut Fishery	ME DMR	48	51	48	\$ 30,805
5	2	4	Expanding the Commercial Fisheries Research Foundation's Black Sea Bass Research Fleet into the Gulf of Maine	ME DMR	47	52	48	\$ 61,276

	Partner	Title	Primary Module	Others	Cost	Max Funding Year 5/6
Maintenance	1	ME DMR	FY24: Managing 100% Lobster Harvester Reporting in Maine	Catch/Effort (100%)	\$ 335,537	
	2	PRFC	Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector	Catch/Effort (100%)	\$ 142,344	\$ 142,344
	3	NCDMF	FY25: North Carolina socioeconomic database construction for the management of existing and future data"	Socioeconomic (100%)	\$ 145,020	
				<b>Total Maintenance</b>	<b>\$ 622,901</b>	
New	1	NCDMF	Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems	Catch/Effort (100%)	\$ 162,000	
	2	RI DEM	Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries	Bycatch (70%)	Catch/Effort (30%)	\$ 188,712
	3	NEFSC	Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app	Catch/Effort (100%)	\$ 200,000	
	4	RI DEM, MA DMF, NH FGD, ME DMR	Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application		\$ 108,000	
	5	ACCSP RTC	Pilot test of recreational released catch cards into the sampling design of the MRIP APAIS	Catch/Effort (100%)	\$ 202,487	
	6	SAFMC	FY25: Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project	Biological (90%)	Bycatch (10%)	\$ 137,356
	7	ME DMR	Port Sampling for the Maine Halibut Fishery	Biological (100%)	\$ 30,805	
	8	ME DMR	Expanding the Commercial Fisheries Research Foundation's Black Sea Bass Research Fleet into the Gulf of Maine	Biological	Catch/Effort	\$ 61,276
			<b>Total New</b>	<b>\$ 1,090,636</b>		
Admin	ACCSP	ACCSP Administrative Budget	Admin		\$ 2,353,179	
			<b>Grand Total Proposed</b>	<b>\$ 4,066,716</b>		



JANET T. MILLS  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF  
MARINE RESOURCES  
MARINE RESOURCES LABORATORY  
P.O. BOX 8, 194 MCKOWN POINT RD  
W. BOOTHBAY HARBOR, MAINE 04575-0008

PATRICK C. KELIHER  
COMMISSIONER

July 26, 2024

Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St. Ste. 200 A-N  
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the proposal titled “FY25: Managing 100% Lobster Harvester Reporting in Maine” for your consideration. This is a maintenance proposal which has not changed in the scope of work. The continuation of this project will allow the Maine Department of Marine Resources (MEDMR) to continue its compliance with ASMFC’s Addendum 26 requirement that the MEDMR move from 10% lobster reporting to 100% electronic lobster reporting. The MEDMR implemented 100% lobster reporting starting January 1, 2023; which is a full year ahead of the addendum’s requirement to be fully implemented by January 1, 2024. The MEDMR felt it was important to implement as early as possible to comply with and track the pending vertical line reductions resulting from the new regulations to reduce the risk of entanglement to right whales through the Atlantic Large Whale Take Reduction Plan. Collecting as much information on these gear configurations during the recent six year pause of these regulations is imperative to accurately document the effort and vertical line use in the lobster fishery. The MEDMR’s initial goal was to implement 100% reporting in 2021; however, funding shortfalls prevented this from occurring. Continued funding of this proposal would allow MEDMR to continue the implementation.

The MEDMR does not currently have the funds needed to continually support and staff the program at the 100% reporting level. Overall, MEDMR created nine new positions that have been filled and vital to the successful roll out of 100% electronic lobster harvester reporting. Not all nine positions are included in our funding request as other one-time funding sources have been secured to alleviate the burden of our request to ACCSP. Please view all graphs in color. This proposal addresses the following 2025 ranking criteria: catch and effort, data delivery plan, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared.

**During the pre-proposal review, MEDMR did not receive any questions or feedback to address.** For a summary of the proposal for ranking purposes, please see page 34. Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

Sincerely,

Robert B. Watts II  
Marine Resources Scientist III  
[rob.watts@maine.gov](mailto:rob.watts@maine.gov)  
(207) 633-9412

Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street. Suite. 200A-N  
Arlington, VA 22201

## **FY24: Managing 100% Lobster Harvester Reporting in Maine**

**Total Cost: \$335,537.01**

Submitted by:

Robert B. Watts II  
Maine Department of Marine Resources  
PO Box 8  
West Boothbay Harbor, ME 04575  
[rob.watts@maine.gov](mailto:rob.watts@maine.gov)

Jesica Waller  
Maine Department of Marine Resources  
PO Box 8  
West Boothbay Harbor, ME 04575  
[jesica.d.waller@maine.gov](mailto:jesica.d.waller@maine.gov)

**Applicant Name:** Maine Department of Marine Resources (MEDMR)

**Principal Investigator:** Robert Watts, Marine Resource Scientist

**Project Title:** FY24: Managing 100% Lobster Harvester Reporting in Maine

**Project Type:** Maintenance Project

**Requested Award Amount (without the NOAA administration fee):** \$335,537.01

**Requested Award Period:** One year after receipt of funds

**Objectives:**

The objective of this proposal is to comply with Addendum XXVI ([http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI\\_JonahCrabAddIII\\_Feb2018.pdf](http://www.asmfc.org/uploads/file/5a9438ccAmLobsterAddXXVI_JonahCrabAddIII_Feb2018.pdf)) of ASMFC's (Atlantic States Marine Fisheries Commission) American lobster Fisheries Management Plan (FMP) which required MEDMR increase the percentage of trip level landings information MEDMR collects from commercial lobster harvesters from the current "optimized draw method" (approximately 380 harvesters) to 100% (approximately 5,400 harvesters). Starting in 2019, ASMFC Addendum XXVI required MEDMR move to an "optimized draw" selection method to choose the lobster harvesters required to report for the following year. The "optimized draw" selects different percentages of license types and active/non-active harvesters based a statistical analysis of the variability of each license class using a combination of dealer data and harvester reported data. In the past MEDMR would select approximately 700 to 800 harvesters per year, now around 350 to 400 harvesters are selected with the idea that the selected harvesters would provide the same number of trip records (See Figure 3). Addendum XXVI requires 100% reporting (electronic reporting is recommended but not mandatory) by January 2024 in addition to other new required fields that became mandatory in January 2021. MEDMR started collecting total endlines and 10 min square data at the trip level in 2020 even though ASMFC moved these requirements back to 2021. Starting January 1, 2023, MEDMR required 100% electronic lobster harvester reporting. This requirement has caused MEDMR to increase landings and licensing staff by a total of 9 positions to effectively manage, monitor and audit what was a 1000% increase in the number of trip level reports the MEDMR receives from the lobster industry on an annual basis.

National Marine Fisheries Service (NMFS) was in the process of finalizing new rules to protect North Atlantic right whales as part of the Atlantic Large Whale Take Reduction Plan (ALWTRP) for the Northeast lobster fishery. The implementation of these plans have been pushed back as part of a six year moratorium. This will allow states the ability to collect vital information such as end line counts and gear configuration with a spatial component to better map out where actual fishing activity are occurring. The MEDMR required trackers be placed on all federally permitted vessels starting December, 2023. ASMFC is requiring 100% reporting in the lobster fishery by 2024. GARFO started requiring all federal lobster permits submit eVTRs on April 1, 2024. The AWTRT has recommended on more than one occasion that fisheries move to 100% reporting as soon as possible. MEDMR strongly agrees with this recommendation because our ability to achieve and monitor the consensus goals of the AWTRT is tied to the availability of these data in the short term. MEDMR believes that the January 2023 date was necessary to meet the data guidelines outlined in Addendum 26, the needs of the AWTRT, and work out any data collection and data management issues well before the 2024 deadline. Additionally, MEDMR was interested in moving the timeframe for 100% electronic lobster harvester reporting up to as early as 2023 to track effort and vertical line use in support of pending new regulations. The FY20 proposal intended MEDMR to require 100% reporting starting in January 2021; however, lack of funding has required this timeframe be pushed back to 2023. Similarly, with the 2023 timeframe the MEDMR does not

have the funding to continuously fund all the positions necessary to effectively administer, collect, audit and distribute the data required in Addendum XXVI. If the MEDMR are not able to secure adequate funding, the continued implementation of the 100% reporting would need to be revisited. **The MEDMR has self-funded the creation of a new offline mobile application for both iOS® and Android® platforms through dedicated technology funds. This program was built to accept reports from all fisheries and meet NMFS electronic reporting requirements. This new program has dynamic entry pages and be completely table driven allowing the entry pages to display more concise field descriptions based on species and gears fished. There are built in data validations, reoccurring selections appear at the top of drop down lists and basic end user analytics.** The MEDMR released this program industry wide in the fall of 2021. With the release of this program, the MEDMR has required electronic reporting in multiple fisheries if there's a data management need. **The primary tasks will be electronic reporting software training, regulation compliance, data audits, data entry and general outreach. Staff will also focus on harvester outreach to help industry understand the importance of the accurate and timely reporting. Electronic reporting are required for commercial lobster harvesters and heavily pushed for those that still report other fisheries on paper. The focus on expansion of electronic reporting will require the MEDMR to spend a significant amount of time on outreach, explaining the reporting system to harvesters and troubleshooting any issues that might arise.** Currently, MEDMR only requires electronic reporting in our Atlantic herring, scallop (inshore state fishery), halibut (inshore state fishery), lobster and Atlantic menhaden fisheries. There are currently no plans to mandate electronic reporting for other fisheries, as this is not an ACCSP requirement.

#### **Need:**

Maine currently requires harvesters from 14 fisheries to report trip level landings on a variety of timelines (daily, weekly or monthly). A total of five fisheries require mandatory electronic harvester reporting (lobster, scallop, menhaden, herring and halibut). Two quota monitored fisheries (Atlantic herring and Atlantic menhaden) have daily reporting requirements during their “open quota monitored seasons (i.e. directed and episodic fishing season for menhaden) and two other fisheries (halibut and scallop) and trip level reporting due weekly during their inshore state seasons. **When the MEDMR implemented 100% lobster reporting, the number of new harvesters (see Table 1) required significant resources in outreach, tracking compliance, entering and auditing a ~500% increase in the number of reports received from approximately 60K to ~300K. In 2022, approximately 5,643 lobster harvesters were licensed to fish in Maine. Of those 5,643, MEDMR selected 474 to report trip level information. Now with 100% reporting all 5,643 will be required to report. Of the 5,643 harvesters, MEDMR dealer reports indicate 3,960 harvesters sold at least once to a licensed dealer. All 5,643 license holders regardless of activity will be required to report for each month they hold a current license. Moving to 100% reporting follows the MEDMR's change in how harvesters were selected. During the 2019 season the MEDMR move to an “optimized draw” selection method to choose the lobster harvesters required to report for the following year. The “optimized draw” selects different percentages of license types and active/non-active harvesters based a statistical analysis of the variability of each license class using a of combination of dealer data and harvester reported data. In the past MEDMR would select approximately 700 to 800 harvesters per year, in 2022 which was the last year of the optimized draw 474 were selected with the idea that the selected harvesters would provide the same number of trip records (See Figure 3) as the previous 10%. The number of individual lobster harvesters required to report electronically increased to just under 5,700 when 100% lobster harvester reporting became mandatory in 2023.**

Of the 5,372 licensed harvesters, ~1,300 (24%) of them as of April 1, 2024, are required to report to National Marine Fisheries Service (NMFS) since they possess a federal lobster permit. **Regardless of their federal permit status, MEDMR will work with all harvesters to ensure all landings are reported either to MEDMR or NMFS since the collected data will benefit all partners. MEDMR staff will also audit all records with a**

**state landed of Maine but defer any federal data changes to NMFS.** The rollout of federal reporting has not been smooth and met with many challenges. Data flows from Bluefin to ACCSP and GARFO have had some challenges that all parties have been working on to clear up. The biggest challenge has been “re-training” the 1,300 “new” federal harvesters that last year reported using the “state only form”. The differences in form and terminology have caused an increase in the number of phone calls MEDMR staff have received since April 1. Our two Scientist I and two Specialist II’s estimate that two months into the GARFO roll out that they are still spending at least 75% of their work week answering questions from federal harvesters about field names and troubleshooting data flow issues that are sporadic but ongoing. MEDMR is continuing to look for ways to streamline these reporting issues and has been in discussions with GARFO on ways to simplify the reporting process within the lobster industry.

**Table 1: Increase in Individual Harvester Reporting Expected in Maine**

Moving from 10% to 100% Lobster Reporting							
Year	Total Trips Entered	Lobster Only Entered	10% Active Lobster Harvesters	100% Active Lobster Harvesters	100% Lobster Harvesters	Lobster Trips From Dealer Reoprts	Lobster Harvester Reports Expected if 100% Required
2015	54,373	29,306	532	4,406	6,014	270,324	282,759
2016	57,871	30,762	566	4,504	6,009	293,919	307,439
2017	58,712	29,551	535	4,485	5,997	276,754	289,485
2018	59,082	26,655	543	4,391	5,925	264,094	276,242
2019	45,858	17,173	276	4,336	5,834	258,088	269,960
2020	44,074	17,501	297	4,063	5,773	220,608	230,756
2021	55,702	23,355	367	4,160	5,763	255,415	267,164
2022	43,636	20,250	308	3,960	5,643	211,178	220,892
2023*	273,009	242,116		4,116	5,372	220,895	231,056

\*2023 data are preliminary and subject to change without notice.

100% active license based on dealer reported data from 2015 - 2022

100% active license count for 2023 based on harvesters that reported as of 5/24/2024

Harvester counts are individual harvesters. Many harvesters have multiple licenses that are tracked seperately.

Expected reports are calculated from reports received by harvesters and extraoplated based on reports received by dealers.

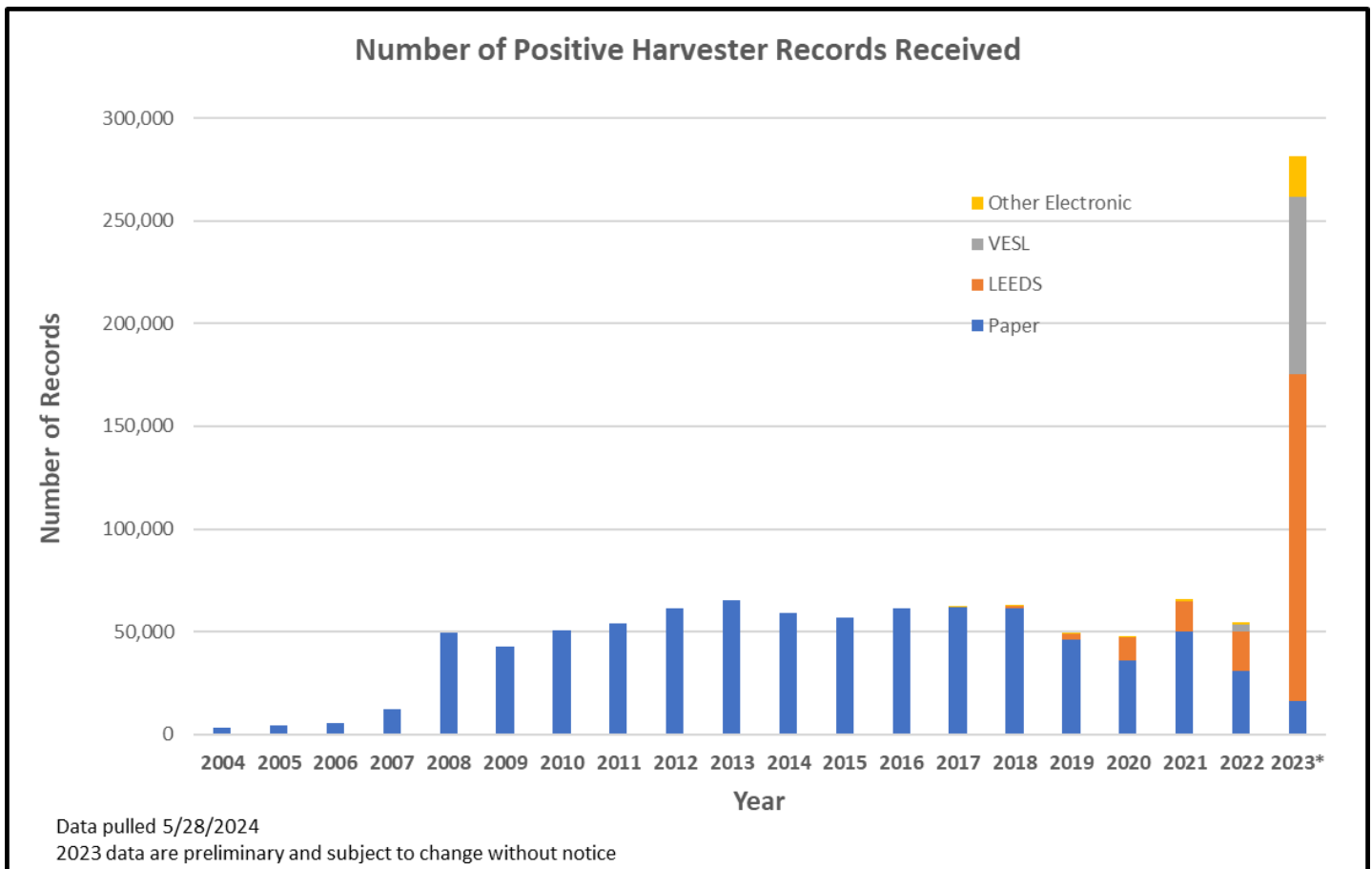
\*Increase in the number of harvesters and reports expected when MEDMR implements 100% lobster harvester reporting.

In 2016 MEDMR converted to a new online licensing and landings system, called Maine LEEDS (Licensing Enforcement and Environmental Data System). Using this system, harvesters and dealers are able to:

- Renew a license you previously held
- Apply for a new license you’ve never held before
- Order tags (for certain licenses)
- Reprint your license
- Upgrade a license (if applicable)
- Pay administrative fees
- Report landings
- Check reporting compliance status
- Upload documents to the department
- Change your password to the system

This web application has been an extremely useful tool that has allowed for more “self-service” for harvesters and dealers, has improve customer satisfaction and increase MEDMR staff efficiency. The Landings Program now utilizes this LEEDS system to send compliance emails to industry informing them of what reports are delinquent. Harvesters and dealers also have the ability to login to the system and view what reports are missing

as well. Overall this program has saved the MEDMR thousands of dollars in mailing cost as many of our correspondence have been sent via email as opposed to mail when appropriate. The process of informing harvesters that they have a license with reporting requirements has been automated and each harvester that purchases a license for the first time with reporting requirements are provided a notice included in their license packet to streamline our notification process. **In late spring 2018, MEDMR started allowing harvesters to enter their data through the LEEDS system and in 2021 released the VESL application to a group of test harvesters. Since the MEDMR provided harvesters an electronic reporting option, the number of harvesters utilizing an electronic reporting option has increased from 85 in 2018 to almost 1,300 harvesters in 2022. At the time of writing this proposal, just under 4,750 harvesters have reported electronically in 2023. Since 2018, the percentage of electronic reports has increased from just over 1% to 43% in 2022 (and 94% in 2023) (Figure 1 – view in color and Table 2 for electronic reporting breakdown).** Having industry enter their own information also saves staff time because paper reports do not need to be opened or processed through the mail, scanned into our LEEDS system or entered by hand. Staff have spent significant time training and creating outreach material (videos, electronic user guides, etc.) and communicating directly with industry. The shift to electronic reporting has caused staff to focus more of their time on data audits and outreach with industry. While MEDMR recommends industry utilize Maine LEEDS (state reporting only) or VESL (GARFO and ME state only reporting), we do not require users to use these two programs. We have users that have elected to utilize Fish Online (FOL), eTRIPS and other reporting options to fulfill their state and federal combo reporting requirements.



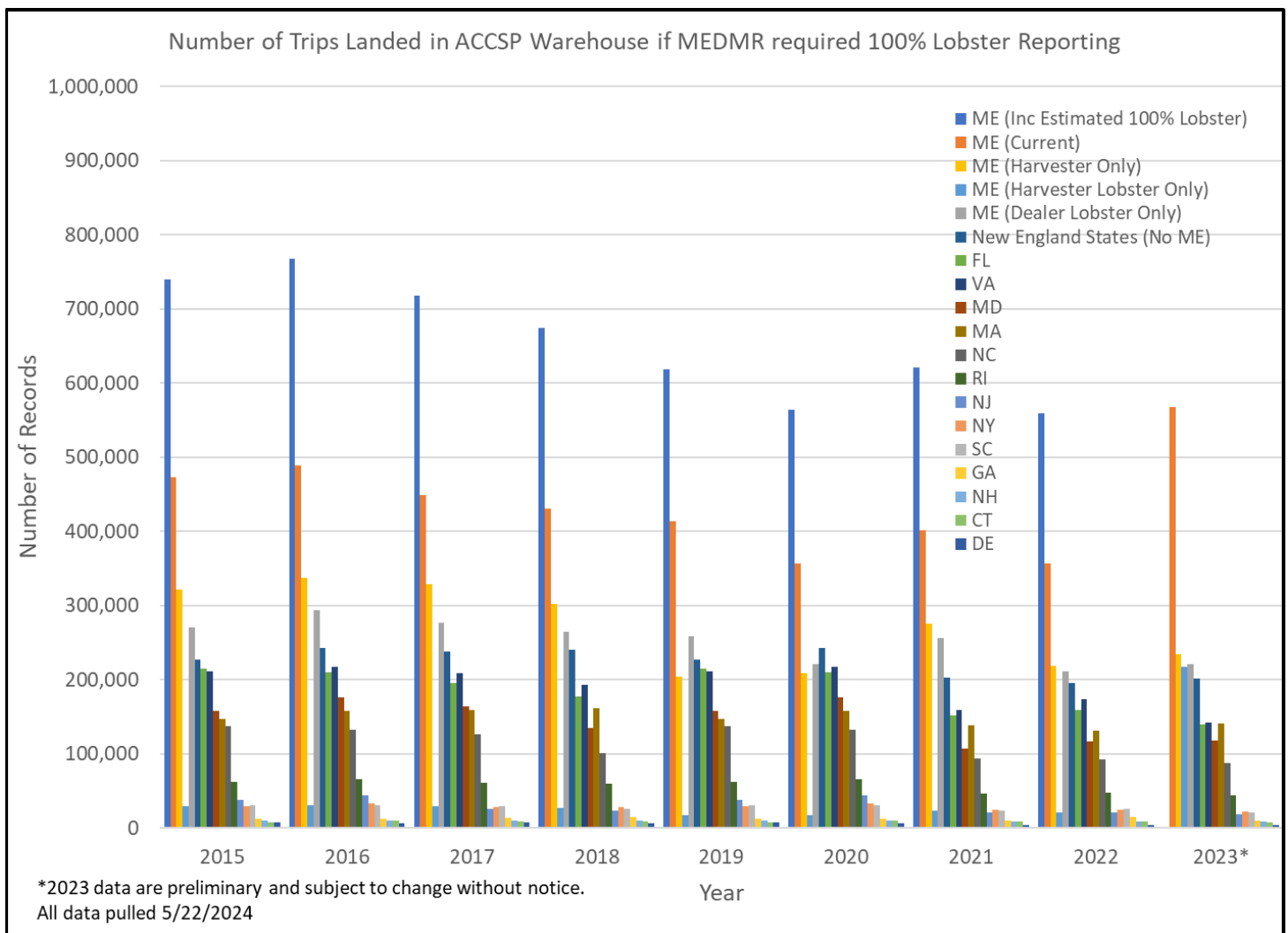
**Figure 1: Number of Positive Trip Records Entered by MEDMR Staff and Industry into MARVIN and SAFIS**



MEDMR Harvester Reported Data Trends (Data received through 5-28-2024)										
		Electronic Reports								
		LEEDS		VESL		Other Programs				
Year	Paper Reports	# Trips Reported	# Users	# Trips Reported	# Users	# Trips Reported	# Users	Total Electronic	Total Reports	% Electronic
2020	36,014	11,122	603	0	0	234	6	11,356	47,370	24%
2021*	50,114	14,912	764	352	15	931	15	16,195	66,309	24%
2022	31,038	18,946	1,240	3,297	170	1,653	92	23,896	54,934	43%
2023**	16,081	159,394	3,071	86,152	1,428	19,706	249	265,252	281,333	94%
Paper reports are entered directly into MEDMR's MARVIN database by MEDMR staff										
LEEDS is MEDMR's web based online reporting application that feeds directly to our MARVIN database.										
VESL data numbers include state only and GARFO trips										
*2021 was pilot year for roll out of VESL in Maine										
**2023 is the first year of 100% lobster reporting for MEDMR (approx 5,800 harvesters)										
MEDMR currently requires lobster, menhaden, Atlantic herring, Atlantic halibut and scallop to report electronically.										
Number LEEDS and VESL users could overlap and be counted more than once.										
Other Programs are mostly Fish Online and eTrips										

**Table 2: Breakdown of trip reports entered by Maine harvesters between 2020 and 2023 (to date)**

MEDMR currently requires (with some potential exemptions based on to be determined criteria) 100% electronic harvester reporting for lobster, herring, halibut, scallop and menhaden. Reliable high-speed internet access is not available in certain parts of the state which prohibits full 100% electronic reporting. The goal is to get as close to that as possible. The addendum allows until January 1, 2024 to meet this requirement. The MEDMR has taken a strict approach to allowing harvesters under certain circumstances to report on paper. **Scallop, halibut, herring and menhaden are quota monitored species that MEDMR has identified as benefiting from requiring state only harvesters to report electronically. Starting in 2020 all herring and menhaden harvesters were required to report electronically through either Maine LEEDS or some federally accepted reporting application during the active harvest season. This requirement replaced the email system MEDMR relied upon the past few seasons to monitor quota. Requiring daily electronic reporting will save the harvesters from emailing and then filling out complete harvester reports at the end of the week/month. Starting in 2022, the MEDMR required trip level electronic reporting due weekly for scallop and halibut.** The offline mobile application MEDMR had Bluefin Data LLC build through its own funds has allowed harvesters with multiple reporting fisheries the ability to use one program to fulfill all their requirements whether they are state only or federal. **Of the 1.331 million trips for 2023 in the data warehouse, 43% of them were landed in Maine which exceeds any other state (Figure 2 – view in color). This figure includes both dealer and harvester records.** These records were submitted by both “state-only” harvesters (those that only report to MEDMR) as well as federal harvesters (those that report to fulfill both NMFS and MEDMR reporting requirements). **Because all state licensed harvesters are required to report to the MEDMR regardless if they have federal reporting requirements or not, MEDMR works with NMFS to collect data from federally permitted harvesters so they do not need to double report. MEDMR staff devotes time and resources to help all harvesters that submit data to NMFS and MEDMR.**



**Figure 2: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse**

Since the MEDMR has required 100% lobster harvester reporting the volume of phone calls and data requests have increased. Throughout the year, approximately 40% to 60% of all harvesters are out of compliance for at least one month of reporting. In 2022 there were 3,576 harvesters with 5,394 individual licenses from all 14 fisheries that required harvester reporting and MEDMR sent out approximately 4,200 compliance letters (and emails) and fielded thousands of calls a month relating to reporting questions and compliance/license renewal status. Doubling the total number of harvesters required to report (many lobster harvesters are required to report other fisheries) will increase these figures and require more staff and staff time to provide industry with an acceptable level of customer service. In 2023, all 5,372 lobster harvesters were required to report (the penalty for not reporting is the inability to renew their license until they become compliant. If they do not renew their license before the end of the licensing year, then they forfeit their license). In all, there were 6,801 harvesters required to report for 8,694 licenses from 14 different fisheries. The MEDMR emailed or sent out 6,374 compliance letters to delinquent harvesters missing at least one mandatory report.

Additional staff are needed to assist with audits and the increase in data that will require auditing. The increase in data will increase the time it takes to complete audits. The implementation of 100% lobster harvester reporting allows the MEDMR to audit and compare 100% of our lobster dealer and harvester data. These two datasets alone account for just under 500,000 records annually and will take significant staff resources to complete. MEDMR historically matched up what the 10% harvester reports indicate against what dealers reported for the

same individuals. Any discrepancies over 2,000 pounds for the year are flagged and further research is conducted. Even with certain data validations in place, the data submitted through an electronic means will require a large amount of staff time to run the audits and research and correct any flagged records. These audits will take up significant staff time the first few years of 100% reporting. As of the writing on this proposal, MEDMR have plans to start these audits. The current staff level has been spending audit time assisting with the roll out of federal lobster harvester reporting since many of the federal lobster harvesters are using our VESL system to report. Other audits that staff perform on the data include spatial audits, trap counts, sea time, set time, gear configuration audits (this includes a spatial component to ensure that gear configuration matches regulatory requirements by area), over trip limits and basic vessel/harvester combinations.

The first few years will require significant outreach with industry. **Communicating with industry and fielding electronic reporting questions will be the biggest time burden the landings program will face. Prior to 2023, 57% of all harvester records submitted to MEDMR are key entered by MEDMR staff. This number dropped to 6% in 2023 which created its own challenge of increasing the level of audits required to ensure data accuracy. Electronic reporting has been a cultural shift for the lobster fishery, which will require diligent customer service and an intuitive reporting application. MEDMR staff have spent significant resources (mostly time) holding in person and virtual meetings with industry to assist with the implementation and education of electronic reporting options with industry.** MEDMR has funded the development of a new harvester reporting application that is user friendly and meets the reporting needs of all MEDMR reporting fisheries, as well as meet NMFS eVTR reporting requirements. MEDMR spent significant time testing ACCSP's eTRIPs V2, which was greatly improved over the previous versions. However, there are still significant concerns about the number of reporting pages it took to complete, the agility of a program that is not fully table driven, and the ease of use for different fisheries. The program MEDMR contracted with Bluefin Data LLC to build worka on both Android® and iOS® and meets all GARFO eVTR requirements so those harvesters with state and GARFO permits will be able to utilize this system. The MEDMR has a contract with Bluefin Data LLC that will allow any harvester with a MEDMR license or permit to use the VESL application free of charge. Since VESL was approved by GARFO, those harvesters with a MEDMR license or permit that also has reporting obligations to GARFO, they will be able to use VESL to fulfill their GARFO reporting requirements regardless of where they are landing. **All data collected through the new MEDMR funded harvester applications will be submitted directly to ACCSP through the newly developed API (requirements are listed here <https://accsp-software.github.io/spec-unified-api-prod/>).** The funding source for the new mobile applications are through dedicated technology funding within MEDMR's budget. These funds must be used for advancing technologies and cannot be used for personnel.

**The number of trip records that MEDMR staff entered into MARVIN (MEDMR's database that contains all sampling, biological and landings data that MEDMR collects) has increased ~132% since 2007 (Figure 1 – view in color), which was the last year the MEDMR did not require 10% lobster harvester reporting. The overall number of reports by harvesters during this same period has increased by 2,301%. If not for the electronic reporting requirement this increase would not have been possible. Since the start of electronic reporting in ME, the number of electronic trip reports has increased 22,946% between 2023 and 2018 (265,252 reports in 2023 compared to 1,156 in 2018).** When harvesters submit paper reports, they are entered into the MARVIN database. MARVIN is used for reports submitted on paper because it is a faster method of data entry and MEDMR uses this tool to audit the data before sending a copy of it to ACCSP. Routines are configured to convert the MARVIN data to ACCSP codes before they are uploaded to the ACCSP warehouse.

**Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry, outreach/education and auditing are the single greatest challenge facing the landings harvester (including lobster) program staff.** MEDMR currently funds seven positions that work at least part-time on harvester reporting. Currently four positions working on the harvester program are funded by ACCSP grants. **In addition to the FY24 ACCSP grant, MEDMR was able to secure additional one-time funding of \$600K (funding ended on 6/20/2024) from NOAA through congressional appropriations as part of a large \$1.6 million dollar bill to offset costs that might result from new regulations in the lobster fishery to protect right whales (split with MA, NH, ME and RI) and two million for a one-time ARPA funding (this is why the MEDMR did not request funding in FY2023).** While this funding is vital, it does not provide MEDMR with enough funds to fully fund multiple years of lobster reporting. MEDMR continues to look for other sources of funding (both internal and external) to fund 100% lobster reporting. MEDMR has modified the current budget from previous years funded proposals to account for the ARPA and other NOAA funds. The positions listed in this grant currently have no other funding source available. MEDMR is now requesting continued funding for four positions.

This proposal is designed to continue to assist with funding the transition from 10% harvester reporting to 100% harvester reporting where most harvesters will be required to report electronically as required by Addendum XXVI. MEDMR understands that not everyone will be able to report electronically so a paper option must still be available. The positions being funded will be doing very little data entry and will mostly be assisting harvesters with reporting questions, educating harvesters with electronic reporting options and other outreach duties along with other data entry/auditing duties.

Summary of staffing:

*MEDMR Landings Program staff involved in harvester reporting who are fully funded by MEDMR:*

- Scientist IV: makes decisions on the general Landings Program direction.
- Scientist III: oversees the Landings Program, participates in ACCSP committees, transfers data to ACCSP; reporting technology development and responds to data requests.
- Scientist II: manages the day-to-day operations of the Landings Program, is responsible for database development, responds to data requests and updates the Landings Program web page. This position also audits data, and monitors licenses and compliance.
- Scientist I: provides one-on-one outreach with the harvesters; trains harvesters how to report electronically or on paper; follows up on compliance issues. This position audits data from “state-only” and “NMFS” harvesters. See the *Approach* section below for further details on auditing. This position is also assigned tasks in the dealer-reporting project.
- Office Associate II: corresponds with industry regarding new suspension authority for failure to report on time; identifies and notifies delinquent reporters; follows protocols for suspending licenses; works with the licensing division to ensure licenses are re-issued when reports have been submitted.
- Office Associate I (2 positions): opens and processes mail and enters data into MARVIN.

*New MEDMR Landings Program staff to be funded by additional ARPA grant:*

- Marine Resource Scientist II (1 position): Oversee the daily operations of harvester reporting program, including but not limited to scheduling of duties, directly supervising four employees, managing harvester data audits, database maintenance and assisting with reporting writing.
- Marine Resource Scientist I (2 positions): Oversee the rollout of the new offline harvester reporting application, outreach with industry and overseeing data audits. These two positions will be one of the primary contacts for industry members that have reporting program questions.
- Office Specialist I Supervisor (1 position): Supervise two Office Associate I positions and two Office Associate II positions located in the West Boothbay Harbor, ME Laboratory. This position will assist

with incomplete reports, handle in-person report drop-off, report rejections, compliance mailings and calls and data audits.

- Office Associate II (1 position): Will have similar duties to the Office Associate II listed below. Will be based out of our Augusta office and will be cross-trained to assist our Licensing Department when help is needed.
- Office Associate II: Primary contact for incomplete reports, rejects reports, primary contact for compliance and reporting questions, notifies new harvesters of reporting requirements, assists with audit research.

*New MEDMR Landings Program staff to be funded by ACCSP grant:*

- Marine Resource Specialist II (2 positions): Help run data audits and correct erroneous data, primary data audit researcher for dealer vs harvester audits and will assist the Marine Resource Scientist I's with any industry technical outreach questions.
- Office Associate II (2 positions): Will have similar duties to the Office Associate II listed above that is currently staffed by Kristina Lewis). This position will be based out of our West Boothbay Harbor office.

The MEDMR decided against the idea to ramp up from the current number of harvesters selected to report to 100% reporting. It was determined the best way forward is to go directly to 100% harvester reporting. For MEDMR to provide excellent customer service from the beginning, the number of positions proposed were what we felt necessary to provide the best level of customer service while being as fiscally responsible as possible. Each position created was a limited period position and each year MEDMR will evaluate these positions to determine if they are still needed. We anticipate that by year 3 to 5 we might be able to reduce the number of positions as harvesters become more versed with the reporting programs.

Finding funding to help defray the costs for this federally mandated requirement is something that the MEDMR has been looking for and will continue to look for. MEDMR will also look for ways to bring the overall costs down through either staff reductions as the program evolves or any and all in-house or outside sources. MEDMR will continue to look at ways to streamline the Landings Program's operation and will continue to try and automate as many processes (compliance and audits for instance) that will cut down on staffing needs. The extra staff included in this proposal will assist with the initial roll out and anticipated help that industry will need and the ability to assist industry within a reasonable amount of time to answer their questions.

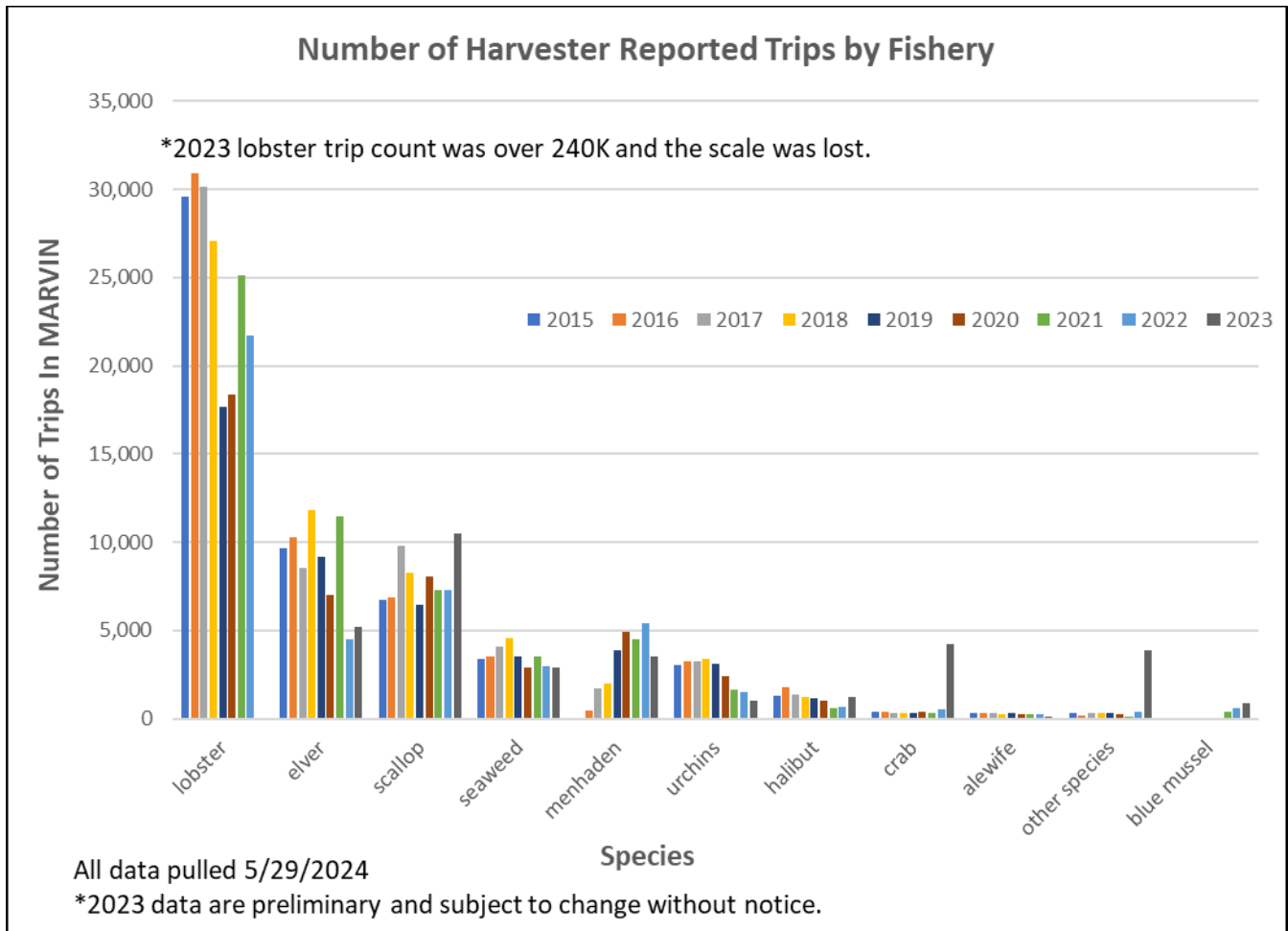
It is essential that this harvester reporting program continue to meet funding needs, which are born as a result of ASMFC's requirement that MEDMR collect trip level harvester reports from 100% of all licensed commercial lobster harvesters. The implementation of new lobster fishery regulations in the Atlantic Large Whale Take Reduction Plan to reduce the threat of entanglement to endangered right whales is expediting the timeframe to increase reporting to 100% faster than Addendum XXVI required. **Requiring 100% lobster reporting will add another tool for monitoring Maine's commercial fisheries, which are large and economically important to the U.S. seafood industry.** According to the NMFS commercial fisheries database (as of 5/29/2024), Maine was ranked as the highest state on the Atlantic Coast in commercial value (\$630.7 million of which \$464.4 million were lobster) and fourth highest in whole pounds landed (198.4 million of which 93.73 million were lobster) in 2023. **This comprehensive harvester reporting program also addresses ASMFC compliance issues for several fisheries, including American lobster, Atlantic herring, American eel and Atlantic menhaden.**

**This grant does not include any funding for the offline mobile harvester reporting application. The MEDMR has fully funded the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees. MEDMR will continue to try to identify alternative sources of funding for the harvester reporting project, but the**

State of Maine is continuing to face budget challenges and there are few options for state funding to cover the total cost.

**Results and Benefits:**

The data collected so far through MEDMR’s harvester reporting program have shown how valuable this information is for Maine’s fisheries. **Currently MEDMR requires 14 fisheries to submit trip level harvester reports and prior to 2023, lobster was the only fishery not collecting 100% of harvester trips (Figure 3 shows all non-confidential fisheries trips reported over past 5 years). Maine’s commercial lobster fishery is by far the largest lobster fishery on the East Coast in both volume and number of individuals.** There are just under 5,400 licensed harvesters of which MEDMR previously selected between 380 and 800 harvesters each year to report. Even with selecting only a percentage of harvesters in the lobster industry, MEDMR scientists have learned more about the fleet characteristics, gear configurations and fishing patters for full time and part time fishermen involved in this fishery than they have been able to with the current sampling programs. Other fishery managers are now analyzing landings data to learn more about the fishing fleet and the makeup of other fisheries. **Requiring 100% reporting will only increase the MEDMR’s knowledge base and increase the amount of data collected.** Since most data will be submitted to SAFIS and all data stored in the ACCSP Warehouse, this large dataset will be available to all partners.



**Figure 3: Number of Harvester Reported Trips by Fishery from Harvester Data**

This grant will continue to allow MEDMR to meet ASMFC’s Addendum XXVI target of 100% harvester reporting in the lobster fishery by January 2024. MEDMR wanted to speed up this deadline for protected

species issues and required **100% trip level reporting in the lobster fishery in January 2023**. This grant will allow MEDMR the ability to continue to fund positions needed to ensure the data collected are as accurate as possible through more data auditing, especially linking dealer and harvester reports together through our “dealer vs harvester reporting” audits where we match up each harvester report to the dealer report and their total landings are scrutinized. MEDMR staff’s ability to audit the spatial data while overlapping effort data has also provided fisheries managers with a level of certainty that was previously **unattainable**. Addendum XXVI does not necessarily require 100% electronic reporting; however, MEDMR has required nearly 100% lobster harvester electronic reporting and know that harvesters in other fisheries were looking to move from paper reporting to electronic reporting. MEDMR anticipates that harvesters that report on paper will be offset by those that have reported on paper but will be required to switch to an electronic reporting option and the data entry staff currently employed will be sufficient. Staff are fielding more calls each day asking about electronic reporting and are promoting our Maine LEEDS and VESL online reporting, but most want a mobile friendly reporting option. **MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every other month; which benefits all partners.**

Metadata for the harvester program will be updated as needed according to the Federal Geographic Data Committee (FGDC) and the Content Standard for Digital Geospatial Metadata (CSDGM) standards where appropriate. The resulting metadata will be reported to ACCSP as text and XML.

This project will help MEDMR meet the data collection standards of ACCSP. All partners will benefit, as all data will be uploaded to ACCSP and many of the species landed in Maine have a broad geographic range which includes many other agencies in their management. Partners will benefit from the technologies built and lessons learned from the offline harvester reporting application MEDMR intends to have in production by early summer as this will be available to any partner.

### Approach:

#### **1. Enforce compliance**

MEDMR staff will enforce compliance of the trip level reporting regulation through these methods:

- **Provide initial outreach and technical support needed for harvesters to report trip level landings to MEDMR. Meet with harvesters in a group setting and one on one as needed to explain reporting procedures, install application, troubleshoot issues with reporting, and explain consequences for failing to report.**
- **Review paper reports submitted for completeness and verify the submissions in Maine LEEDS. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a harvester cannot be contacted by phone, the report will be returned for correction. Reports submitted electronically are deemed complete upon submission. If during the data audit process reports are unable to be reconciled, MEDMR staff will reject the electronic report back to the harvester for correction and re-submission.**
- **Send delinquent harvesters not included in the suspension process emails indicating what they are missing and send automated notifications within the Maine LEEDS program when a report is received or not.**
- **Complete suspension notices monthly to those harvesters involved in the halibut, herring, menhaden and elver fisheries that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- **Complete follow-up suspension notices monthly to those harvesters that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).**
- **MEDMR will suspend harvester licenses for those who fail to report in a timely manner. See Attachment 4 for the law, which dictates suspension procedures MEDMR will follow.**

## **2. Data entry**

**Paper reports and electronic reports entered through the Maine LEEDS system will go directly into MARVIN and then uploaded to the ACCSP Warehouse at least every 6 months once it has been thoroughly audited.**

**The harvester reporting application MEDMR contracted to have built by Bluefin Data LLC includes point of entry validations for harvester, vessel, gear, gear to various other variables (i.e. fisheries, gear quantities), gear quantities, locations, pounds, dispositions for example. The data entered through these new applications will utilize ACCSP's API and all data will be submitted directly into SAFIS.**

## **3. Encourage electronic reporting**

**MEDMR staff will require lobster, menhaden, scallop, halibut and herring harvesters to report electronically and encourage harvesters who report on paper for other fisheries to report using one of the two electronic reporting methods MEDMR will offer (Maine LEEDS or our own Offline Electronic Reporting Application). MEDMR staff will train all harvesters who are required to report electronically regardless if they have reporting obligations to NOAA or not.**

MEDMR believes that electronic reporting will benefit industry as much as it benefits MEDMR. If harvesters enter their own data through the MEDMR proposed application, they will have the ability to run basic analytics within the application to view their own trends and harvest information. MEDMR will benefit by reducing the amount of staff time spent entering data. If MEDMR was not able to offer an electronic reporting option, the number of data entry staff required to handle approximately 280,000 records per year would be at least 7 or 8 individuals in addition to what is currently proposed. Electronic reporting will not only save MEDMR staff data entry time, we will be able to automate many of our daily reporting processes, include data validation at the point of harvester entry and automate compliance and spend more time on data audits and outreach with industry.

## **4. Continue outreach with industry to promote buy-in.**

MEDMR staff will continue to work with harvesters to explain the purpose and benefits of harvester reporting. MEDMR staff spent three days at the annual Fishermen's Forum in March 2024 and were available to assist harvesters with setting up and demonstrating the two reporting options MEDMR are currently offering (VESL and Maine LEEDS). These three days were very successful with staff directly assisting over 100 individuals and providing information to others that were not quite ready to start fishing and just wanted to see what was available. MEDMR in 2023 held six meetings along the coast of Maine to assist harvesters with setting up their reporting software or answer questions. All six sessions were very successful and heavily attended. MEDMR staff are available by phone or video calls Monday – Friday from 8 to 4:30 but many harvesters need the extra help of someone in person to guide them through the initial set up and first few reports. Many of these individuals have little to no experience with smartphones, tablets or computers so the learning curve can be steep. MEDMR staff have also added resources on our Landings Program homepage (<https://www.maine.gov/dmr/fisheries/commercial/landings-program>) to assist harvesters with reporting questions. Currently we have “how-to” guides for each fishery available and will be uploading videos to help assist harvesters. Before the 100% reporting became a requirement staff (along with staff from GARFO and Bluefin Data LLC) attended the annual Maine Fishermen's Forum in March 2020 to facilitate an electronic reporting discussion. This discussion allowed MEDMR, GARFO and Bluefin Data LLC an opportunity to show harvesters the current and future electronic reporting options that are/will be available. The session was lightly attended but helped formulate ideas of how to improve this important part of outreach. In addition to the in-person trainings we have offered we will also utilize videos and remote outreach; however, there are times when it is most productive to hold a few large in-person



meetings to assist those that are not as tech savvy as others and are more comfortable having an in-person meeting. Having to on-board almost 5,400 new harvesters will require every tool we have in our toolbox. There are also areas in Maine where internet speeds and or connectivity are lacking so remote meetings are difficult (this is why we developed a reporting application that will work “offline”). We intend to rely heavily on remote meetings and self-help video and reporting how-to’s to assist those individuals that are comfortable with that format but will continue to hold in-person meetings for those that need extra assistance. In addition to the above issues was the delay in NOAA requiring 100% lobster reporting until April 1, 2024. There are approximately 1,300 federally permitted lobster harvesters in Maine that also have a MEDMR commercial lobster license. The majority of these 1,300 harvesters had no previous federal reporting experience and were not familiar with NOAA’s different forms and terminology. MEDMR staff have been working closely with NOAA GARFO staff to help educate these harvesters and explain the differences from what harvesters were reporting as “state only” now that they are required to report to NOAA.

Staff will work with established industry organizations, such as the MEDMR advisory councils, lobster zone councils, and dealer and harvester associations to reiterate the program goals and show results of mandatory reporting. Staff will also focus on explaining the statutory authority for suspending licenses for those who fail to report on time, and how this will help gather more accurate data.

#### **5. Audit of harvester data submitted.**

**Staff will audit data submitted bi-weekly. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly.** SAFIS audits for “state-only” harvesters will be corrected through the VESL app by either industry or MEDMR staff. **Audits concerning federal harvesters will be vetted through the NMFS Northeast Region. MEDMR staff will audit electronic data submitted by federal harvesters because these harvesters submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits.** MEDMR also compares dealer-reported landings with harvester-reported landings and identifies both parties if there are any discrepancies. In these audits, MEDMR contacts dealers and harvesters when discrepancies are discovered and works to correct records or recover missing data.

MEDMR does intend to audit 100% of all individual records that are submitted. **Many of these audits will be simple gross audits (over the trip, gear quantity, spatial audits, etc.); however, the data submitted through the new mobile application have some validations built-in for pre-submission checks. Harvesters will not be able to enter certain gear/species combinations, certain dispositions for certain species and gear quantity checks for instance. The app also utilizes validations built into ACCSP’s API (species/market/grade combos for instance) Many of these audits will be canned within the audit database and will be added to a routine check. Staff have been working on incorporating spatial audits to our routine. They have added gear configuration by area reported to these audits to catch any harvesters that might be reporting their gear configuration incorrectly based on the area they reported their activity. The dealer/harvester audits are performed annually and start by looking at yearly totals with a 2,000 pound discrepancy.** Dealer/harvester audits are not performed on a trip by trip basis.

#### **6. Transmission of harvester data to ACCSP.**

**MEDMR will continue to upload harvester data from MARVIN to the ACCSP data warehouse once every two months.** In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: cf\_license\_nbr, iss\_agency, trip\_type, supplier\_trip\_id, port, state, coast\_guard\_nbr, state\_reg\_nbr, trip\_start\_date, trip\_start\_time, trip\_end\_date, trip\_end\_time, num\_crew, num\_anglers, vtr\_number, vessel\_permit, sub\_trip\_type, reporting\_source, fuel\_used, fuel\_price, charter\_fee, distance, in\_state, area\_code, sub\_area\_code, local\_area\_code, latitude, longitude, gear, lma, gear\_quantity,

gear\_sets, fishing\_hours, hours\_days, total\_gear, gear\_size, mesh\_ring\_length, mesh\_ring\_width, stretch\_size, target\_species, avg\_depth, species\_itis, disposition, market\_code, grade\_code, unit\_of\_measure, sale\_disposition\_flag, dealer\_license\_nbr, date\_sold, reported\_quantity, price, dea\_iss\_agency, catch\_source, catch\_latitude, catch\_longitude, supplier\_catch\_id. MEDMR enters data daily and audits data weekly, so the data uploaded to the warehouse are a mix of pre- and post-audited records. MEDMR does not keep track of what percentage of the uploaded records are “reloads” due to errors, but simply reloads all the data in MARVIN to the warehouse once every three months. **In addition, the data supplied by the MEDMR offline mobile application will be sent directly to SAFIS daily.**

The MEDMR does not upload data from MARVIN to SAFIS because MEDMR staff continually audit data each week, so the data that are uploaded to the warehouse are a mix of pre- and post-audited records. The reloading of data from MARVIN to the Warehouse is an automated process that the MEDMR loads into a temporary table provided by the Warehouse. If we were to perform the same upload method to SAFIS we would need the ability to mass delete records from SAFIS (which we do not have the ability to do at this time) before records are reloaded to avoid creating duplicate records.

**7. Report metadata to ACCSP.**

Metadata will be created with ESRI ArcCatalog 10 in order to conform to the FGDC (Federal Geographic Data Committee) standards and specifications. As specified by the federal standard, MEDMR metadata will include the following main sections with detailed information on: identification information, data quality information, spatial data organization information, spatial reference information, entity and attribute information, distribution information, metadata reference information, citation information, time period information and contact information. Created metadata will be available in text and XML formats.

**Geographic Location: Operations will be based out of Boothbay Harbor, Maine and the project will take place throughout Maine.**

**Milestone Schedule:**

	<u>Months</u>											
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
1. Enforce harvester compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter harvester reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic harvester reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote industry buy-in	X	X	X	X	X	X	X	X	X	X	X	X
5. Audit harvester data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload harvester data to ACCSP			X	X	X	X	X		X	X	X	X
7. Report metadata to ACCSP												X
8. Semi-annual reports						X						X
9. Annual reports												X

**Table 3. Project Accomplishments Measurement:**

Goal	Measurement	2019	2020*	2021	2022	2023*
Enforce Harvester Compliance	Number of compliance letters to harvesters	3,226	2,555	1,903	3,283	6,374
Enforce Harvester Compliance	Number of harvesters suspended for failing to report timely	447	421	560	628	257
Harvester Data Entry	Number of trip records by year landed in data warehouse	46,386	44,550	56,573	44,221	233,721
Harvester Data Entry	Number of positive trip records by year landed in MARVIN	48,843	47,136	65,026	49,984	175,475
Harvester Data Entry	Number of paper trip records entered in MARVIN	46,069	36,014	50,114	31,038	16,081
Harvester Data Entry	Number of electronic trip reports entered into Maine LEEDS	2,774	11,122	14,912	18,946	159,394
Harvester Data Entry	Number harvesters entering directly into Maine LEEDS	235	603	764	1,240	3,071
Harvester Data Entry	Number of electronic trip reports entered into VESL	-	-	352	3,297	86,152
Encourage Electronic Reporting	Number harvesters entering directly into VESL	-	-	15	170	1,428
Harvester Data Entry	Number of positive trip records by year landed in SAFIS	-	234	1,283	4,950	105,858
Encourage Electronic Reporting	Number of harvesters submitting positive reports in SAFIS	-	-	30	262	1,677
Transmit Harvester Data to Data Warehouse	Frequency of data submitted by year landed	1 time every 6 months	1 time every 6 months	1 time every 6 months	1 time every 6 months	1 time every 6 months
Outreach	Number of custom data requests	479	946	733	1,044	1,057
Outreach	Number of custom data requests from portal	-	362	667	648	692

\*2023 data are incomplete at time of report creation.

Text in bold indicate where proposal hit on ranking criteria.

**Cost Summary: FY25 Managing 100% Lobster Harvester Reporting in Maine**  
**5/1/2025 - 4/30/2026**

Personnel <sup>A</sup>			Description	Cost
072002692	E. Patrick	Marine Resource Specialist II	full time position for 12 months	\$39,053.01
072002693	Z. May	Marine Resource Specialist II		\$36,014.93
072002705	M. Angelico	Office Associate II		\$36,014.93
072002706	L. Schinhofen	Office Associate II		\$36,014.93
			<b>Subtotal</b>	<b>\$150,135.87</b>
Fringe Benefits <sup>A</sup>				
072002692	E. Patrick	Marine Resource Specialist II	Includes health, dental, workers comp, FICA, life insurance and retirement	\$25,587.76
072002693	Z. May	Marine Resource Specialist II		\$23,410.96
072002705	M. Angelico	Office Associate II		\$23,420.81
072002706	L. Schinhofen	Office Associate II		\$25,577.39
			<b>Subtotal</b>	<b>\$97,996.91</b>
			<b>Total Personnel</b>	<b>\$248,132.78</b>
Travel				
1 vehicle <sup>B</sup>			1 car * \$377.34/mo * 12 mo	\$4,528.08
Mileage fee			1 car * 1,150 mi per mo * \$.1533/mi * 12 mo	\$2,115.54
2 Overnight stays <sup>C</sup>			2* \$150/night	\$0.00
Per diem (includes extended days)			(2 overnights @ \$65/day & 5 extended days @ \$24/day)	\$250.00
			<b>Total Travel</b>	<b>\$6,893.62</b>
Supplies				
Year labels			1,000 labels (500/box * 2 boxes * \$15.00/box)	\$30.00
Folder labels			1,000 labels (500/box * 12 boxes * \$24.50/box)	\$49.00
Other				
Telecommunication charges <sup>D</sup>			5 phones * \$50/mo * 12 mo	\$3,000.00
			<b>Total Supplies</b>	<b>\$3,079.00</b>
			<b>Subtotal</b>	<b>\$9,972.62</b>
<b>Total Direct Costs</b>				<b>\$258,105.40</b>
<b>Indirect Costs (30%)</b>				<b>\$77,431.62</b>
<b>Total Award to DMR</b>				<b>\$335,537.01</b>

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

Partner Contribution For ACCSP Purposes			
J. Waller	072001271	Scientist IV (7% time)	\$11,739
R. Watts	072002431	Scientist III (25% time)	\$39,528
L. White, Jr	072002453	Scientist II (25% time)	\$40,902
E. Layland	072002398	Scientist I (25% time)	\$27,562
D. Chase	072002540	Office Associate I (85% time)	\$43,002
C. Bear	072002657	Office Associate I (50% time)	\$32,404
D. Young	072002647	Office Associate II (25% time)	\$22,713
			<b>\$217,850</b>

Text in bold indicate where proposal hit on ranking criteria.

**Budget Narrative for FY2025 proposal:**

**Personnel and Fringe Benefits:** The positions in this proposal (2 Marine Resource Specialist II and 2 Office Associate II). These positions are funded part-time (75%) by this award and are Department of Marine Resources' employees. Salary and benefits for this employee are dictated by the contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

**Travel:** The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was driven the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel is necessary. If multiple harvester appointments to these remote areas are made for the same day, extended days may be necessary. The rates were calculated through the GSA website for posted rates.

**Supplies:** Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include labels (year and name) and protective coatings for these labels. These are the same folders used for all MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

**Other:** Cell phones for the Specialists and the Scientists are necessary for communication and safety when travelling to harvester meeting locations. Staff often need to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field.

**Indirect costs:** The Department of Marine Resources has an indirect cost rate of 33.7%; however, our commissioner has authorized this proposal to use the lower rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

**Cost Summary: FY24 Managing 100% Lobster Harvester Reporting in Maine**  
**5/1/2024 - 4/30/2025**

<b>Personnel<sup>A</sup></b>			<b>Description</b>	<b>Cost</b>
072002692	E. Patrick	Marine Resource Specialist II	full time position for 12 months	\$37,260.66
072002693	Z. May	Marine Resource Specialist II		\$37,260.66
072002705	M. Angelico	Office Associate II		\$37,495.13
072002706	L. Schinhofen	Office Associate II		\$37,495.13
			<b>Subtotal</b>	<b>\$149,511.59</b>
<b>Fringe Benefits<sup>A</sup></b>				
072002692	E. Patrick	Marine Resource Specialist II	Includes health, dental, workers comp, FICA, life insurance and retirement	\$24,553.58
072002693	Z. May	Marine Resource Specialist II		\$24,533.17
072002705	M. Angelico	Office Associate II		\$24,635.70
072002706	L. Schinhofen	Office Associate II		\$24,640.32
			<b>Subtotal</b>	<b>\$98,362.76</b>
			<b>Total Personnel</b>	<b>\$247,874.35</b>
<b>Travel</b>				
1 vehicle <sup>B</sup>			1 car * \$377.34/mo * 12 mo	\$4,528.08
Mileage fee			1 car * 1,150 mi per mo * \$.1533/mi * 12 mo	\$2,115.54
2 Overnight stays <sup>C</sup>			2 * \$150/night	\$300.00
Per diem (includes extended days)			(2 overnights @ \$65/day & 5 extended days @ \$24/day)	\$250.00
			<b>Total Travel</b>	<b>\$7,193.62</b>
<b>Supplies</b>				
Year labels			1,000 labels (500/box * 2 boxes * \$15.00/box)	\$30.00
Folder labels			1,000 labels (500/box * 12 boxes * \$24.50/box)	\$49.00
<b>Other</b>				
Telecommunication charges <sup>D</sup>			5 phones * \$50/mo * 12 mo	\$3,000.00
			<b>Total Supplies</b>	<b>\$3,079.00</b>
			<b>Subtotal</b>	<b>\$10,272.62</b>
<b>Total Direct Costs</b>				<b>\$258,146.97</b>
<b>Indirect Costs (30%)</b>				<b>\$77,444.09</b>
<b>Total Award to DMR</b>				<b>\$335,591.06</b>

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.  
B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.  
C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.  
D: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

<b>Partner Contribution For ACCSP Purposes</b>		
J. Waller	072001271	Scientist IV (7% time) \$9,484
R. Watts	072002431	Scientist III (25% time) \$33,317
L. White, Jr	072002453	Scientist II (25% time) \$31,627
E. Layland	072002398	Scientist I (25% time) \$17,762
Vacant	072002540	Office Associate I (85% time) \$39,796
C. Young	072002657	Office Associate I (50% time) \$29,513
D. Young	072002647	Office Associate II (25% time) \$20,719
		<b>\$182,218</b>

Text in bold indicate where proposal hit on ranking criteria.

**Budget Narrative for FY2024 proposal:**

**Personnel and Fringe Benefits:** The positions in this proposal (2 Marine Resource Specialist II and 2 Office Associate II). These positions are funded part-time (90%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

**Travel:** The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

**Supplies:** Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include labels (year and name) and protective coatings for these labels. These are the same folders used for all of MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

**Other:** Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field.

**Indirect costs:** The Department of Marine Resources has an indirect cost rate of 32.83%; however, our Commissioner has authorized this proposal use the lower rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

<b>Cost Summary: FY22 Managing 100% Lobster Harvester Reporting in Maine</b>				
<b>5/1/2022 - 4/30/2023</b>				
<b>Personnel<sup>A</sup></b>	<b>Description</b>			<b>Cost</b>
2 Marine Resource Specialist II (to be created)	full time position for 12 months			2 @ \$40,816 \$81,632.00
2 Office Associate II (to be created)	full time position for 12 months			2 @ \$34,361.60 \$68,723.20
			<b>Subtotal</b>	<b>\$150,355.20</b>
<b>Fringe Benefits<sup>A</sup></b>				
2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement			2 @ \$24,490 \$48,980.00
2 Office Associate II (to be created)				2 @ \$20,617 \$41,234.00
			<b>Subtotal</b>	<b>\$90,214.00</b>
			<b>Total Personnel</b>	<b>\$240,569.20</b>
<b>Travel</b>				
1 vehicle <sup>B</sup>	1 car * \$377.34/mo * 12 mo			\$4,528.08
Mileage fee	1 car * 1,150 mi per mo * \$.1533/mi * 12 mo			\$2,115.54
Toll allowance	Estimated			\$200.00
5 Overnight stays <sup>C</sup>	4* \$150/night			\$600.00
Per diem (includes extended days)	(2 overnights @ \$65/day & 5 extended days @ \$24/day)			\$250.00
			<b>Total Travel</b>	<b>\$7,693.62</b>
<b>Supplies</b>				
Year labels	1,000 labels (500/box * 2 boxes * \$15.00/box)			\$30.00
Folder labels	1,000 labels (500/box * 12 boxes * \$24.50/box)			\$49.00
AAK Color Coded Folders <sup>D</sup>	1,000 folders (50/box * 120 boxes * \$23/box)			\$460.00
<b>Other</b>				
Printing and binding of harvester report forms	500 logbooks * \$2.50 per logbook			\$1,250.00
Postage for logbooks	Mail 500 logbooks * \$5.00 per logbook			\$2,500.00
Postage for info packets and letters	(\$0.55*1000 compliance letters)			\$550.00
Maine LEEDS enhancement programming				\$2,100.00
Telecommunication charges <sup>E</sup>	5 phones * \$50/mo * 12 mo			\$3,000.00
			<b>Total Supplies</b>	<b>\$9,939.00</b>
			<b>Subtotal</b>	<b>\$17,632.62</b>
			<b>Total Direct Costs</b>	<b>\$258,201.82</b>
			<b>Indirect Costs (30%)</b>	<b>\$77,460.55</b>
			<b>Total Award to DMR</b>	<b>\$335,662.37</b>

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: AAK Color Coded Folders are folders MEDMR uses for all harvester reporting, they are reusable but will need 2 years supply eventually.

E: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

#### **Partner Contribution For ACCSP Purposes**

Scientist IV (7% time)	\$9,116
Scientist III (25% time)	\$25,919
Scientist II (25% time)	\$28,742
Specialist II (25% time)	\$19,788
Office Associate I (85% time)	\$66,322
Office Associate I (50% time)	\$39,013
Office Associate II (25%)	\$19,604
	<b>\$208,504</b>



**Budget Narrative for FY2022 proposal:**

**Personnel and Fringe Benefits:** The new positions proposed in this proposal (2 Marine Resource Specialist II and 2 Office Associate II). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

**Travel:** The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

**Supplies:** Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include AAK folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels. These are the same folders used for all of MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

**Other:** The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. The line for Maine LEEDS enhancement programming is to cover any programmatic cost associated with enhancements identified by MEDMR's once the new 100% reporting requirement is put in place. MEDMR anticipates that after the compliance enhancement is in place, other features that will be a large time saver for MEDMR will be identified.

**Indirect costs:** The Department of Marine Resources has an indirect cost rate of 34.3%; however, our Commissioner has authorized this proposal use the lower rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

<b>Cost Summary: FY21 Managing 100% Lobster Harvester Reporting in Maine (Proposal Withdrawn at Operations Fall Meeting)</b>				
<b>5/1/2021 - 4/30/2022</b>				
<b>Personnel<sup>A</sup></b>		<b>Description</b>		<b>Cost</b>
	2 Marine Resource Specialist II (to be created)	full time position for 12 months	2 @ \$37,766	\$75,532.00
	1 Office Associate II (Alice Mayberry)	full time position for 12 months	1 @ \$45,553.89	\$45,553.89
	1 Office Associate II (to be created)	full time position for 12 months	1 @ \$33,289	\$33,289.00
			<b>Subtotal</b>	<b>\$154,374.89</b>
<b>Fringe Benefits<sup>A</sup></b>				
	2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement	2 @ \$21,652	\$43,304.00
	1 Office Associate II (Alice Mayberry)		1 @ \$26,116.81	\$26,116.81
	1 Office Associate II (to be created)		1 @ \$19,085	\$19,085.00
			<b>Subtotal</b>	<b>\$88,505.81</b>
			<b>Total Personnel</b>	<b>\$242,880.70</b>
<b>Travel</b>				
	1 vehicle <sup>B</sup>	1 car * \$377.34/mo * 12 mo		\$4,528.08
	Mileage fee	1 car * 1,150 mi per mo * \$.1533/mi * 12 mo		\$2,115.54
	Toll allowance	Estimated		\$200.00
	5 Overnight stays <sup>C</sup>	6* \$150/night		\$900.00
	Per diem (includes extended days)	(6 overnights @ \$65/day & 36 extended days @ \$24/day)		\$1,254.00
			<b>Total Travel</b>	<b>\$8,997.62</b>
<b>Supplies</b>				
	Year labels	1,000 labels (500/box * 2 boxes * \$13.95/box)		\$27.90
	Folder labels	1,000 labels (500/box * 2 boxes * \$24.50/box)		\$49.00
	AAK Color Coded Folders <sup>D</sup>	1,000 folders (50/box * 20 boxes * \$23/box)		\$460.00
<b>Other</b>				
	Printing and binding of harvester report forms	1000 logbooks * \$2.50 per logbook		\$2,500.00
	Postage for logbooks	Mail 1000 logbooks * \$5.00 per logbook		\$5,000.00
	Postage for info packets and letters	(\$0.55*3250 compliance letters)		\$1,787.50
	Maine LEEDS enhancement programming			\$28,000.00
	Telecommunication charges <sup>E</sup>	5 phones * \$40/mo * 12 mo		\$2,400.00
			<b>Total Supplies</b>	<b>\$40,224.40</b>
			<b>Subtotal</b>	<b>\$49,222.02</b>
	<b>Total Direct Costs</b>			<b>\$292,102.72</b>
	<b>Indirect Costs (15%)</b>			<b>\$43,815.41</b>
	<b>Total Award to DMR</b>			<b>\$335,918.13</b>

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: AAK Color Coded Folders are folders MEDMR uses for all harvester reporting, they are reusable but will need 2 years supply eventually.

E: One cell phone for each of the Scientist II, Scientist I (2) and Specialist II (2) working on the project.

### Partner Contribution For ACCSP Purposes

Scientist IV (7% time)	\$9,116
Scientist III (25% time)	\$25,919
Scientist II (25% time)	\$28,742
Specialist II (25% time)	\$19,788
Office Associate I (85% time)	\$66,322
Office Associate I (50% time)	\$39,013
Office Associate II (25%)	\$19,604
Mobile Harvester Reporting App Development	\$32,050
	<b>\$240,554</b>

**Budget Narrative for FY2021 proposal (Proposal withdrawn at Operations Committee Meeting 9/2020):**

**Personnel and Fringe Benefits:** The new positions proposed in this proposal (2 Marine Resource Specialist II and 1 Office Associate II) and current Office Associate II (currently filled by Alice Mayberry). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

**Travel:** The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

**Supplies:** Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include AAK folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels. These are the same folders used for all of MEDMR's harvester reports and are purchased from Allied Systems Products AAK Filing system.

**Other:** The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. The line for Maine LEEDS enhancement programming is to cover any programmatic cost associated with enhancements identified by MEDMR's once the new 100% reporting requirement is put in place. MEDMR anticipates that after the compliance enhancement is in place, other features that will be a large time saver for MEDMR will be identified.

**Indirect costs:** The Department of Marine Resources has an indirect cost rate of 34.3%; however, our Commissioner has authorized this proposal use the lower rate of 15%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

**Cost Summary: FY20 Managing 100% Lobster Harvester Reporting in Maine**  
**3/1/2020 - 2/28/2021**

<b>Personnel<sup>A</sup></b>		<b>Description</b>	<b>Cost</b>
	1 Marine Resource Scientist II (to be created)	full time position for 12 months	1 @ \$50,079 \$50,079
	2 Marine Resource Scientist I (to be created)	full time position for 12 months	2 @ \$45,340 \$90,680
	2 Marine Resource Specialist II (to be created)	full time position for 12 months	2 @ \$37,849 \$75,698
	2 Office Specialist I Supervisory (to be created)	full time position for 12 months	2 @ \$36,234 \$72,468
	1 Office Specialist I (to be created)	full time position for 12 months	1 @ \$34,424 \$34,424
	1 Office Associate II (to be created)	full time position for 12 months	1 @ \$31,741 \$31,741
		<b>Subtotal</b>	<b>\$355,090</b>
<b>Fringe Benefits<sup>A</sup></b>			
	1 Marine Resource Scientist II (to be created)		\$32,551
	2 Marine Resource Scientist I (to be created)		\$58,942
	2 Marine Resource Specialist II (to be created)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$49,204
	2 Office Specialist I Supervisory (to be created)		\$47,104
	1 Office Specialist I (to be created)		\$22,376
	1 Office Associate II (to be created)		\$20,632
			<b>Subtotal</b>
		<b>Total Personnel</b>	<b>\$585,899</b>
<b>Travel</b>			
	1 vehicle <sup>B</sup>	1 car * \$188.67/mo * 12 mo	\$2,264
	Mileage fee	1 car * 1,000 mi per mo * \$.1533/mi * 12 mo	\$1,840
	Toll allowance	Estimated	\$100
	5 Overnight stays <sup>C</sup>	5* \$150/night	\$750
	Per diem (includes extended days)	(5 overnights + 5 extended days) * \$65/day	\$650
		<b>Total Travel</b>	<b>\$5,604</b>
<b>Supplies</b>			
	Filing Supplies	folders, folder labels, year labels	\$500
<b>Other</b>			
	Printing and binding of harvester report forms	1000 logbooks * \$2.50 per logbook	\$2,500
	Postage for logbooks	Mail 1000 logbooks * \$4.75 per logbook	\$2,375
	Postage for info packets and letters	(\$0.50*3250 compliance letters)	\$1,625
	Software (Adobe DC Professional)	8 copies at \$329.65/copy	\$2,637
	Technology (equipment, licenses)		\$500
	Enhancements to Maine LEEDS system	Automate compliance for electronic reporting	\$40,000
	Telecommunication charges <sup>D</sup>	5 phones * \$40/mo * 12 mo	\$2,400
		<b>Total Supplies</b>	<b>\$52,537</b>
		<b>Subtotal</b>	<b>\$58,141</b>
	<b>Total Direct Costs</b>		<b>\$644,039</b>
	<b>Indirect Costs (30%)</b>		<b>\$193,212</b>
	<b>Total Award to DMR</b>		<b>\$837,251</b>

A: Cost includes salary and benefits, which are dictated by contract with State of Maine and are non-negotiable.

B: All state agencies must rent vehicles through state's Central Fleet Agency which is non-negotiable. Vehicle costs include the following services and costs: maintenance, repairs, insurance, and gasoline.

C: DMR staff meet with and train harvesters how to electronically report to DMR and/or NMFS.

D: One cell phone for each of the two specialists, one each for the two scientists and one scientist II working on the project.

**Partner Contribution For ACCSP Purposes**

Scientist IV (7% time)	\$9,115
Scientist III (25% time)	\$24,542
Scientist II (25% time)	\$26,854
Specialist II (25% time)	\$18,710
Office Associate I (85% time)	\$47,568
Office Associate I (50% time)	\$37,191
Office Associate II (50%)	\$32,813
Office Associate II (15%)	\$10,531
Office Associate II (15%)	\$9,750
Office Associate II (15%)	\$8,513
Office Associate II (100%)	\$65,626
<u>Mobile Harvester Reporting App Development</u>	<u>\$150,000</u>

\$441,211

**Budget Narrative for FY2020 proposal:**

**Personnel and Fringe Benefits:** The new positions proposed in this proposal (1 Marine Resource Scientist II, 2 Marine Resource Scientist I, 2 Marine Resource Specialist II, 2 Office Specialist I Supervisory, 1 Office Specialist I and 1 Office Associate II). These positions are funded full time (100%) by this award and are a Department of Marine Resources' employees. Salary and benefits for this employee are dictated by contract with the State of Maine and are non-negotiable. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance. The benefits are determined by a formula the state uses which is variable dependent upon the position classification, the pay grade of the employee (e.g. the number of years the person has been employed by the State of Maine) and type of coverage the employee selects.

**Travel:** The Scientists and Specialists are the employees who will be travelling. The travel is for holding electronic harvester reporting workshops, visiting harvesters to install reporting software, training harvester staff how to electronically report or troubleshooting reporting problems. Staff provide harvesters with one-on-one training first via phone but then in person if individuals need further assistance with the reporting system and help troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are unusual unless the harvester can only meet inland. These harvesters must be trained in the use of electronic reporting and in some cases a group informational setting will not be enough for some to learn how to report their landings information.

The monthly fee for the vehicle is dictated by contract with the State of Maine Central Fleet Agency; the fee is based on the type of vehicle leased, and the mileage fee is based on how many miles the car was used the previous year. Because of this, the vehicle fees between projects may differ. This project has one Nissan Rogue SUV which is a state-owned vehicle that MEDMR leases from the State of Maine Central Fleet Agency.

Occasional extended day travel or overnight stays are necessary. If multiple harvester appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary. The rates were calculated through the GSA website for posted rates.

**Supplies:** Filing supplies are needed each year but as more harvesters eventually shift to electronic reporting the need for filing supplies will decrease. The filing supplies include folders used to store individuals log sheets, labels (year and name) and protective coatings for these labels.

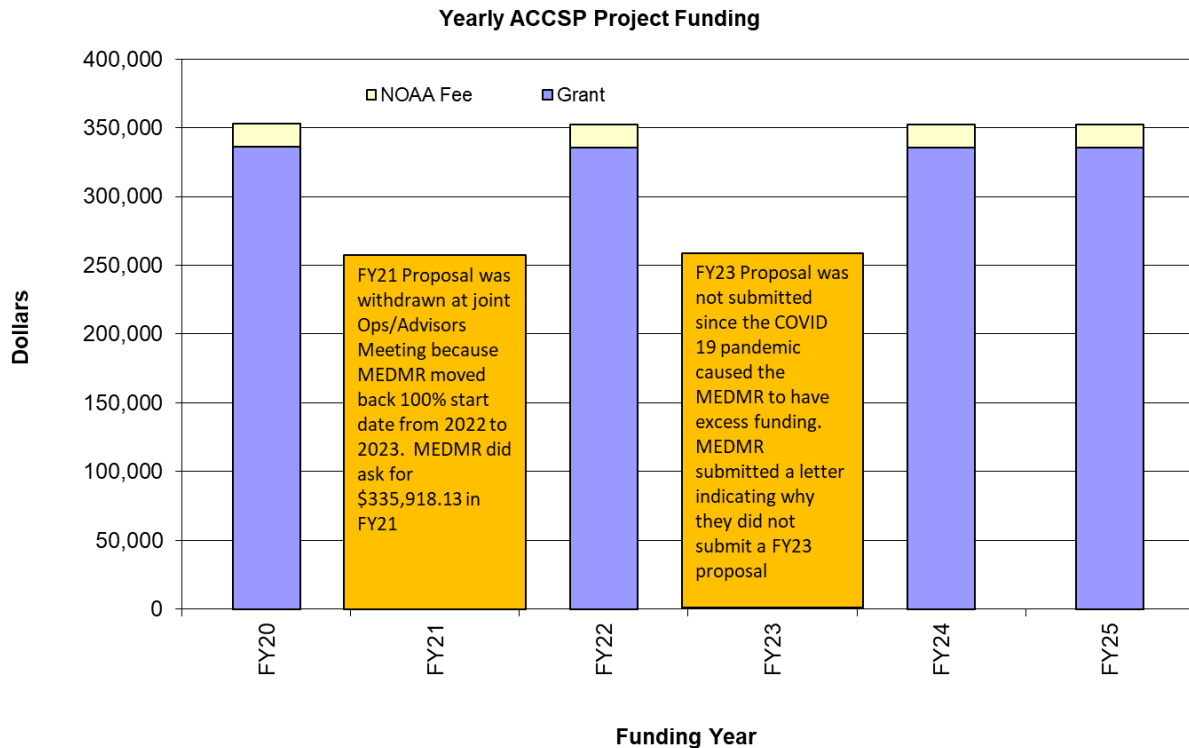
**Other:** The MEDMR will try and push electronic reporting as much as possible and will require waivers to report on

paper for lobster reporting. To help cut down on costs, MEDMR will try and have harvesters print their own paper forms when necessary from the MEDMR website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that harvesters use for their records, or to resend should the original gets lost in the mail. Many harvesters like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks. Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to harvester meeting locations. Staff often needs to call NMFS or the programmer when installing software or troubleshooting reporting issues in the field. All Landings Program staff use Adobe DC Pro to enter or audit paper reports or .PDF's that have been received electronically. The cost for this program has been set by our OIT Department. The line for Maine LEEDS enhancement is the programmatic cost to streamline MEDMR's compliance with harvester data submitted to SAFIS. MEDMR will need to create a SQL Server table to pull any data submitted by a harvester from the ACCSP Warehouse with Maine permits and flip their Maine LEEDS compliance record to submitted. This feature will be a large time saver for MEDMR and will save at least one full-time staff position.

**Indirect costs:** The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement. These indirect funds are a necessity to help defray and offset the administrative costs associated with the ASMFC's directive to increase MEDMR's lobster reporting from its current rate to 100%. The anticipated increase to ~300,000 new harvester records and overall ~700,000 records (dealer and harvester) supplied to ACCSP's Data Warehouse will account for roughly 42% of all reports stored in the Data Warehouse. The increase in harvester reports received by MEDMR will be roughly 538%. These indirect monies are utilized to help cover the administrative costs not covered directly by this grant proposal and help offset any burden MEDMR assumes with fulfilling their ASMFC reporting requirements.

## Attachment 1. Project History

Fund Year	Title	Cost	Extension through	Actual dates funding covered	Results
2020	FY20- Managing 100% Lobster Harvester Reporting in Maine	\$336,120	Apr-22	May 2020 – Apr 2021	Start preparing for MEDMR to move from mandatory 10% lobster harvester reporting to 100% lobster. Work on enhancement to Maine LEEDS program and continue work on app development.
2021	FY21- Managing 100% Lobster Harvester Reporting in Maine	\$335,918.13 (withdrawn)		May 2021 – Apr 2022	Continue preparations for MEDMR to move from mandatory 10% lobster harvester reporting to 100% lobster. Finalize enhancement to Maine LEEDS program, outreach with industry and rolling out MEDMR's offline harvester application built by Bluefin Data LLC.
2022	FY22- Managing 100% Lobster Harvester Reporting in Maine	\$335,662		May 2022 – Apr 2023	Final preparations before 100% reporting requirement is implemented in January 2023. Continue with outreach, audits and implementing reporting requirements.
2023	FY23- Managing 100% Lobster Harvester Reporting in Maine	No Proposal Submitted		May 2023 – Apr 2024	100% reporting requirement implemented in January 2023. Continue with outreach, audits and implementing reporting requirements. Utilized funds from FY20 and FY22 before asking for more funds.
2024	FY24- Managing 100% Lobster Harvester Reporting in Maine	\$335,591		May 2024 – Apr 2025	Continue with 100% reporting requirement. Assist with GARFO harvesters once NOAA implements 100% lobster reporting in April 2024. Continue with outreach, audits and implementing reporting requirements.
2025	FY25- Managing 100% Lobster Harvester Reporting in Maine	\$335,591		May 2025 – Apr 2026	Continue with 100% reporting requirement. Continue with outreach, audits and implementing reporting requirements.



**Figure 4. Project Funding History**

## Attachment 2: Negotiated Indirect Cost Agreement and Letter of Acknowledgement

**U.S. Department of Commerce**  
Office of Acquisition Management – Grants Management Division  
1401 Constitution Ave., NW, HCHB Rm 6412  
Washington, DC 20230, Attn: Indirect Cost Program

### CERTIFICATE OF INDIRECT COSTS

This is to certify that I have reviewed the indirect cost rate proposal prepared and maintained herewith and to the best of my knowledge and belief:

- (1) All costs included in this proposal dated 06/08/2023 to establish indirect cost billing rates for July 1, 2023 through June 30, 2024 are allowable in accordance with the requirements of the federal awards to which they apply and 2 CFR Part 200, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards". This proposal does not include any costs which are unallowable as identified in the applicable federal cost principles. For example, advertising contributions and donations, bad debts, entertainment costs or fines and penalties.
- (2) All costs included in this proposal are properly allocable to federal awards on the basis of a beneficial or causal relationship between the expenses incurred and the agreements to which they are allocated in accordance with applicable requirements. Further, the same costs that have been treated as indirect costs have not been claimed as direct costs. Similar types of costs have been accounted for consistently and the Federal Government will be notified of any accounting changes that could affect the rate.
- (3) The indirect cost rate calculated within the proposal is 33.70%, which was calculated using an indirect cost rate base type of Modified Total Direct Costs. The calculations were based on actual costs from fiscal year July 1, 2021 thru June 30, 2022 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2023.

Subject to the provisions of the Program Fraud Civil Remedies Act of 1986, (31 USC 3801 et seq.), the False Claims Act (18 USC 287 and 31 USC 3729); and the False Statement Act (18 USC 1001), I declare to the best of my knowledge that the foregoing is true and correct.

Organization Name: State of Maine, Department of Marine Resources

CFO Signature: Gilbert M. Bilodeau Date: 6/8/23

Name/Title Authorized Official: Gilbert M. Bilodeau, Director, Natural Res Ser Ctr

Dept Head Signature: Patrick Keliher Date: 6/5/23

Name/Title Authorized Official: Patrick Keliher, Commissioner





UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
ACQUISITION AND GRANTS OFFICE

August 10, 2020

Mr. Brandon Flint  
Managing Staff Accountant  
Natural Resources Service Center  
155 State House Station  
Augusta, ME 04333

Dear Mr. Flint:

This letter supersedes the previous letter dated May 1, 2020 concerning this subject, and confirms that no further action is required under Department of Commerce Financial Assistance Standard Term & Condition A.05, Indirect Costs. Pursuant to OMB regulation 2 CFR Part 200, your organization is not required to submit an indirect cost allocation proposal or plan narrative to its cognizant agency. These plans are to be prepared and retained at the local government level. OMB regulation 2 CFR Part 200, Appendix V Il, par. D states, in part:

All department or agencies of the governmental unit desiring to claim indirect costs under Federal awards must prepare an indirect cost rate proposal and related documentation to support the costs. The proposal and related documentation must be retained for audit in accordance with the records retention requirements contained in the Common Rule.

When actual costs are known at the end of your fiscal year, you are required to account for differences between estimated and actual indirect costs by means of either: a) making an adjustment to the next year's indirect cost rate calculation to account for carry-forward (the difference between the estimated costs used to establish the rate and the actual costs of the fiscal year covered by the rate); or b) making adjustments to the costs charged to the various programs based on the actual charges calculated. Since OMB regulation 2 CFR Part 200 requires the independent auditor to determine the allowability of both direct and indirect costs, the organization's indirect cost charges will be subject to audit.

It is important to note that your organization is still required to submit to the Grants Management Division of the National Oceanic and Atmospheric Administration (NOAA) an annual Certificate of Indirect Costs. NOAA acknowledges receipt of your most recent certificate, submitted March 18, 2020 pertaining to your rate of 34.30% for Fiscal Year 2020. Additionally, your request to move to a two-year fixed rate with carry-forward schedule, is approved. Given this, the aforementioned indirect cost rate of 34.30% is also applicable for Fiscal Year 2021.

The submission of the Certificate of Indirect Costs is due to our office within six (6) months after the close of your fiscal year.

A copy of this letter will be retained in your official award file. If you have any questions, please contact Lamar Revis at 301.628.1308 or at [lamar.revis@noaa.gov](mailto:lamar.revis@noaa.gov). Thank you.

Sincerely,

*Lamar Dwayne Revis*

Arlene Simpson Porter  
Director, Grants Management Division



## Department of Marine Resources

### INTEROFFICE MEMORANDUM

---

**TO:** FILE  
**FROM:** PATRICK KELIHER, COMMISSIONER  
**SUBJECT:** RATE USED FOR COST ALLOCATION  
**DATE:** 5/31/2024

---

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2024 ending June 30, 2024. The indirect cost rate proposal is 33.70%. I am authorizing the use of the lesser rate of **30%** to be used during this period.

ACCSP  
"Managing 100% Lobster Harvester Reporting in Maine"  
(May 1, 2025 – April 30, 2026)

A handwritten signature in blue ink, which appears to be "P. Keliher", is written over a horizontal line. To the right of the signature, the date "5/31/24" is handwritten in blue ink.

Patrick C. Keliher  
Commissioner

Date

#### **Attachment 4: Authority to Suspension Licenses for Delinquent Reporters**

##### **An Act to Improve the Quality of the Data Used in the Management of Maine's Fisheries**

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 12 MRSA §6301, sub-§6 is enacted to read:

6. Ownership identified. If a license issued under chapter 625 is issued to a firm, corporation or partnership, the individual who owns the highest percentage of that firm, corporation or partnership must be identified on the license application. When 2 or more individuals own in equal proportion the highest percentages of a firm, corporation or partnership, each of those owners must be identified.

Sec. 2. 12 MRSA §6412 is enacted to read:

§ 6412. Suspension of license or certificate for failure to comply with reporting requirements

1. Authority to suspend. The commissioner, in accordance with this section, may suspend a license or certificate issued under this Part if the holder of the license or certificate fails to comply with reporting requirements established by rule pursuant to section 6173. A license or certificate suspended under this section remains suspended until the suspension is rescinded by the commissioner. The commissioner shall rescind a suspension when:

A. The commissioner determines and provides notice to the holder of the suspended license or certificate that the holder has come into compliance with the reporting requirements established by rule pursuant to section 6173; and

B. The holder pays to the department a \$25 administrative fee.

When a suspension is rescinded, the license or certificate is reinstated. Until the suspension is rescinded, the holder of the suspended license or certificate is not eligible to hold, apply for or obtain that license or certificate.

2. Process for suspension for failing to comply with weekly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a weekly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 2 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

3. Process for suspension for failing to comply with monthly reporting. If the commissioner determines that a person who holds a license or certificate under this Part has failed to comply with a monthly reporting requirement established by rule pursuant to section 6173, the commissioner shall notify the person at the telephone number provided on the application for the license or certificate and by e-mail if an e-mail address is provided on the application. If the license or certificate holder has not complied with the reporting requirements within 45 days after the commissioner has provided the notice, the commissioner shall mail a notice of suspension to the license or certificate holder by certified mail or the notice must be served in hand. The notice must:

A. Describe the information that the license or certificate holder is required to provide pursuant to this Part that the department has not received; and

B. State that, unless all the information described in paragraph A is provided to the department or the license or certificate holder requests a hearing, the license or certificate will be suspended in 3 business days after the license or certificate holder's receipt of the notice.

If the license or certificate holder has not complied with the reporting requirements or requested a hearing within 3 business days after receipt of the notice, the commissioner shall suspend the license or certificate.

4. Hearing. A license or certificate holder receiving a written notice of suspension pursuant to this section may request a hearing on the suspension by contacting the department within 3 business days of receipt of the notice. If a hearing is requested, the suspension is stayed until a decision is issued following the hearing. The hearing must be held within 3 business days of the request, unless another time is agreed to by both the department and the license or certificate holder. The hearing must be conducted in the Augusta area. The hearing must be held in accordance with:

A. Title 5, section 9057, regarding evidence, except the issues are limited to whether the license or certificate holder has complied with reporting requirements established by rule pursuant to section 6173;

B. Title 5, section 9058, regarding notice;

C. Title 5, section 9059, regarding records;

D. Title 5, section 9061, regarding decisions, except the deadline for making a decision is one business day after completion of the hearing; and

E. Title 5, section 9062, subsections 3 and 4, regarding a presiding officer's duties and reporting requirements, except that notwithstanding Title 5, section 9062, subsection 1, the presiding officer must be the commissioner or the commissioner's designee.

## **Summary of Proposal for ACCSP Ranking**

**Proposal Type:** Maintenance Proposal

**Primary Program Priority and Percentage of Effort to ACCSP modules:**

*Catch and Effort (10 points):* 100% of licensed lobster (and 12 other fisheries) must report trip level information. Most of these reports will be electronic.

*Data Delivery Plan (2 Points):* All electronic data through the MEDMR offline application will be submitted into SAFIS daily. All data entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

**Project Quality Factors:**

*Regional Impact (5 Points):* all partners will benefit, as all the data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the trip level information from Maine. Partners may also benefit from the technologies/procedures tested in the new offline MEDMR mobile application. MEDMR is currently contracted with Bluefin Data LLC to build a mobile app for harvesters to use to meet the 100% lobster reporting requirement mandated in ASMFC Addendum XXVI. MEDMR is currently paying for all start-up costs associated with this project and shared findings with ACCSP. Partners will be able to utilize (the developer might charge a support fee) this application once built if they so choose.

*Funding transition plan (4 Points):* MEDMR will continue to look for other funding sources; however, with the timeline of 100% lobster reporting being pushed forward from the date set in Addendum XXVI, MEDMR will need help to achieve the requirements coming in the next few years. MEDMR is funding the development of an offline mobile harvester reporting application that will meet MEDMR and GARFO reporting requirements. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. MEDMR has already secured an additional one-time \$600K in additional federal funding and a one time 2 million ARPA fund for this project. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries but intends on pushing electronic reporting. Geographical restrictions prevent all harvesters from having reliable high-speed internet access at this time.

*In-kind Contribution (3 Points):* the partner contribution is listed on page 16. MEDMR's in-kind contribution is approximately 35%.

*Improvement in Data Quality/Timeliness (4 Points):* MEDMR can audit data at a more detailed level, including checking harvester reported data against dealer reported data. MEDMR encourages reporting timeliness through outreach with harvesters and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed law that authorizes license suspensions for those who fail to report on time which has improved the timeliness and quality of the data submitted for the fisheries that utilize this law.

*Potential secondary module as a by-product (in program priority order) (3 points):* The offline application that MEDMR envisions will be able to eventually link up with certain dealer reports and accept tracker data which will revolutionize the way spatial data could be used to determine many effort fields and dealer and harvester reports are matched up.

This project has also been used to help with socio-economic programs such as disaster relief from flooding in the winter of 2024. Having access to landings data has proven to be useful in town/working waterfront planning.

*Impact on Stock Assessment (3 Points):* Regional management organizations which carry out stock assessments will benefit from the detailed landings data reported from Maine. This information is used in stock assessments for many species that are managed by regional agencies.

*Properly Prepared (1 Points):* MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

*Merit (3 points):* This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 30% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

### **Summary of Proposal for ACCSP Ranking (Abridged Ranking Process)**

*Achieved Goals:* MEDMR did not receive FY20 funding for this grant from NOAA until June 8, 2020. MEDMR also pulled back our FY21 and FY23 proposals with the understanding that the FY22 would be treated as a maintenance proposal since our new data to require 100% lobster reporting shifted from January 1, 2022 to January 1, 2023. MEDMR has already completed the Maine LEEDS enhancement to automate electronic reporting compliance. The offline harvester application (VESL) was rolled out to industry members in 2021. The VESL software was GARFO approved in 2021 and has been submitting data directly to SAFIS since.

*Data Delivery Plan (2 Points):* All electronic data through the MEDMR offline application will be submitted into SAFIS daily. All data entered into MEDMR's MARVIN database and will be sent to the ACCSP Data Warehouse on at least a bi-annual basis after all data have been thoroughly audited.

*Level of Funding (1 Point):* In FY20 MEDMR asked for \$837,251 and was awarded \$336,162. In FY22 MEDMR asked for and received \$335,620.77. In FY24 MEDMR is asking for \$335,591.06.

*Properly Prepared (1 Points):* MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

*Merit (3 points):* This proposal allows MEDMR to comply with mandatory ASMFC requirements. The MEDMR currently provides more data to the data warehouse than any other state and accounts for over 30% of all records landed in the Data Warehouse. MEDMR are always looking for ways to collect data in a timely and efficient manner.

**Robert B. Watts II**  
**Maine Department of Marine Resources**  
**(207) 633-9412**  
[rob.watts@maine.gov](mailto:rob.watts@maine.gov)

June 2023

**PROFILE:**

- Knowledge of Maine and federal regulations pertaining to commercial fishing and associated reporting requirements through working with the Department of Marine Resources and the National Marine Fisheries Service.
- Knowledgeable of Maine's fishing industries and how they operate.

**EDUCATION:**

B.S. Marine Science, Maine Maritime Academy, Castine, ME 2002

**EMPLOYMENT EXPERIENCE:**

**May 2016 – Present**                      **Marine Resource Scientist III**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Oversees MEDMR's MARVIN database.
- Maintains dealer and harvester auditing databases.
- Oversaw Maine's Interactive Voice Response (IVR) reporting program (IVR reporting ended in 2019)
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Operations Committee, Commercial Technical Committee, Information Systems Technical Committee, Standard Codes Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

**Jan 2014 – Jan 2016**                      **Marine Resource Scientist III (Acting Capacity)**

**June 2015 – Apr 2016**                      **Marine Resource Scientist II**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.



- Oversees DMR's landings suspension authority and process.
- Oversees DMR's swipe card reporting program.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP) through serving on the Commercial Technical Committee, Information Systems Technical Committee and Outreach Committee; working to bring the Landings Program into compliance with ACCSP standards.

**Feb 2012 – Apr 2015                      Marine Resource Scientist I**  
**Maine Department of Marine Resources**

- Manages daily operations of Maine's Commercial Landings Program, which collects, compiles and distributes commercial fishery statistics for Maine's commercial fisheries.
- Supervises five Landings Program personnel.
- Maintain Microsoft Access databases for licensing information, compliance and data entry.
- Communicates with industry regarding reporting requirements, monitors reporting compliance and works with the licensing division in order to ensure all mandatory reporting requirements are met and licenses are issued accordingly.
- Oversees outreach to industry.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Serves as key contact for Maine commercial landings.

**Oct 2007 – Jan 2012                      Marine Resource Specialist II**  
**Maine Department of Marine Resources**

- Oversee daily operations of the harvester landings program.
- Notify new harvesters about reporting requirements.
- Maintain databases used for data audits and data entry.
- Monitor reporting compliance database and notifies harvesters if they are delinquent.
- Supervise two Landings Program personnel.
- Oversees IVR reporting.
- Prepare data requests from various sources

**Jul 2005 – Oct 2007                      Marine Resource Specialist I**  
**Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Created publications, updated regulation handouts and updated the recreational fishing website as needed.

**May 2001 – Jun 2005                      Conservation Aid**  
**Maine Department of Marine Resources**

- Interviewed marine recreational anglers all over the Maine coast to help determine fish stocks. Identified, weighed, measured and recorded fish caught by anglers.
- Acted as a liaison between the State of Maine and the recreational anglers, answered anglers questions about fishing regulations.

**Jesica Waller**  
**Maine Department of Marine Resources**  
**(207) 350-6440**  
[Jesica.d.waller@maine.gov](mailto:Jesica.d.waller@maine.gov)

June 2023

**PROFILE:**

- Knowledge and oversight of the State of Maine’s programs to research, monitor, and compile data from commercial and recreational coastal marine fisheries. This includes coordination of research plans across programs and with external research partners.
- Knowledgeable of Maine’s fishing industries and how they operate.
- Knowledgeable about state and federal funding structures to support this work.

**EDUCATION:**

B.S. Marine and Freshwater Biology, University of New Hampshire, Durham, NH 2009

M.S. Marine Biology, University of Maine, Orono, ME 2016

**EMPLOYMENT EXPERIENCE:**

**July 2022 – Present**                    **Marine Resource Scientist IV**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Division Director for the Division of Biological Monitoring and Assessment
- Oversee fishery monitoring and research for commercially important marine species
- Lead research around emerging fisheries and climate related topics
- Supervise a staff of 25 MEDMR researchers and maintain external collaborations
- Hire, train, and supervise research staff and students supported by MEDMR programs
- Write research proposals to federal agencies to obtain funding for MEDMR programs
- Coordinate the drafting and submission of all federal grant reporting requirements
- Conduct research and analyses, and write and review reports on timely research questions
- Work with diverse stakeholders to coordinate research in support of MEDMR priorities
- Represent MEDMR on state, regional, and federal research panels
- Advise senior staff on issues ranging from new research findings to funding opportunities
- Co-lead the MEDMR Environmental Monitoring Program and expand program capacity

**March 2018 – July 2022**            **Marine Resource Scientist III**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Lead question-based lobster research to support the management of the Maine lobster fishery
- Build research collaborations, submit proposals for funding and author research publications
- Co-develop the MEDMR wet lab and serve as the point person for biosecurity
- Represent MEDMR at regional meetings, research conferences, and the Maine Climate Council
- Coordinated the MEDMR Lobster Research Collaborative and organized quarterly meetings

**Jan. 2017 – March 2018**           **Research Technician**  
**Bigelow Laboratory for Ocean Sciences**  
**East Boothbay Harbor, ME**

- Designed and performed laboratory and field experiments for grant funded projects
- Contributed to authorship of peer-reviewed publications and federal/state grant proposals
- Led field and lab-based data collection for multiple projects with no supervision
- Supervised and developed research projects for summer undergraduate interns

**Sept. 2014 – Dec. 2016    Graduate Student and Canadian American Center Fellow  
University of Maine (UMaine), Darling Marine Center  
Walpole, ME**

- Thesis title: Linking Rising  $p\text{CO}_2$  and Temperature to the Larval Development, Physiology and Gene Expression of the American Lobster (*Homarus americanus*)
- Completed all thesis research and coursework and secured fellowship funding annually
- Led the authorship and submission of grants to support travel and advanced sample analysis
- Presented research at international meetings
- Supervised undergraduate interns at UMaine and Bigelow Laboratory for Ocean Sciences
- Contributed to the data collection and analysis efforts on two lobster biology projects
- Assisted Dr. Rhian Waller in teaching SMS 480 “Invertebrates of the Maine Coast”
- Supervised and instructed 25 undergraduate students during weekly lab sessions

**Selected Publications**

1. Ellertson, A. A., **Waller, J. D.**, Pugh, T. L., & Bethoney, N. D. (2022). Differences in the size at maturity of female American lobsters (*Homarus americanus*) from offshore Southern New England and eastern Georges Bank, USA. *Fisheries Research*, 250, 106276.
2. McClenachan, L., Record, N. R., & **Waller, J. D.** (2022). How do human actions affect fisheries? Differences in perceptions between fishers and scientists in the Maine lobster fishery. *FACETS*, 7(1), 174-193.
3. **Waller, J. D.**, Reardon, K. M., Caron, S. E., Jenner, B. P., Summers, E. L., & Wilson, C. J. (2021). A comparison of the size at maturity of female American lobsters (*Homarus americanus*) over three decades and across coastal areas of the Gulf of Maine using ovarian staging. *ICES Journal of Marine Science*, 78(4), 1267-1277.
4. **Waller, J.D.**, Reardon, K.M., Caron, S.E., Masters, H.M., Summers, E.L. & Wilson, C.J. (2019). Decrease in size at maturity of female American lobsters *Homarus americanus* (H. Milne Edwards, 1837) (Decapoda: Nephropidae) over a 50-year period in Maine, USA. *Journal of Crustacean Biology*, 39(4), 509-519.
5. **Waller, J. D.**, Wahle, R. A., McVeigh, H., & Fields, D. M. (2017). Linking rising  $p\text{CO}_2$  and temperature to the larval development and physiology of the American lobster (*Homarus americanus*). *ICES Journal of Marine Science*, 74(4), 1210-1219.

**Synergistic Activities**

2021-present *Steering Committee Member*, Maine Ocean and Coastal Acidification Partnership  
 2021-present *Advisory Committee Member*, Dalhousie University (PhD student, M. Rampual)  
 2021-present *Reviewer*, *Journal of Crustacean Biology*  
 2019-present *Agency support*, Maine Climate Council, Coastal and Marine Working Group  
 2019-present *Reviewer*, *Canadian Journal of Fisheries and Aquatic Sciences*  
 2018-2022 *Coordinator*, Maine Department of Marine Resources Lobster Research Collaborative  
 2017-present *Reviewer*, *ICES Journal of Marine Science*



MARYLAND - VIRGINIA  
"Potomac River Compact of 1958"

## Potomac River Fisheries Commission

P.O. BOX 9  
Colonial Beach, Virginia 22443  
TELEPHONE: (804) 224-7148 ·  
www.prfc.us    contactprfc@gmail.com



June 17, 2024

Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St. Ste. 200 A-N  
Arlington, VA 22201

Dear ACCSP:

The Potomac River Fisheries Commission (PRFC) is pleased to submit its proposal for the Fiscal Year 25 ACCSP Request for Proposal, titled "FY25: Electronic Trip-Level Reporting for the Potomac River Fisheries Commission Commercial Fisheries Sector" for your consideration. This project's continued maintenance enabled PRFC to expand its electronic catch reporting leveraging the ACCSP eTrips application while improving accuracy, timeliness, and level of detail for catch reporting throughout the Potomac River.

PRFC has made significant progress in the first four years of this project, including the initial groups of testers gaining access to eTrips, PRFC-developed training, initial ACCSP-PRFC interface development, Oracle Cloud Infrastructure (OCI) Infrastructure as a Service (IaaS)/Platform as a Service (PaaS) procurement, and the development of the new Sport & commercial Application Integrated Licensing (SAIL) tool.

The Year 5 proposal is an exciting opportunity for ACCSP and PRFC to maintain momentum as more PRFC license holders adopt eTrips for their catch reporting and interfaces constructed for bi-directional data management between SAFIS and SAIL. Additionally, the first data connection between SAIL and SAFIS will be established and certified in Year 5. Thank you for your consideration, and please contact Ron Owens with any questions.

Sincerely,

Ronald W. Owens  
Executive Secretary  
(804)682-1527  
ron.owens@prfc.us

Proposal for Funding made to:  
Atlantic Coast Cooperative Statistics Program  
Operations and Advisory Committees  
150N. Highland Street, Suite 200 A-N  
Arlington, VA 22204



FY25: Electronic Trip-Level Reporting for the  
Potomac River Fisheries Commission  
Commercial Fisheries Sector

Submitted by:  
Ronald W. Owens  
Executive Secretary  
Potomac River Fisheries Commission  
222 Taylor Street  
Colonial Beach, VA 22443  
ron.owens@prfc.us

**Applicant Name:** Potomac River Fisheries Commission

**Project Title:** **Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector**

**Project Type:** Maintenance Project  
**(No change in scope of work, continued emphasis on Electronic Data Reporting using eTrips, increasing participation, and integration with PRFC databases)**

**Principal Investigator:** Ingrid Braun-Ricks, PRFC Asst. Executive Secretary

**Project Manager:** Ronald W. Owens, PRFC Executive Secretary

**Requested Award Amount:** **\$142,344.00** for the year five maintenance project. This is intended to scale both participation and supporting IT infrastructure.

**Requested Award Period:** One year after receipt of funds

**Objective:** This is the fifth year of the project, and fourth maintenance year, to report trip-level catch and effort data using the ACCSP eTrips tools, from Commercial license holders who fish within the jurisdiction of the Potomac River Fisheries Commission (PRFC) continuing in the 2025 seasons, which begins in July 2025 for the FY25 licenses and January 2025 for the CY25 licenses.

**Need:**

ACCSP and its partner agencies have established the collection of trip-level data as the standard which all agencies should strive to reach and maintain. Over 60 years ago, PRFC began collecting catch and effort data from commercial shellfish (oyster and crab) and finfish permit holders, which are submitted weekly. Storage of the data in electronic databases has taken place since the late 1980s. Since that time, more details regarding the catch have been collected in terms of targeting specific locations, species, and gear. The data are reported at the trip-level on a daily basis and are submitted weekly to PRFC and provided to ACCSP twice annually for the previous calendar year.

**The fifth year of the project will work to increase the use of census-style reporting by expanding the use of ACCSP eTrips technology among a group of PRFC Commercial license holders through both positive and negative incentives. Additionally, the first interface connection between PRFC SAIL and ACCSP SAFIS will be certified and used for official transmission of data between the two systems.**

Participating license holders will use ACCSP eTrips tools to report their catch and effort in PRFC managed waters. In Year 5, the plan is to transition all applicable eTRIPS users to electronic catch reporting. Only allowing paper reports provided to PRFC to be submitted by PRFC staff for the waterman who do not use eTRIPS. Electronic harvest reporting has been discussed in the proceedings of meetings of advisory committees to the PRFC and the Commission itself for several years, and numerous harvesters have expressed an interest and willingness to participate. Many commercial constituents are already participating in electronic harvest reporting in Maryland or Virginia and are eager for similar opportunities to report electronically for PRFC.

**Results and Benefits:**

During the fourth year of the project, trip-level reporting to collect catch and effort data from commercial permit holders - harvesters is a goal for all ACCSP partners. On average, on an annual basis (Table 1):

**Table 1: Average Count of License Holders and Daily Catch Reports for FY22 & CY22**

<b>Gear</b>	<b>License Holders</b>	<b>Daily Catch Reports</b>
Oyster	204	1462
Crab	426	10082
Fish	339	12970

Presently, the PRFC staff collect, organize, validate, obtain corrections, and enter the catch data for each License Holder - Harvesters, which is a rather labor-intensive effort that potentially induces errors and is time consuming; therefore, the data stored and available for decision making reports can be lagging. **The anticipated benefits use of ACCSP eTrips are faster data entry with less errors and less staff hours required.**

**Data Delivery Plan: During the fourth year of the project, ACCSP eTrips will continue to collect all catch data reports either directly entered by commercial harvesters or entered on their behalf by PRFC staff. PRFC will look at new ways to incentivize watermen to adopt eTrips vice submitting paper reports, and will look to streamline monitoring, control, and reporting to ACCSP using the PRFC SAIL application.** PRFC will leverage the ACCSP eTrips database API to synchronize eTrips catch data with the new PRFC cloud-based Sport & commercial Application Integrated Licensing tool (SAIL) that was deployed for use in 2023 and currently holds ALL the catch data records that are NOT being entered directly into ACCSP eTrips by the commercial harvesters. The PRFC staff will be entering catch data for some of the paper reports that are submitted to PRFC by the commercial harvesters (see Task 2 in the Approach).

**Biological Sampling Priority**

**PRFC's managed fisheries include five of the species identified in the FY24 Biological Sampling Priority Matrix, these include: #1 ranked Black Sea Bass, #6 ranked Atlantic**

**Menhaden, #7 ranked Cobia, #9 ranked Spanish Mackerel, and #20 ranked American eel.**

For species such as Atlantic Menhaden, Cobia, and Spanish Mackerel, they are managed under a coastwide quota with state-by-state allocations. When a percentage of the total quota is reported, possible coastwide closures would be initiated to avoid overages. Menhaden is one of PRFC's biggest fisheries, last year PRFC reported over 3.5 million pounds landed. Currently, PRFC harvest is only reported twice a year to ACCSP with each of those data loads containing landings for the previous year to be downloaded into the ACCSP Data Warehouse. Therefore, PRFC landings are not typically accounted for on the coastwide scale until the end of the year, which leaves little room to take preventative measures. Electronic reporting and enabling PRFC system integration into SAFIS will help coastwide management.

**Metadata: Below is a list of metadata that PRFC will be capturing via SAIL/eTrips and providing to ACCSP as part of this project.**

<b>Meta Data Field</b>	<b>Definition</b>
<b>Trip Type</b>	<b>Type of fishing trip</b>
<b>Coast Guard #</b>	<b>Coast Guard vessel registration #</b>
<b>State Reg #</b>	<b>State vessel registration #</b>
<b>Vessel Name</b>	
<b>Permit ID</b>	<b>Permit ID #</b>
<b>License Nbr</b>	<b>License # (PRFC Specific)</b>
<b>Fisherman</b>	<b>Legal Name</b>
<b>Corporate Name</b>	<b>Corporate Name, if applicable</b>
<b>Trip Start Date</b>	<b>Start date of trip</b>
<b>Trip Start Time</b>	<b>Start time of trip</b>
<b>Trip End Date</b>	<b>End date of trip</b>
<b>Trip End Time</b>	<b>End time of trip</b>
<b>State</b>	<b>State of trip</b>
<b>End Port</b>	<b>End port of trip</b>
<b>Submit Method</b>	<b>Method of submission for trip data</b>
<b>Submitted By Participant</b>	<b>If submitted by someone else</b>
<b>Nbr Of Crew</b>	<b># of crew on trip</b>
<b>Area Code</b>	<b>Code for the area of the trip</b>
<b>Sub Area Code</b>	<b>Code for the sub area of the trip</b>
<b>Local Area Code</b>	<b>Code for the local area of the trip</b>
<b>In State</b>	<b>State of trip origin</b>
<b>Fishing Hours</b>	<b>Hours fished during trip</b>
<b>Gear Code</b>	<b>Code for gear used during trip</b>
<b>Gear Name</b>	<b>Name for gear used during trip</b>
<b>Gear Quantity</b>	<b>Quantity of gear used during trip</b>



<b>Gear Sets</b>	<b>Sets of gear used during trip</b>
<b>Depth</b>	<b>Depth of gear used during trip</b>
<b>Latitude</b>	<b>Latitude of gear used during trip</b>
<b>Longitude</b>	<b>Longitude of gear used during trip</b>
<b>Common Name</b>	<b>Common name of species fished during trip</b>
<b>Unit Measure</b>	<b>Measure of species caught during trip</b>
<b>Reported Quantity</b>	<b>Quantity of measure of species caught during trip</b>
<b>Market Code</b>	<b>Market code sold to during trip</b>
<b>Grade Code</b>	<b>Grade of species caught during trip</b>
<b>Disposition Code</b>	<b>Disposition of species caught during trip</b>
<b>Sale Disposition Flag</b>	<b>If species caught were sold</b>
<b>Catch Source</b>	<b>Source of catch of species sold</b>
<b>Nbr Fish</b>	<b>Number of caught sold during trip</b>
<b>Comments</b>	<b>Used to capture TAG#s and other relevant data for catch and trip</b>
<b>Cf Iss Agency</b>	<b>PRFC</b>
<b>Validating Agency</b>	<b>PRFC</b>
<b>Confirmed Validating Agency</b>	<b>PRFC</b>
<b>Vendor App Name</b>	<b>Name of application used to capture information</b>

**PRFC will continue transmitting data twice per year for all catch reports submitted for the prior year but excluding the records that have been entered into ACCSP eTrips. This will be discontinued once two consecutive reports show 100% consistency with data from ACCSP eTrips.**

**Approach:**

**During the fifth year of the project, PRFC will be fully transitioned from the legacy Microsoft (MS) Access databases and Operator interface code that require all license issuing and catch data reporting performed by PRFC staff. The new PRFC cloud-based SAIL application will be live, and the focus will be on enhancing its capabilities and integrations with ACCSP eTrips database. This enhanced integration will result in increased timeliness and accuracy of trip report data processed by PRFC being available in the SAFIS DB. PRFC will continue to expand its participation rate and update/improve training processes and materials. Additionally, PRFC will maintain a contract with a Software Development provider company or consultant to continue to maintain relevant interfaces and continue to develop the upgraded cloud application.**

During Year 5, PRFC will be in maintenance for the following items:

1. Task 1 Identification of License Holder Participants: Continued Identification of commercial harvesters to participate:

**In Year 5 of the project, continue to expand participation in using eTrips by commercial harvesters. It is expected that all harvesters with interest will be using eTrips in this phase, but that continued outreach and marketing will be necessary to those who are holdouts. Additionally, new innovative methods to get harvesters access to and using eTrips will be explored, i.e. kiosks and positive/negative incentives.** The commercial harvester community is comprised of a mix of limited entry and open access fishery participants. Though the number varies year to year, approximately 1,400 commercial harvesters are candidates, and based upon the most recent license metrics, the target would be an additional 30% = 840 participants in year five for ACCSP eTrips. The participants will be volunteers. This would provide a large portion of the existing license holders (50%) and each Gear category. These numbers are manageable for the purpose of refining the SAIL application and the integration interfaces between eTrips and SAFIS tools, developing enhanced training guides & gaining feedback for future participant expansion.

2. Task 2 eTrips installation & training; data entry: ACCSP eTrips installation and training for commercial harvesters. It is anticipated that on average, four (4) hours will be provided to each harvester to support on data entry, submission and use of mobile devices and software. Included within the four hours are staff hours for making presentations at meetings, developing/updating "cheat sheet" guides, and identifying enhancements and overall process improvement. In addition to the harvesters, the PRFC staff will enter a sampling of a variety of paper catch reports into ACCSP eTrips:

**In Year 5, this item is expected to be complete but with ongoing adjustments and training as required based on harvester feedback and issue tracking. Additionally, PRFC will look to augment in-person training using dynamic web-based training.** The PRFC staff will augment the commercial harvesters ACCSP eTrips submissions to ensure a more comprehensive data set is being processed for the purpose of identifying enhancement requests for the ACCSP eTrips tools and the data can be successfully processed (downloaded, modified / corrected, and uploaded).

3. Task 3 MS Access Operator Interface Maintenance: Maintenance of MS Access required interfaces until ACCSP eTrips collected is data is verified as 100% matching with PRFC records:
  - a. Download ACCSP eTrips data from ACCSP
  - b. Maintain an Operator Interface to validate downloaded data
  - c. Upload verified data to ACCSP

In Year 5, this function will be completely developed and no longer necessary to support. **All support will instead be to the new Sport & commercial**

**Application Integrated Licensing tool (SAIL) to enhance its capabilities and align with eTrips and SAFIS reporting.**

4. Task 4 Software Development: During year 5 of the project, PRFC intends to expand its modern database platform: SAIL. SAIL is a cloud-based application with a more consistent Operator Interface and more efficiently maintained and upgraded. The requirements will be documented, and the selected vendor will continue to develop and implement. **This effort will look to grow SAIL's capabilities from the original MS Access Database to a modern, scalable, web first tool that can more effectively capture and report on PRFC catch information in real time using advanced analytics.**
5. Task 5 Maintain Oracle Cloud Database: During Year 5 of the project, PRFC will continue to procure cloud-based resources with a focus on providing cost savings up-front and long term during the sustainment and maintenance phases. **Huge infrastructure cost savings have been achieved in Year 4 through a revamped SAIL architecture, and these savings will persist in the out years.**
6. Task 6 Develop & Maintain Oracle web-based applications: Continue development and maintenance of web based PRFC SAIL applications to perform PRFC office automation functions:
  - a. Process License issue and renewal requests
  - b. Print Licenses and associated tags, flags, and catch report forms, etc.
  - c. Processing paper catch reports
  - d. Reporting interface – currently there are approximately 25 unique reports with many that have sub-options
  - e. Database Utility interface – currently there are approximately 13 unique operations required to modify lookup tables, set/re-set sequencing, and perform database integrity checks and repair
    - a. Perform modifications as necessary to resolve technical problems
    - b. Perform updates as necessary to support new requirements

The current (historical) PRFC data was exported, reformatted, and imported into the new SAIL database system. **In Year 5, innovations and advanced processing will be a focus on quality of data improvements and data reporting. Examples of innovations to be reviewed for implementation include Optical Character Recognition (OCR) for hand submitted reports by non-eTrips harvesters, photo OCR submission by non-eTrips harvesters, data analytics and reporting for better data quality monitoring, Machine Learning/Artificial Intelligence (ML/AI) implementation trained on historical catch patterns to identify and flag**

**potential catch data errors, and the addition of generative AI to provide natural language data queries and reports.**

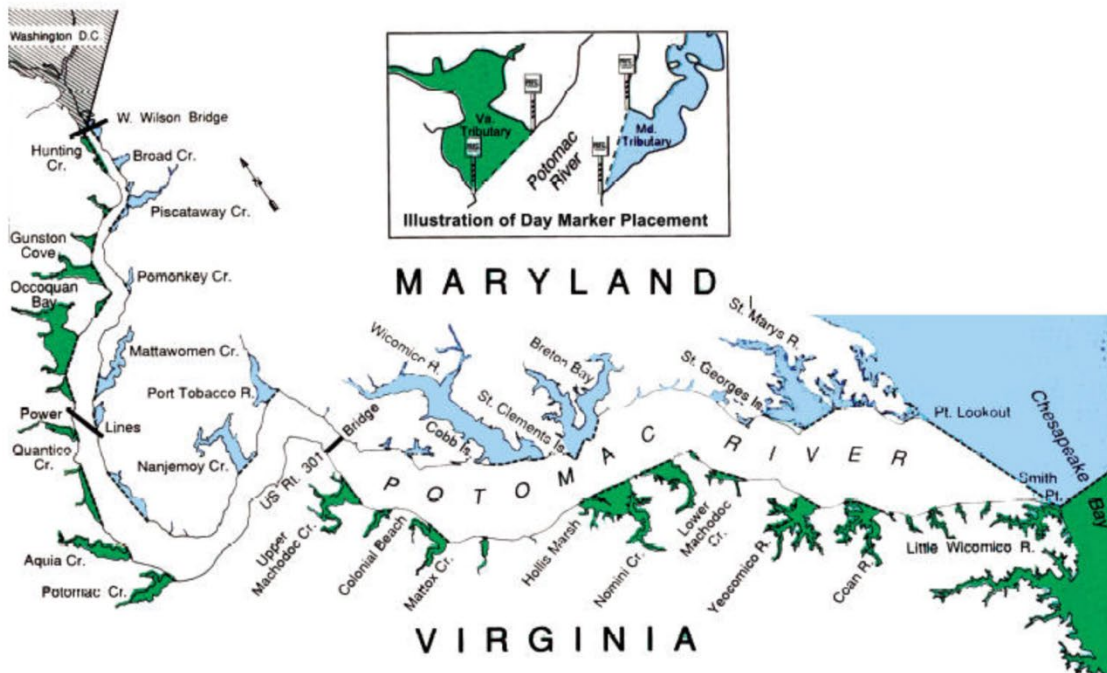
7. Task 7 Commercial Harvesters increased participation: Continue to increase the number of commercial harvesters using the ACCSP eTrips-tools:

**The goal would be to have 100% of the commercial harvesters using the ACCSP eTrips tools in Year 5, where able, and supported by PRFC staff, where not.**

To facilitate the effort to meet these goals:

- i. Provide direct support as needed using PRFC staff via phone or in-person
- ii. Presentations at various Committee meetings with demonstrations and open for questions
- iii. Creating short "tri-fold" instructions specific to various topics
- iv. Creating short YouTube video tutorials specific to various topics
- v. Utilize existing ACCSP support products (e.g., videos, tech support and other)
- vi. Incentivizing future participation by using various strategies, such as:
  1. Successful strategies used by other jurisdictions (e.g., Rhode Island license endorsement)
  2. Establishing a fee for having the PRFC staff perform the ACCSP eTrips data entry such as a flat fee - \$100 per License Holder per year
  3. Fee per Gear Type - \$25 for each gear type license
  4. Fee per Week per Gear Type - \$5 for each weekly report for each gear type license

**Geographic Location:** Jurisdictional waters of the Potomac River Fisheries Commission. From the Woodrow Wilson Bridge (District of Columbia Demarcation) downriver to the confluence of the Chesapeake Bay. Approximately 100 nautical miles.



**Milestone Schedule:**

Task # / Month	Project Period Month											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>T1: Identification of License Holder Participants</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>T2: eTrips installation &amp; training; data entry</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<b>T3: MS Access Operator Interface Maintenance</b>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
T4: Software modifications	X	X	X	X	X	X	X	X	X	X	X	X
T5: Maintain Oracle Cloud Database	X	X	X	X	X	X	X	X	X	X	X	X
T6: Develop & Maintain Oracle web-based applications	X	X	X	X	X	X	X	X	X	X	X	X
T7: Commercial Harvesters increased participation	X	X	X	X	X	X	X	X	X	X	X	X

**Project Accomplishments Measurement:**

The results of this project will provide the basis to improve the accuracy and timeliness of catch and effort estimations, and could subsequently inform science, stock assessments, and management policies.

The results will help determine the scope of the effort to migrate to a more robust database system that is more accessible to the Commercial License Holders.

PRFC in Year 1 completed one task fully and made progress on many others.

1. Year 1 Task 5 Completed: Established contract for the software development work required to complete Tasks 3 through 6.

PRFC in Year 2 completed five tasks for the year, with several repeating each cycle.

1. Year 2 Task 1 Completed: Identified and trained 20% of license holders with most moving to full time electronic catch reporting.
2. Year 2 Task 2 Completed: Developed eTrips installation and training guides/data for use by the license holders.
3. Year 2 Task 3: Completed all maintenance on the Access Database and have shut it down with full time operations shifting to SAIL.
4. Year 2 Task 4: Completed initial round of software modifications to support the reporting and synchronization between the Access DB and SAIL.
5. Year 2 Task 5 Completed: Maintained contract for the software development work required to complete Tasks 3 through 6. Established Oracle Cloud Infrastructure (OCI) account and procured the Infrastructure-as-a-Service (IaaS) for use in SAIL.
6. Year 2 Task 6 Completed: Completed initial development on the OCI hosted, SAIL application. Iterated through team and volunteer issues to.

PRFC in Year 3 completed five tasks for the year, with several repeating each cycle.

1. Year 3 Task 1 Completed: Continued to identified and train additional license holders, of those interested and able to adopt eTrips.
2. Year 3 Task 2 Completed: Finalized eTrips installation and training guides/data for use by the license holders.
3. Year 3 Task 3: Minimized usage of Access Database and successfully beta tested SAIL.
4. Year 3 Task 4: Completed initial round of software modifications to support the reporting and synchronization between the ACCSP SAFIS DB and SAIL.
5. Year 3 Task 5 Completed: Maintained contract for the software development work required to complete Tasks 3 through 6. Maintained, secured, and advanced Oracle Cloud Infrastructure (OCI) architecture to optimize costs and operations of SAIL.
6. Year 3 Task 6 Completed: Completed development of API and Direct DB integrations between SAIL DB and ACCSP SAFIS DB to streamline trip data timeliness and accuracy.
7. Year 3 Task 7 Completed: Initial discussions of incentives for harvesters to adopt eTrips implemented and adjusted based on feedback.

**PRFC in Year 4 completed five tasks for the year, with several repeating each cycle.**

8. Year 4 Task 1 Completed: Continued to identify and engage license holders with a goal of 80% of those interested and able to adopt eTrips.
9. Year 4 Task 2 Completed: Continued to refine and deliver eTrips installation and training guides/data for use by the license holders.
10. Year 4 Task 3: Continue to finalize and migrate all reports, custom queries, and dashboards to SAIL.

11. Year 4 Task 4: Finalize second round of design and architecture software modifications to support the reporting and synchronization between the ACCSP SAFIS DB and SAIL.
12. Year 4 Task 5 Completed: Maintained contract for the software development work required to complete Tasks 3 through 6. Maintained, secured, and advanced Oracle Cloud Infrastructure (OCI) architecture to optimize costs and operations of SAIL achieving significant savings.
13. Year 4 Task 6 Completed: Continued refinement of API and Direct DB integrations between SAIL DB and ACCSP SAFIS DB to streamline trip data timeliness and accuracy.
14. Year 4 Task 7 Completed: Secondary rollout of communications and marketing to harvesters to adopt eTrips implemented and adjusted based on feedback.

PRFC will continue to monitor progress and accomplishment using the following goals and measurements.

<b>Task</b>	<b>Goal</b>	<b>Measurement</b>
T1: Identification of License Holder Participants	Identification of remaining commercial harvester holdouts and continued marketing/engagement for enrollment in eTrips electronic catch reporting.	Records updated to reflect they have been contacted and notified about the opportunity and its benefits.
T2: eTrips installation & training; data entry	100% of identified eTrips participants who request training/support receive in person or electronic training/support. Updated training materials and classes based of eTrips users feedback.	Participant records updated to note whether training has been provided and support provided.
T3: MS Access Operator Interface Maintenance	Full archival of Access DB with not reach back required for operations and integrations in support of ACCSP.	Access DB is unmodified/accessed.
T4: Software modifications	Requirements updated on evolving ACCSP SAFIS integration and implementation.	Verification that RTM is completed and updated.



T5: Maintain Oracle Cloud Database	100% of cloud-based services procured and available.	Verification by PRFC staff that cloud services are invoiced and available.
T6: Develop & Maintain Oracle web-based applications	100% of year 5 requirements identified, developed, and delivered. Analysis completed and requirements generated for advanced technologies to be integrated into SAIL capabilities.	Completed RTM showing Year 4 requirements marked as complete and verification by PRFC staff.
T7: Commercial Harvesters increased participation	Marketing materials developed and presented at regular meetings and in routine communications. Incentives identified and presented to the PRFC Commissioners for approval. At least one incentive applied to PRFC catch report submission for harvesters not using eTrips.	Verification by PRFC staff that materials were sent and communicated during meetings. Documented minutes showing discussions at Commissioner meeting.

**Project Funding Justification for Continuance / Transition Plan:**

PRFC is requesting the maximum amount of maintenance funding available due to the amount of work required to completely synch SAIL with ACCSP SAFIS. Additionally, continued marketing and engagement is required for watermen who continue to use paper reporting. While great achievements have been made over the previous four years, there is still a good amount of effort to synchronize the PRFC SAIL catch report information with SAFIS in a way that does not cause harm to overall data quality and improves ACCSP/PRFC efficiency. Additionally, there are a large number of license holders that will take significant outreach and training to get them onboard with using eTrips as a replacement for the paper forms. PRFC has detailed plans to address both of these factors in Year 5.

Funding transition is expected for this project beginning in Year 6 when funding is reduced based on maintenance project rules. PRFC is working to complete all development and activities by Year 7 to minimize funding necessary to keep SAIL and eTrips usage. PRFC will leverage new state resources and existing IT budgets to cover SAIL OCI expenses and additional routine maintenance costs.

**BUDGET FOR PROPOSAL PLANNING – FY2025**

Description	Calculation	ACCSP Cost	PRFC Cost	Total Cost
<b>Personnel (a)</b>				
Principle Investigator	0 ACCSP / 500 PRFC hours @ \$33.59/hr	\$0.00	\$16,795.00	\$16,795.00
Data Administrator	0 ACCSP / 2080 PRFC hours @ \$25.5/hr	\$0.00	\$53,040.00	\$53,040.00
Data Management Specialist	0 ACCSP / 1400 PRFC hours @ \$15.61/hr	\$0.00	\$21,854.00	\$21,854.00
Executive Secretary	0 ACCSP / 160 PRFC hours @ \$52.34/hr	\$0.00	\$8,374.00	\$8,374.00
<b>Personnel Subtotal</b>		<b>\$0.00</b>	<b>\$83,268.00</b>	<b>\$83,268.00</b>
<b>Fringe (b)</b>				
Principle Investigator	32% of salary	\$0.00	\$22,126.00	\$22,126.00
Data Administrator	46% of salary	\$0.00	\$24,146.00	\$24,146.00
Data Management Specialist	48% of salary	\$0.00	\$15,538.00	\$15,538.00
Executive Secretary	22% of salary	\$0.00	\$23,783.00	\$23,783.00
<b>Fringe Subtotal</b>		<b>\$0.00</b>	<b>\$63,467.00</b>	<b>\$63,467.00</b>
<b>Travel (c)</b>				
n/a				
<b>Travel Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Equipment (d)</b>				
Oracle Cloud VM				
a. Autonomous DB 1 instance, 744 hrs/month, 24 hours/day 1 OCPU 512 GB Storage	\$100.00/month x 12 months	\$1,200.00	\$0.00	\$1,200.00
<b>Equipment Subtotal</b>		<b>\$1,200.00</b>	<b>\$0.00</b>	<b>\$1,200.00</b>
<b>Supplies (e)</b>				

n/a				
<b>Supplies Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Contractual (f)</b>				
In-house Consultant/Developer	25 ACCSP / 20 PRFC Hours @ \$109.27/hr	\$2,731.82	\$2,185.45	\$4,917.27
Vendor/Developer	1055 ACCSP / 150 PRFC Hours @ \$131.13/hr	\$138,339.24	\$19,669.09	\$158,008.32
<b>Contractual Subtotal</b>		<b>\$141,071.06</b>	<b>\$21,854.54</b>	<b>\$162,925.60</b>
<b>Other (h)</b>				
n/a				
<b>Other Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Totals</b>				
Total Direct Charges (i)		\$142,271.06	\$168,589.54	\$310,860.60
Indirect Charges (j)	n/a	\$0.00	\$0.00	\$0.00
<b>Total (sum of Direct and Indirect)</b>		<b>\$142,271.00</b>	<b>\$168,590.00</b>	<b>\$310,861.00</b>
<b>Percentage</b>		<b>46%</b>	<b>54%</b>	<b>100%</b>

## BUDGET NARATIVE (Funding Period, FY25)

**Project:** Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

**Project Period:** 1 July 2025 – 30 June 2026

**1 Year Funding:** \$142,344.00

**Prepared By:** Ronald W. Owens, PRFC Executive Secretary

**Personnel (Salaries) \$0.00:** No PRFC employee salaries will be covered using ACCSP funds, all coverage by PRFC personnel will be in-kind.

**In-Kind \$168,590.00:** The four PRFC employees proposed in this effort spend most if not all of their remaining hours working on catch report data and the tool. For each employee, their salary + Fringe costs not covered by the ACCSP grant is considered In-Kind by the PRFC. For this proposal Principle Investigator (160 hours, \$8,374.00 + \$23,783.00 Fringe), Asst. Executive Secretary (500 hours, \$16,795.00 + \$22,126.00 Fringe), Data Administrator (2080 hours, \$53,040.00 + \$24,146.00 Fringe), and Data Management Specialist (1400 hours, \$21,854.00 + \$15,538.00 Fringe) sum up to **\$168,590.00** or **54%** of total expense for Year 5.

**Fringe Benefits \$0.00:** No PRFC personnel fringe costs will be reimbursed by ACCSP grant funds. Fringe calculations are below for in-kind evaluation.

Fringe Benefits Details					
		Principle Investigator	Data Administrator	Data Management Specialist	Executive Secretary
<b>Gross</b>	Annually	\$69,860.00	\$53,036.00	\$32,475.00	\$108,870.00
	Hourly	\$33.59	\$25.50	\$15.61	\$52.34
<b>Fringe</b>	Health	\$9,216.00	\$17,050.00	\$9,216.00	\$9,216.00
	Retirement	\$10,969.00	\$6,470.00	\$5,099.00	\$13,282.00
	Life	\$824.00	\$626.00	\$383.00	\$1,285.00
	Disability	\$517.00		\$240.00	
	Def Comp	\$600.00		\$600.00	
	<b>Total</b>	<b>\$22,126.00</b>	<b>\$24,146.00</b>	<b>\$15,538.00</b>	<b>\$23,783.00</b>
	Per Hour	\$10.64	\$11.61	\$7.47	\$11.43
Rate	32%	46%	48%	22%	
<b>ACCSP Project Hours</b>					

<b>FY 2024 Hours / Year:</b>		2080			
ACCSP Hours		0	0	0	0
Fringe Cost		\$0.00	\$0.00	\$0.00	\$0.00
ACCSP Cost		\$0.00	\$0.00	\$0.00	\$0.00
PRFC Hours		100	2080	2080	2080
PRFC Fringe		\$23,783.00	\$24,146.00	\$15,538.00	\$22,126.00
PRFC Cost		\$5,234.13	\$53,036.00	\$32,475.00	\$69,860.00

**Travel \$0.00:** N/A

**Equipment \$1,200.00:** Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's SAIL application on a monthly basis. PRFC plans to procure Oracle Autonomous Database, with APEX, to host the SAIL application and provide the primary data interface between PRFC and ACCSP catch and report information. Additionally, a cloud Compute Virtual Machine, and additional block storage will all be required to host the application business logic, interface connection management, and user interface. All cloud services will be procured in full for the year in order to lock in cloud discounts for reserved usage.

**Supplies \$0.00:** N/A

**Contractual \$141,136.62:**

**In-house Consultant – Ray Draper: \$2,731.82**

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will be in a maintenance phase and requires part-time development work, estimated at 25 hours total, and PRFC has contracted with Ray at a rate of \$109.27 an hour to perform these services.

**Talent & Technical Solutions Corporation (TTSC): \$138,339.24**

Developing the new PRFC SAIL application, procuring cloud services and infrastructure, and assisting with the PRFC-ACCSP integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$131.13 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,055 hours.

**Other \$0.00:** N/A

# Summary of Proposal for Ranking

## **Project Details**

**Proposal Type:** Maintenance

### **Primary Program Priority:**

**Catch and Effort (10 points / 100%):** 100% of interested license holders will be providing electronic catch reporting and PRFC staff will enter the rest by hand to ensure accuracy.

**Metadata (2 points):** All metadata collected and supplied has been defined in this proposal.

## **Project Quality Factors**

**Multi-Partner/Regional impact including broad applications (5 points):** PRFC's migration to eTrips and electronic catch reporting will benefit ACCSP and all regional partners in ensuring they have access to accurate, timely data on PRFC monitored species.

**Contains funding transition plan (4 points):** A detailed justification and funding transition plan is laid out in the proposal. PRFC sees a large need to continue funding at current levels in Year 4 with reduced funding in the out years and a transition to routing IT budgets and other state grants.

**In-kind contributions (3 points):** PRFC has provided a breakdown of the in-kind contributions made in support of this program and show that PRFC is providing 54% In-kind contributions. The contributions are significant and cover all the time for three personnel that manage and oversee the current catch reporting system.

**Improvement in data quality/quantity/timeliness (4 points):** Transition to eTrips and PRFC's new SAIL application will greatly increase the timeliness of reporting from bi-annually to almost real time. This will reduce manual entry and ensure much high-quality data is available for review by PRFC and other members.

**Potential secondary module as a by-product (4 points):** This project has led to the development of SAIL which will greatly streamline PRFC operations and interactions with ACCSP's SAFIS.

**Impact on stock assessment (3 points):** Regional management organizations that perform stock assessments will have better data to operate from as a direct result of this proposal and continued funding for PRFC's efforts.

## **Other Factors**

**Achieved Goals (3 point):** PRFC has achieved a great number of its goals over the last four years and has plans to achieve the majority in Year 5 with this proposal.

**Data Delivery Plan (2 points):** A detailed data delivery plan has been included for review. PRFC will continue to work with ACCSP to increase speed of delivery as more electronic catch reports are captured and interfaces stood up.

**Level of Funding (1 points):** PRFC has requested a smaller level of funding compared to FY24 as an acknowledgement for the large decrease in funding given up in Year 1 to help support other projects.

**Properly Prepared (5 point):** PRFC followed all applicable ACCSP and RFP guidelines in preparing this document along with feedback gleaned from previous years proposal.

**Merit (3 points):** The Electronic Catch Reporting proposal is vital to the continued evolution of PRFC and ACCSP regional partners in implementing innovated processes for increasing data capture, quality, and timeliness.

**Biological Sampling Priority:** PRFC's managed fisheries include five of the species identified in the FY24 Biological Sampling Priority Matrix, these include: #1 ranked Black Sea Bass, #6 ranked Atlantic Menhaden, #7 ranked Cobia, #9 ranked Spanish Mackerel, and #22 ranked American eel.

**APPENDIX A: BUDGET – FY2021 – APPROVED BY ACCSP**

Description	Calculation	Cost
<b>Personnel (a)</b>		
Principle Investigator	60 hours @ \$55.50/hr	\$3,330.00
Data Administrator	200 hours @ \$20.50/hr	\$4,100.00
Data Management Specialist	600 hours @ \$11.50/hr	\$6,900.00
<b>Fringe (b)</b>		
Principle Investigator	14% of salary	\$455.55
Data Administrator	51% of salary	\$2,092.93
Data Management Specialist	49% of salary	\$3,401.46
<b>Travel (c)</b>		
n/a		
<b>Equipment (d)</b>		
Oracle Cloud Database:		
a. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 50 GB storage 50 GB backup	\$21/month x 8 months	\$168.00
b. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day	\$550/month x 8 months	\$4,400.00
c. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 50 GB storage	\$33/month x 8 months	\$264.00
<b>Supplies (e)</b>		
n/a		
<b>Contractual (f)</b>		
In-house Consultant/Developer	501 hours @ \$100/hr	\$50,100.00
Vendor/Developer	1,080 hours @ \$130/hr	\$140,400.00
<b>Other (h)</b>		
n/a		
<b>Totals</b>		
Total Direct Charges (i)		\$215,612.00
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$215,612.00



## BUDGET NARATIVE

(Requested Funding Period, FY21)

**Project:** Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

**Project Period:** 1 March 2021 – 28 February 2022

**1 Year Funding:** \$215,425.44

**Prepared By:** Martin L. Gary, PRFC Executive Secretary

**Personnel (Salaries) \$14,759.90:** Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,429.90); Data Administrator, for 200 hours (\$4,223.00), and a Data Management Specialist, for 600 hours (\$7,107.00).

**Fringe Benefits \$5,950.00:** The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 14% of Salary (\$455.55), Data Administrator at 51% of salary (\$2,092.93), and Data Management Specialist at 49% of salary (\$3,401.46). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

		Principle Investigator	Data Administrator	Data Management Specialist
<b>Gross</b>	Annually	\$ 111,000.00	\$ 41,000.00	\$ 23,000.00
	Hourly	\$ 55.50	\$ 20.50	\$ 11.50
<b>Fringe</b>	Health	\$ -	\$ 15,418	\$ 8,333
	Retirement	\$ 13,086	\$ 4,945	\$ 2,696
	Life	\$ 1,499	\$ 566	\$ 309
	Disability	\$ -	\$ -	
	Def Comp	\$ 600	\$ -	\$ -
	<b>Total:</b>	\$ 15,185	\$ 20,929	\$ 11,338
	Per Hour:	\$ 7.59	\$ 10.46	\$ 5.67
<b>Hours / Year:</b>	2000			
	<b>Rate:</b>	14%	51%	49%
		\$ 7.59	\$ 10.46	\$ 5.67
	<b>Hours:</b>	60	200	600
		\$ 455.55	\$ 2,092.90	\$ 3,401.40
	<b>Total Cost:</b>	\$ 3,330.00	\$ 4,100.00	\$ 6,900.00

**Travel \$0.00:** N/A

**Equipment \$15,372.00:** Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

**Supplies \$0.00:** N/A

**Contractual \$179,343.60:**

**In-house Consultant – Ray Draper: \$40,788.00**

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 396 hours total, and PRFC has contracted with Ray at a rate of \$103 an hour to perform these services.

**Talent & Technical Solutions Corporation (TTSC): \$138,555.60**

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$123.60 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,121 hours.

**Other \$0.00:** N/A

**APPENDIX B: BUDGET - FY2022 - APPROVED BY ACCSP**

Description	Calculation	Cost
<b>Personnel (a)</b>		
Principle Investigator	60 hours @ \$57.57/hr	\$3,429.90
Data Administrator	200 hours @ \$21.12/hr	\$4,223.00
Data Management Specialist	600 hours @ \$11.85/hr	\$7,107.00
<b>Personnel Subtotal</b>		<b>\$14,759.90</b>
<b>Fringe (b)</b>		
Principle Investigator	14% of salary	\$455.55
Data Administrator	51% of salary	\$2,092.93
Data Management Specialist	49% of salary	\$3,401.46
<b>Fringe Subtotal</b>		<b>\$5,949.94</b>
<b>Travel (c)</b>		
n/a		
<b>Travel Subtotal</b>		<b>\$0.00</b>
<b>Equipment (d)</b>		
Oracle Cloud Database:		
d. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 1 OCPU 16 GB RAM 50 GB storage 50 GB backup	\$58/month x 12 months	\$696.00
e. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day 2 OCPU	\$461month x 12 months	\$5,532.00
f. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 2 X9 OCPU 32 GB X9 RAM 50 GB storage	\$164/month x 12 months	\$1,968.00
g. Oracle APEX 1 instance, 31 days/month, 24 hours/day 2 OCPU 1 TB Storage	\$598/month x 12 months	\$7,176.00
<b>Equipment Subtotal</b>		<b>\$15,372.00</b>
<b>Supplies (e)</b>		
n/a		
<b>Supplies Subtotal</b>		<b>\$0.00</b>

Contractual (f)		
In-house Consultant/Developer	396 hours @ \$103/hr	\$40,788.00
Vendor/Developer	1,121 hours @ 123.60/hr	\$138,555.60
<b>Contractual Subtotal</b>		<b>\$179,343.60</b>
Other (h)		
n/a		
Totals		
Total Direct Charges (i)		\$215,425.44
Indirect Charges (j)	n/a	\$0.00
Total (sum of Direct and Indirect) (k)		\$215,425.44

## BUDGET NARATIVE

(Approved Funding Period, FY22)

**Project:** Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

**Project Period:** 1 March 2022 – 28 February 2023

**1 Year Funding:** \$215,612.00

**Prepared By:** Martin L. Gary, PRFC Executive Secretary

**Personnel (Salaries) \$14,330.00:** Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,330.00); Data Administrator, for 200 hours (\$4,100.00), and a Data Management Specialist, for 600 hours (\$6,900.00).

**Fringe Benefits \$5,950.00:** The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 14% of Salary (\$455.55), Data Administrator at 51% of salary (\$2,092.93), and Data Management Specialist at 49% of salary (\$3,401.46). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

		Principle Investigator	Data Administrator	Data Management Specialist
<b>Gross</b>	Annually	\$ 111,000.00	\$ 41,000.00	\$ 23,000.00
	Hourly	\$ 55.50	\$ 20.50	\$ 11.50
<b>Fringe</b>	Health	\$ -	\$ 15,418	\$ 8,333
	Retirement	\$ 13,086	\$ 4,945	\$ 2,696
	Life	\$ 1,499	\$ 566	\$ 309
	Disability	\$ -	\$ -	
	Def Comp	\$ 600	\$ -	\$ -
	<b>Total:</b>	\$ 15,185	\$ 20,929	\$ 11,338
	Per Hour:	\$ 7.59	\$ 10.46	\$ 5.67
<b>Hours / Year:</b>	2000			
	<b>Rate:</b>	14%	51%	49%
		\$ 7.59	\$ 10.46	\$ 5.67
	<b>Hours:</b>	60	200	600
		\$ 455.55	\$ 2,092.90	\$ 3,401.40
	<b>Total Cost:</b>	\$ 3,330.00	\$ 4,100.00	\$ 6,900.00

**Travel \$0.00:** N/A

**Equipment \$4,832.00:** Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well.

**Supplies \$0.00:** N/A

**Contractual \$190,500.00:**

**In-house Consultant – Ray Draper: \$50,100.00**

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 501 hours total, and PRFC has contracted with Ray at a rate of \$100 an hour to perform these services.

**Talent & Technical Solutions Corporation (TTSC): \$140,400.00**

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$130 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,180 hours.

**Other \$0.00:** N/A

**APPENDIX C: BUDGET – FY2023 – APPROVED BY ACCSP**

Description	Calculation	ACCSP Cost	PRFC Cost	Total Cost
<b>Personnel (a)</b>				
Principle Investigator	60 ACCSP / 100 PRFC hours @ 56.46/hr	\$3,387.60	\$5,646.00	\$9,033.60
Data Administrator	200 ACCSP / 1880 PRFC hours @ 22.4/hr	\$4,480.00	\$42,112.00	\$46,592.00
Data Management Specialist	600 ACCSP / 1480 PRFC hours @ 12.21/hr	\$7,326.00	\$18,070.80	\$25,396.80
<b>Personnel Subtotal</b>		<b>\$15,193.60</b>	<b>\$65,828.80</b>	<b>\$81,022.40</b>
<b>Fringe (b)</b>				
Principle Investigator	15% of salary	\$523.44	\$17,622.00	\$18,145.44
Data Administrator	49% of salary	\$2,192.47	\$20,635.00	\$22,827.47
Data Management Specialist	50% of salary	\$3,630.00	\$8,954.00	\$12,584.00
<b>Fringe Subtotal</b>		<b>\$6,346.00</b>	<b>\$47,211.00</b>	<b>\$53,556.91</b>
<b>Travel (c)</b>				
n/a				
<b>Travel Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Equipment (d)</b>				
Oracle Cloud Database:				
a. MySQL DB Services 1 instance, 31 days/month, 24 hours/day 1 OCPU 16 GB RAM 50 GB storage 50 GB backup	\$58/month x 12 months	\$696.00	\$0.00	\$696.00
b. Java Cloud Service Enterprise Edition 1 instance, 31 days/month, 24 hours/day	\$461month x 12 months	\$5,532.00	\$0.00	\$5,532.00

Potomac River Fisheries Commission (PRFC)  
 ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector  
**Bold Comments indicate sections that help with the ranking process**  
**Highlighted text indicates changes from the first submission**

2 OCPU				
c. Cloud Infrastructure 1 instance, 31 days/month, 24 hours/day 2 X9 OCPU 32 GB X9 RAM 50 GB storage	\$164/month x 12 months	\$1,968.00	\$0.00	\$1,968.00
d. Oracle APEX 1 instance, 31 days/month, 24 hours/day 2 OCPU 1 TB Storage	\$598/month x 12 months	\$7,176.00	\$0.00	\$7,176.00
<b>Equipment Subtotal</b>		<b>\$15,372.00</b>	<b>\$0.00</b>	<b>\$15,372.00</b>
<b>Supplies (e)</b>				
n/a				
<b>Supplies Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Contractual (f)</b>				
In-house Consultant/Developer	387 Hours @ \$103/hr	\$39,861.00	\$0.00	\$39,861.00
Vendor/Developer	1121 Hours @ \$123.6/hr	\$138,555.60	\$0.00	\$138,555.60
<b>Contractual Subtotal</b>		<b>\$178,416.60</b>	<b>\$0.00</b>	<b>\$178,416.60</b>
<b>Other (h)</b>				
n/a				
<b>Other Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Totals</b>				
Total Direct Charges (i)		\$215,328.20	\$113,039.80	\$328,367.91
Indirect Charges (j)	n/a	\$0.00	\$0.00	\$0.00
<b>Total (sum of Direct and Indirect) (k)</b>		<b>\$215,328.00</b>	<b>\$113,040.00</b>	<b>\$328,368.00</b>
<b>Percentage</b>		<b>66%</b>	<b>34%</b>	<b>100%</b>



## BUDGET NARATIVE

(Funding Period, FY23)

**Project:** Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

**Project Period:** 1 March 2023 – 28 February 2024

**1 Year Funding:** \$215,328

**Prepared By:** Martin L. Gary, PRFC Executive Secretary

**Personnel (Salaries) \$15,193.60:** Three PRFC employees' salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,387.60); Data Administrator, for 200 hours (\$4,480.00), and a Data Management Specialist, for 600 hours (\$7,326.00).

**In-Kind \$113,039.80:** The three PRFC employees proposed in this effort spend most if not all of their remaining hours working on catch report data and the tool. For each employee, their salary + Fringe costs not covered by the ACCSP grant is considered In-Kind by the PRFC. For this proposal Principle Investigator (100 hours, \$5,646.00 + \$17,622.00 Fringe), Data Administrator (1880 hours, \$42,112.00 + \$20,635.00 Fringe), and Data Management Specialist (1480 hours, \$18,070.80 + \$8,954.00 Fringe) sum up to \$113,014.41 or 34% of total expense for Year 3.

**Fringe Benefits \$5,950.00:** The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 15% of Salary (\$523.44), Data Administrator at 49% of salary (\$2,192.47), and Data Management Specialist at 50% of salary (\$3,630.00). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

Fringe Benefits Details				
		Principle Investigator	Data Administrator	Data Management Specialist
<b>Gross</b>	Annually	\$117,436.80	\$46,592.00	\$25,396.80
	Hourly	\$56.46	\$22.40	\$12.21
<b>Fringe</b>	Health	N/A	\$15,840.00	\$8,572.80
	Retirement	\$15,972.24	\$6,337.20	\$3,454.80 (Inc. Mission Square)
	Life	\$1,573.68	\$624.48	\$340.32
	Disability			\$216.00 (VLDP)
	Def Comp	\$600.00		
	<b>Total</b>	<b>\$18,145.92</b>	<b>\$22,801.68</b>	<b>\$12,583.92</b>

	Per Hour	\$8.72	\$10.96	\$6.05
	Rate	15%	49%	50%
<b>ACCSP Project Hours</b>				
<b>FY 22-23 Hours / Year:</b>		2080		
	ACCSP Hours	60	200	600
	Fringe Cost	\$523.44	\$2,192.47	\$3,630.00
	ACCSP Cost	\$3,387.60	\$4,480.00	\$7,326.00
	PRFC Hours	100	1880	1480
	PRFC Fringe	\$17,622.00	\$20,635.00	\$8,954.00
	PRFC Cost	\$5,646.00	\$42,112.00	\$18,070.80

**Travel \$0.00:** N/A

**Equipment \$15,372.00:** Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's MS Access application on a monthly basis. Additionally, PRFC's modernized application runs on the OCI infrastructure as well. PRFC plans to procure a MySQL database to host the upgraded application and provide the primary data interface between PRFC and ACCSP catch and report information. Additionally, Java Cloud, a cloud Virtual Machine, and Oracle APEX will all be required to host the application business logic, interface connection management, and user interface. All cloud services will be procured in full for the year in order to lock in cloud discounts for reserved usage.

**Supplies \$0.00:** N/A

**Contractual \$178,416.60:**

**In-house Consultant – Ray Draper: \$39,861.00**

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will require five (5) months of part-time development work, estimated at 501 hours total, and PRFC has contracted with Ray at a rate of \$100 an hour to perform these services.

**Talent & Technical Solutions Corporation (TTSC): \$138,555.60**

Developing a new PRFC database, procuring cloud services and infrastructure, and assisting with the PRFC existing application integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$130 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,180 hours.

**Other \$0.00:** N/A

**APPENDIX D: BUDGET – FY2024 – APPROVED BY ACCSP**

**BUDGET FOR PROPOSAL PLANNING – FY2024**

Description	Calculation	ACCSP Cost	PRFC Cost	Total Cost
<b>Personnel (a)</b>				
Principle Investigator	60 ACCSP / 100 PRFC hours @ \$60.42/hr	\$3,625.00	\$6,042.00	\$9,667.00
Data Administrator	200 ACCSP / 1880 PRFC hours @ \$23.97/hr	\$4,794.00	\$45,064.00	\$49,858.00
Data Management Specialist	600 ACCSP / 1480 PRFC hours @ \$13.46/hr	\$8,076.00	\$19,921.00	\$27,997.00
<b>Personnel Subtotal</b>		<b>\$16,495.00</b>	<b>\$71,027.00</b>	<b>\$87,522.00</b>
<b>Fringe (b)</b>				
Principle Investigator	16% of salary	\$576.00	\$19,398.00	\$19,974.00
Data Administrator	47% of salary	\$2,264.00	\$21,284.00	\$23,548.00
Data Management Specialist	47% of salary	\$3,790.00	\$9,348.00	\$13,138.00
<b>Fringe Subtotal</b>		<b>\$6,630.00</b>	<b>\$50,030.00</b>	<b>\$56,660.00</b>
<b>Travel (c)</b>				
n/a				
<b>Travel Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Equipment (d)</b>				
Oracle Cloud Database:				
a. Autonomous DB 1 instance, 744 hrs/month, 24 hours/day 1 OCPU 1 TB Storage Includes APEX	\$1,118.41/month x 12 months	\$13,421.00	\$0.00	\$13,421.00
b. Compute VM AMD Standard Flex 1 instance, 744 hrs/month, 24 hours/day	\$59.31/month x 12 months	\$712.00	\$0.00	\$712.00

2 OCPU 16 GB Memory 100 GB Storage				
c. Block Storage 1 TB Balanced Performance 10 VPU 25000 Max IOPS 480 MBps Max Throughput	\$42.50/month x 12 months	\$510.00	\$0.00	\$510.00
<b>Equipment Subtotal</b>		<b>\$14,643.00</b>	<b>\$0.00</b>	<b>\$14,643.00</b>
<b>Supplies (e)</b>				
n/a				
<b>Supplies Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Contractual (f)</b>				
In-house Consultant/Developer	100 ACCSP / 20 PRFC Hours @ \$106.09/hr	\$10,609.00	\$2,121.80	\$12,730.80
Vendor/Developer	1250 ACCSP / 150 PRFC Hours @ \$127.31/hr	\$159,135.00	\$19,096.20	\$178,231.20
<b>Contractual Subtotal</b>		<b>\$169,744.00</b>	<b>\$21,218.00</b>	<b>\$190,962.00</b>
<b>Other (h)</b>				
n/a				
<b>Other Subtotal</b>		<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Totals</b>				
Total Direct Charges (i)		\$207,512.00	\$142,275.00	\$349,787.00
Indirect Charges (j)	n/a	\$0.00	\$0.00	\$0.00
<b>Total (sum of Direct and Indirect)</b>		<b>\$207,512.00</b>	<b>\$142,275.00</b>	<b>\$349,787.00</b>
<b>Percentage</b>		<b>59%</b>	<b>41%</b>	<b>100%</b>

## BUDGET NARATIVE

(Funding Period, FY24)

**Project:** Electronic Trip-Level Reporting for the Potomac River Fisheries Commission (PRFC) Commercial Fisheries Sector

**Project Period:** 1 March 2024 – 28 February 2025

**1 Year Funding:** \$207,512.00

**Prepared By:** Martin L. Gary, PRFC Executive Secretary

**Personnel (Salaries) \$16,495.00:** Three PRFC employees’ salary time will be covered using these funds. The three employees are: Principle Investigator, for 60 hours (\$3,625.00); Data Administrator, for 200 hours (\$4,794.00), and a Data Management Specialist, for 600 hours (\$8,076.00).

**In-Kind \$121,057.00:** The three PRFC employees proposed in this effort spend most if not all of their remaining hours working on catch report data and the tool. For each employee, their salary + Fringe costs not covered by the ACCSP grant is considered In-Kind by the PRFC. For this proposal Principle Investigator (100 hours, \$6,042.00 + \$19,398.00 Fringe), Data Administrator (1880 hours, \$45,064.00 + \$21,284.00 Fringe), and Data Management Specialist (1480 hours, \$19,921.00 + \$9,348.00 Fringe) sum up to \$121,057.00 or 34% of total expense for Year 4.

**Fringe Benefits \$6,630.00:** The current PRFC fringe benefit cost is set per employee at: Principle Investigator at 16% of Salary (\$576.00), Data Administrator at 47% of salary (\$2,264.00), and Data Management Specialist at 47% of salary (\$3,790.00). The Principle Investigator falls within the fringe guidelines set forth by NOAA, however, a full breakdown of how the Fringe Benefits are calculated below (PRFC does not have a NICRA established).

Fringe Benefits Details				
		Principle Investigator	Data Administrator	Data Management Specialist
<b>Gross</b>	Annually	\$125,664.00	\$49,859.00	\$28,000.00
	Hourly	\$60.42	\$23.97	\$13.46
<b>Fringe</b>	Health	\$17,090.00	\$16,099.00	\$8,717.00
	Retirement	\$1,684.00	\$6,781.00	\$3,808.00
	Life		\$668.00	\$375.00
	Disability	\$600.00		\$238.00
	Def Comp	\$600.00		
	<b>Total</b>	<b>\$19,974.00</b>	<b>\$23,548.00</b>	<b>\$13,138.00</b>
	Per Hour	\$9.60	\$11.32	\$6.32
Rate	16%	47%	47%	

### ACCSP Project Hours

Potomac River Fisheries Commission (PRFC)  
ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector

**Bold Comments indicate sections that help with the ranking process**

**Highlighted text indicates changes from the first submission**

<b>FY 2024</b>				
<b>Hours / Year:</b>		2080		
	ACCSP Hours	60	200	600
	Fringe Cost	\$576.17	\$2,264.23	\$3,789.81
	ACCSP Cost	\$3,624.92	\$4,794.13	\$8,076.92
	PRFC Hours	100	1880	1480
	PRFC Fringe	\$19,397.83	\$21,283.77	\$9,348.19
	PRFC Cost	\$6,041.54	\$45,064.87	\$19,923.08

**Travel \$0.00:** N/A

**Equipment \$14,643.00:** Oracle Cloud Infrastructure (OCI) resources are procured to host the PRFC interface between ACCSP and PRFC's SAIL application on a monthly basis. PRFC plans to procure Oracle Autonomous Database, with APEX, to host the SAIL application and provide the primary data interface between PRFC and ACCSP catch and report information. Additionally, a cloud Compute Virtual Machine, and additional block storage will all be required to host the application business logic, interface connection management, and user interface. All cloud services will be procured in full for the year in order to lock in cloud discounts for reserved usage.

**Supplies \$0.00:** N/A

**Contractual \$169,744.00:**

**In-house Consultant – Ray Draper: \$10,609.00**

Updating the existing PRFC Access based application will require the knowledge and expertise of the consultant/developer Ray Draper. Ray has designed and developed the entire PRFC application from the ground up over the last 15 years and will be the primary developer of the ACCSP interface. This work will be in a maintenance phase and requires part-time development work, estimated at 100 hours total, and PRFC has contracted with Ray at a rate of \$106.09 an hour to perform these services.

**Talent & Technical Solutions Corporation (TTSC): \$159,135.00**

Developing the new PRFC SAIL application, procuring cloud services and infrastructure, and assisting with the PRFC-ACCSP integration will be handled by TTSC. PRFC has contracted with TTSC at a rate of \$127.31 an hour and expects the work to support T3, T4, T6, and T7 to take 12 months of part-time work and an estimated 1,250 hours.

**Other \$0.00:** N/A

**APPENDIX E: Maintenance Projects History for Primary Program Priorities:**


<b>Funding Fiscal Year</b>	<b>Amount</b>	<b>Time Period</b>	<b>Results/Comments</b>
2021	\$215,612.00	1 Mar 2021 – 28 Feb 2022	Pilot implementation of ACCSP eTrips and initial development of PRFC Interface & modernized cloud application
2022	\$215,612.00	1 Mar 2022 – 28 Feb 2023	Completed development of PRFC Cloud application SAIL v1.0, piloted eTrips with expanded waterman beta group, delivered initial SAFIS interface to synchronize data between PRFC SAIL v1.0 and SAFIS.
2023	\$215,328.00	1 Mar 2023 – 28 Feb 2024	Completed development of PRFC SAIL v2.0, finalized eTrips PRFC training, revised SAFIS-SAIL two-way interface communication via API and Direct DB connections, expanded pilot to 20% of watermen, implemented initial incentives to transition to eTrips.
2024	\$207,512.00	1 Mar 2024 – 28 Feb 2025	Completed deployment of SAIL and increased eTrips participation of interested watermen, finalize SAFIS-SAIL interface design.
2025	TBD	1 Mar 2025 – 28 Feb 2026	Increase eTrips participation to 100% of interested watermen, enable SAFIS-SAIL interfaces, research and implement advanced analytics/AI-ML capabilities, additional incentives to use eTrips implemented.

**APPENDIX D: Resumes for all personnel proposed on the project**

# RONALD OWENS

## CONTACT

 Hayes, VA 23072

 757-810-5866

 ron.owens71@gmail.com

## SKILLS

- Mission and Vision Oriented
- Agenda Development
- Improve Policies
- Multimedia Presentations
- Board Representation
- Policy Advisement
- Effective Communicator and Public Speaker
- Strategic Planning
- Policy and Procedure Improvement

## APPOINTMENTS

*Potomac River Fisheries Commission*

- Commissioner (2022-2023)
- Vice Chairman (CY 2023)
- Member of the Budget Committee (CY 2023)
- OMR Review Panel
- Revenue & License Fees Review Panel

## REFERENCES

References are available upon request

Results-driven professional with 30 years of experience in environmental management, compliance, and data analysis. Skilled in overseeing regulatory compliance activities, enforcing laws and regulations, and ensuring the safety of the public and natural resources. Strong expertise in program administration, database management, and strategic planning. Demonstrated leadership abilities, effective communication skills, and a track record of delivering high-quality results. Committed to promoting environmental sustainability and public health and safety.

In addition to my work experience, I have been appointed by Virginia Governor Glenn Youngkin to serve as a Commissioner of Potomac River Fisheries Commission, serving a 4-year term. I hold various positions within the commission, including Vice Chairman, member of the Budget Committee, OMR Review Panel, and Revenue & License Fees Review Panel.

Throughout my career, I have demonstrated strong leadership skills, attention to detail, and a dedication to delivering high-quality results. I am an excellent communicator and collaborator, with a proven ability to work effectively with diverse stakeholders. I am a driven and knowledgeable professional with a passion for environmental management and compliance.

## WORK HISTORY

November 2023 - Current

Executive Secretary, *Potomac River Fisheries Commission*

- Tasked with executing the directives of the appointed Commissioners, all while adhering to the stipulations outlined in the Maryland-Virginia Potomac River Compact of 1958.
- Serves as Commissions CEO and CFO
- Prepares for Quarterly Commission Meeting, assist in creating agenda, and provide background materials for meeting.
- Represents the Commission at local and interstate entities (ASMFC, MAFMC, NOAA Executive Committee GIT).
- Approving appropriate expenditures, preparing financial reports, supplying all materials related to the annual MD-VA audit, and presenting draft budgets to the financial committee.
- Prepare Grant Reports
- Manages a team of skilled professionals who support the Commission in handling of its affairs.



January 2008 - 2023

**Chesapeake Bay Programs Administrator , Gloucester County**

- Serve as Chesapeake Bay Local Programs Administrator enforcing local environmental, stormwater, wetland, and Chesapeake Bay preservation ordinances.
- Oversee regulatory compliance activities, coordinate program activities involving law violations, drafting environmental documents, and quality control standards.
- Frequent contacts with federal, state, and local governments, business and industry representatives, conservation non-profit organizations and citizens groups, legislative officials, County staff, and the public regarding natural resources.
- Advise Commissioners and board members on regulatory matters while also providing staff support.
- Summarizing environmental studies conducted by consultants; legislative issues, project review/development, delineation and mitigation, vegetation management; erosion and sediment, compliance determinations; environmental contract management; document and evidence preparation and restoration activities.
- August 2002 - December 2007
- Stock Assessment Director Virginia Marine Resources Commission
- Oversaw field and laboratory projects from concept through completion for team of 4 staff members.
- Applied knowledge of complex scientific, ecological principles, conservation practices, and research methods.
- Effective planning and administration to promote or ensure compliance with federal and state environmental laws and prevents or reduces negative impact on the environment, and citizen safety.
- Collaborated with stakeholders to identify new methods to protect finfish and crabs species.
- Lead teams, manage budgets, advise commissioners and board members.
- Successfully assisted in the implementation of various conservation initiatives that resulted in increased fish populations and improved ecosystem health.
- Provided analysis and interpretation data, interacted with government and regulatory groups, and collaborated with state and local universities.
- Worked with state and federal agencies on fishery compliance issues, wrote documentation for programs, and prepared yearly program reports.

October 2000 - August 2002

**Compliance Officer Virginia Marine Resources Commission**

- Conducted inspections and investigations; surveys; analysis and evaluation of data, records, and reports; enforcement; mediating/negotiating agreements during the permitting process; analyzing and evaluating fisheries data; interpreting, reviewing, and regulating or conducting program and resource planning; natural and recreational area management; ecological assessments; or audit activities to support environmental protection.
- Analyzed trends, presented cases at hearings, advised Commissioners on enforcement based on regulations.

November 1998 - October 2000

**Fisheries Specialist Virginia Marine Resources Commission**

- Assisted in quality assurance of data for Virginia commercial water harvest.
- Maintained databases and provided support in various fisheries-related activities.
- Conducted research and assisted in the implementation of various fish management plans.
- Presented information to Commission and various boards.
- Wrote bi-annual and annual grant reports.
- Represented Virginia on several technical boards.

November 1993 - November 1998

**Stock Assessment Technician Virginia Marine Resources Commission**

- Travel to assigned sites to interview anglers about their fishing experiences, collect a variety of information, and weigh, measure, and identify fish by species name that the anglers have caught.
- Assigned sites included beaches, piers, docks/jetties, and access points for private charter and head boats, including marinas, boat ramps and other points of entry to marine waters.
- Knowledge of applied seafood harvesting practices and business, scientific knowledge of marine species and the marine environment.
- Handled specimens and conducted tests according to established protocols, keeping efficient records on all experiments.

---

**EDUCATION**

**Business Management Studies Rappahannock College, Glenss, VA**

**November 2004**

**Virginia Supervisory Institute**

**Virginia Commonwealth University, Richmond, VA**

# Ingrid Braun-Ricks

---

## Core Competencies & Areas of Expertise

- Highly organized and skilled time manager
- Flexible and creative in meeting tight deadlines while juggling multiple projects
- Understanding the big picture (strategic) without losing sight of the details (operational)
- Working productively both independently and collaboratively as part of team

## Work Experience

### CHIEF FISHERIES SCIENCE & ADMINISTRATIVE OFFICER | PRFC | JULY 2022 – PRESENT

- Lead science and technology staffer, functioning as biological and technical liaison for Potomac River Fisheries Commission to the Atlantic State Marine Fisheries Commission, EPA-NOAA Chesapeake Bay Program, Chesapeake Bay Stock Assessment Committee, and other science-based groups
- Administrative oversight for PRFC's three advisory committees and PRFC's oyster programs, including logistical and financial oversight
- Oversees fixed gear fishery charting, electronic reporting, and material logistics coordination for PRFC's limited entry striped bass and crab fisheries
- Fiscal responsibilities include assistance with grant writing and reporting, budget preparation and review, front desk financial transactions, posting daily financial transactions, and daily bank deposits

### GIS TECHNICIAN | IIC TECHNOLOGIES INC. | MARCH 2021 – MAY 2022

- Compiled and maintained NOAA Nautical Charts for the entire US marine territory, mainly charting depths, soundings, and other various map features as needed
- Packaged, advised and reviewed large scale mapping projects compiled by off site team
- Bridged communication between off site team(India) and National Ocean Service Marine Charting Division to complete tasks within tight deadlines

### GIS/OUTREACH TECHNICIAN | PRFC | FEBRUARY 2020 – MAY 2022

- Created and maintained online maps for Fixed Fin Fish gear, PRFC Jurisdiction, and Oyster Bars in the Potomac River to integrate public with online map applications such as ArcGIS
- Delineated potential oyster planting locations for 2021 and 2022 plantings
- **CREATED A PLAN FOR MOBILE APP DEVELOPMENT THAT IS INTEGRATED WITH CURRENT ONLINE MAPS TO STREAMLINE EFFICIENCY**

### NATURAL RESOURCE TECHNICIAN I | MD DNR | APRIL 2020 – FEBRUARY 2021

- Assisted in the reproduction of native wild oysters(diploid and triploid) for commercial industry and restorative efforts
- Maintained water chemistry in larval tanks by use of YSI observing pH, temperature, and salinity
- Outside maintenance of property and assorted tasks as needed

Potomac River Fisheries Commission (PRFC)

ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector

**Bold Comments indicate sections that help with the ranking process**

**Highlighted text indicates changes from the first submission**

### **GIS INTERN | CITY OF CUMBERLAND DEPT. OF ENGINEERING | MAY 2019 – AUGUST 2019**

- Collected survey points using Survey123 and Trimble GPS for Parks and Recreation Department to assess the condition of existing park equipment and produce maps for further use
- Maintained and updated large data sets on varying city municipalities such as street signs, hydrants, and water line maintenance
- Partnered with city engineers to integrate GIS into infrastructure to assess efficiency and develop WorkForce to better record data in field

### **INTERN | PRFC | MAY 2018 – JANUARY 2019**

- Reviewed and assessed current PRFC regulations for two invasive species: Northern snakehead & Blue catfish, recommended regulatory and policy changes. Represented PRFC at First Annual Northern Snakehead Symposium
- Assessed the status of PRFC jurisdictional boundary markers on the Potomac River on the MD & VA shorelines
- Inputted catch reports for Blue Crab Harvest and recreational pleasure boat licenses

### **CLERK | AQUALAND CAMPGROUND & MARINA | APRIL 2017 – AUGUST 2021**

- Set up new software system and trained employees on new procedures while maintaining inventory of campground and marina occupants
- Effectively performed day-to-day front-end operations of a busy store front; taking reservations, collecting payment for recurring charges, providing fuel( gasoline, diesel, propane) and renting Carolina skiffs to a variety of customers
- Sold PRFC Recreational Individual and Pleasure Boat licenses

### **Education**

#### **BACHELOR OF SCIENCE | FROSTBURG STATE UNIVERSITY | (GRADUATION DEC. 18<sup>TH</sup>, 2019)**

- Major: Fisheries; Minors: Sustainability, Geography, and Biology. Cumulative GPA: 3.65, Dean's List (2016-2019)
- Related coursework: Ichthyology, Fish Management, Environmental Chemical Analysis, Surface Water Hydrology, Scientific Writing, Management & Conservation of Natural Resources
- Involvement: President(2019) & Treasurer(2018), The Wildlife Society

**TECHNICAL SKILLS & HOBBIES:** Proficient with Microsoft Suite (word, excel, outlook, powerpoint, access); efficient with ESRI ArcGIS software. Completed DNR Boaters Education Certification, CPR and First Aid, and MD Hunting/Firearm Safety Certification. Nationally ranked USAPL powerlifter, and wildlife/portrait photographer. Member of American Fisheries Society.

# Cathy Friend

## WORK EXPERIENCE

---

### Potomac River Fisheries Commission

Colonial Beach, VA

Administrative Specialist

Jan 2012 – Present

- Operate office equipment such as fax machines, copiers, electronic postage machines, and multi-line phone systems, and use computers for spreadsheet, word processing, database management, and other applications;
- Greet customers or callers and handle their inquiries or direct them to the appropriate person according to their needs;
- Prepare the daily cash report making sure all monies balance for the day, verifying receipts vs. monies received that day match;
- Prepare and mail law enforcement manual updates monthly;
- Review and process incoming commercial and recreational license applications; ensuring the correct fees are collected;
- Attend and record all advisory committee meetings and quarterly Commission meetings. Transcribe and prepare minutes from each meeting in a timely manner for review by the Executive Secretary;
- Update and prepare any regulation changes or supplement updates and mail to the appropriate recipients including Commission members, law enforcement, judges, and clerks;
- Adhere to mandatory time lines for preparing and distributing certain documents;
- Enter daily deposits into Quickbooks.

Database Specialist

Jun 2006 – Present

- Troubleshoot and fix any errors associated with the operating database, including contact the IT person for help if needed;
- Maintain the integrity of the data entered by ensuring proper procedures are followed;
- Accurately entering hand written harvest catch data received weekly through the mail and in person; and reach out to any harvester with discrepancies found;
- Adhere to regulations regarding commercial activities to include making sure regulations are followed and provided to harvesters;
- Respond to customer or management request for data by creating queries in the database.

### NSWC Federal Credit Union

Dahlgren, VA

Positions held:

1992 - 2004

Human Resource Assistant

Mortgage and Home Equity Loan Officer

Mortgage Loan Clerk

Customer Service Teller

## EDUCATION

---

### Rappahannock Community College (1994 – 2000)

King George, VA

Completed coursework towards a A.S. Accounting Specialist (degree not obtained)

Potomac River Fisheries Commission (PRFC)

ACCSP Funding Proposal: Electronic Trip-Level Reporting for the PRFC Commercial Fisheries Sector

**Bold Comments indicate sections that help with the ranking process**

**Highlighted text indicates changes from the first submission**

**West Virginia University (1986 – 1991)**

**Morgantown, WV**

Completed coursework towards B.S. Speech Pathologist (125 credit hours – degree not obtained)

**ADDITIONAL SKILLS**

---

- Proficient and accurate in using Microsoft Office suite, including Word, Excel, Access and Power Point;
- Entry level use of Quickbooks;
- Able to use a copier to make multiple collated copies as well as making booklets;

# Morgan Shaffer

---

## Objective

- To offer my services to a company that promotes conservation and education

## Education

BACHELOR OF SCIENCE | MAY 2020 | UNIVERSITY OF MARY WASHINGTON

- Major: Environmental Science: Natural
- Minor: Environmental Sustainability Biology
- Related coursework: Introduction to GIS, Environmental Geochemistry, Field Methods in EESC & GEOL, Pollution Prevention Planning, Hydrology, Toxicology, Ornithology, Animal Behavior

ASSOCIATES | MAY 2017 | RAPPAHANNOCK COMMUNITY COLLEGE

- Major: General Arts & Sciences

## Skills & Abilities

### COMPUTER SKILLS

- Excellent experience using Word, PowerPoint, Excel, Publisher, and the online Google equivalents
- Good understanding of Skype, Zoom, Webinar, Google Hangouts, and online application Trello
- Experienced in GIS map building, general data analysis, and graphical analysis
- Competent in research using the internet and online databases/libraries
- Quick to learn new programs and technologies

### CONSERVATION

- Led and participated in State Park conservation programs such as beekeeping, monarch butterfly raising and tracking, implementing pollinator gardens, and collecting wildflower seeds
- Cared and handled animal ambassadors such as a corn snake, eastern king snake, red-eared sliders, and saltwater fish
- Informed the general public, school groups, and day-care groups about local flora and fauna
- Inspired creativity and critical thinking in children and adults of all ages regarding environmental problems by using hands-on outdoor activities

## VISITOR EXPERIENCE & CUSTOMER SERVICE

- First point of contact greeting clients and answering phone calls
- Enriched the experience of 200 – 300 park guests daily through programs, point-duty, and roving
- Performed 2-4 20min-1h long programs daily on a wide variety of subjects, tailoring topics to fit the needs and interests of park guests
- Assisted in providing information, answering questions, taking pictures, and finding resources for guests
- Established a safe environment where the public felt comfortable asking a wide range of questions Assisted in activities directly targeting 4H groups, YMCA, YCC, homeschool groups, and summer school groups
- Adapted all programming and guest interactions to follow Covid guidelines

## TEAMWORK

- Basic management such as scheduling other individuals and delegating tasks while taking into account strengths, weaknesses, and time available
- Shared responsibilities with coworkers, willing to take on additional work when coworkers needed extra support
- Capable of taking initiative and handling independent duties

## Experience

### DATA ENTRY SPECIALIST | POTOMAC RIVER FISHERIES COMMISSION | JULY 2022 - PRESENT

- First point of contact between PRFC and the public via in person, phone, or electronic communication
- Data entry and management of fishery related data to fulfill the agency's mission to conserve and improve the valuable fishery resources of the tidal Potomac River
- Handled daily front office financial transactions and bank deposits

### DATA ENTRY INTERN | POTOMAC RIVER FISHERIES COMMISSION | FEBRUARY 2022 – JULY 2022

- Data entry and management of fishery related data
- Responsible for the daily upkeep and organization of harvest records
- Answering phone calls and taking messages for coworkers
- Analysis of data tables and catching anomalies/mistakes

### INTERPRETIVE PARK RANGER | WESTMORELAND STATE PARK | MARCH 2021 – JANUARY 2022

- Supervisor of 1 other park staff and 2 AmeriCorps volunteers; in charge of fairly delegating tasks between coworkers and ensuring they submitted necessary data promptly
- Organized all park programming and the creation of fliers promoting weekly program guides
- Promoted Westmoreland State Park and offered educational programs at local events such as First Friday in Montross and the Fall Festival in Montross



- Created, revised, and transcribed educational park programs including 6 new programs
  - Adapted all programming and guest interactions to follow Covid guidelines
  - Enriched the experience of 3,000 – 5,000 guests during the summer months
- INTERPRETIVE PARK RANGER | WESTMORELAND STATE PARK | MAY 2019 – JULY 2020
- Trained AmeriCorps volunteers
  - Led guided tours and activities for park guests daily, teaching topics involving environmental and biological information
  - Cared for permanent and temporary ambassador animals such as snakes, lizards, and frogs
  - Planned, participated, and volunteered for yearly park events including races and family events

**RESUME**  
**Raymond (Ray) Draper**

---

SUMMARY

---

**More than 45 years of providing technical guidance and leadership for numerous people over a variety of computer systems and projects.**

---

EXPERIENCE

---

**Potomac River Fisheries Commission / Consultant, Independent Contractor (April 1993 –**

**Present)** Produced multiple database programs in support of daily operations provided by the PRFC staff. Duties included understanding the requirements, designing the database, operator interfaces, and reports.

**Provided hardware support for the first ten years. Supported the transition from the old to the new facility. Provide ad-hoc consulting regarding new technology and capabilities. Provide as-needed support to the staff regarding special requests and system modifications.**

**Enterprise Resource Planning Supervisor & Time Management Instructor (January 2012 – November 2020)** *Contractor/Consultant/Employee – depending on the company who won the follow-on contracts:*

- Primarily responsible for conducting the Instructor Led Training (ILT) that is required for personnel to perform their duties as a Supervisor, Time Keeper, and/or Time Approver.
- Developed specific Step-by-Step guides for trained personnel to use as a refresher after the ILT.
- Modified Navy produced classroom material to be specific to personnel at NSWC Dahlgren.
- Presented ERP seminars to the Government population (general users) on how to use the new ERP system who did not require ILT.
- Developed Step-by-Step guides in PDF format and a parallel video (MP4) version for the general users.
- Designed and taught Knowledge Transfer (KT) sessions on specific, user requested topics related to the Time functionality, such as how to obtain names and quantity of employees working overtime or on a telework status.
- Provide follow-up support via phone, on-site, or on-line as needed.

**Naval Surface Warfare Center, Dahlgren Division (September 1984 – December 2011)** *Civil Service employee assigned to various technical and managerial positions on multiple Navy projects:*

- Special Systems Intelligence & Surveillance Branch Head (2008 – 2011): Provided technical and personnel leadership to several intelligence, surveillance and reconnaissance (ISR) projects. These projects included approximately 45 personnel and twenty million dollars.
- Classified Project Software / Project Lead (2002 – 2008): Established and lead a team of software and hardware engineers, technicians, and support personnel with the development of

an intelligence

**collection and data fusion system. Responsible for the requirements, design, development, documentation, installation, and training.**

- Cooperative Engagement Capability Software Lead (1996 – 2002): Provided technical software oversight to the lead contractors (Raytheon and Lockheed-Martin) for the Government Program Office. Lead local team with software builds, metrics, and installation aboard ships and land sites.
- Cryptologic Systems Embedded Trainer Software Lead (1993 – 1996): Provided technical software oversight to the lead contractor (Electronic Warfare Associates) for the Government Program Office. Facilitated system and design requirements and conducted acceptance testing at the contractor's facility.
- Combat Direction Finder Software Independent Verification Lead (1989 – 1993): Provided technical software oversight to the lead contractor (Raytheon-Sanders) for the Government Program Office and conducted Independent Verification & Validation for initial systems.
- Computer Aided Design & Drafting System Software Developer / Site Lead (1984 – 1989): Developed local applications to improve efficiency with system management (printing, plotting, and data storage). Provided project leadership to cross-functional team and training across the Center.

**United States Air Force (June 1974 – June 1980) *Telecommunications Specialist:***

**Provided technical analysis and repair to long-haul communication systems, which included HF, VHF, landline, and tropospheric systems. Maintained cryptologic equipment and conducted training on systems to co-workers and members of the US Marine Corp during combat exercises.**

---

## EDUCATION

---

**Embry-Riddle Aeronautical University (September 1980 – September 1984)**

- BS Computer Science
- AS Aviation Management
- Commercial Pilot's License
- Flight Instructor



## J. BLAIR PARSONS III, PMP, CISSP, ITIL4

Chief Information Officer (CIO)

### PROFILE

Blair Parsons is a partner and CIO of Talent & Technical Solutions Corporation (TTSC). He has been an IT industry leader for the last 16 years where he has served in various senior leadership roles, including: Activity Command Information Officer (ACIO), Senior IT Program Manager (PM), Senior Software Engineer PM, and Senior Information Systems Engineer. Blair is laser focused on continuous process improvement through advanced use of IT systems both on-prem and in the cloud to provide accountability, performance monitoring, process metrics, and advanced reporting. His accomplishments include the design and implementation of a dynamic, workflow based, custom action tracking system at NAVSEA; a custom, Talent Management application across the US Navy; and numerous successful cloud native system migrations and refactoring projects.

### CONTACT

PHONE: 540.903.3537

EMAIL: blair@tts-c.com

WEBSITE: www.tts-c.com

## PROFESSIONAL HIGHLIGHTS

TTSC – Chief Information Officer (CIO)

Oct 2019 – Current

- ◆ Design and execute the corporate IT solutions business strategy to include identification of solutions and services being offered, targeting of customer markets and outreach to potential clients, development of technology roadmaps and trends assessments, and establishment of partner programs for rapid execution and value maximization.
- ◆ Lead all IT related efforts, including the implementation and deployment of MS365, design and development of the TTSC Assessment Model (OAM), design and development of the tts-c.com corporate home page, and design and development of the PowerBI OAM Dashboard.

Falconwood, Inc – Senior Cloud Engineer (DevSecOps)

Sep 2019 – April 2020

CACI – Senior IT Program Manager (PM) / ACIO

Oct 2017 – Sep 2019

CACI – Developer, Group Lead, Project Manager

July 2004 – Sep 2017

## EDUCATION

MASTER OF BUSINESS ADMINISTRATION (2010)

University of Mary Washington ▪ Fredericksburg, VA

MASTER OF MANAGEMENT OF INFORMATION SYSTEMS (2010)

University of Mary Washington ▪ Fredericksburg, VA

BACHELOR OF SCIENCE IN COMPUTER SCIENCE (2004)

University of Mary Washington ▪ Fredericksburg, VA

## CERTIFICATIONS

PROJECT MANAGEMENT PROFESSIONAL

(PMP) (2016)

Project Management Institute (PMI) ▪ ACTIVE



CERTIFIED INFORMATION SYSTEMS SECURITY

PROFESSIONAL (CISSP) (2016)

International Information System Security

Certification Consortium (ISC)<sup>2</sup> ▪ ACTIVE



ITIL 4 FOUNDATION (2020)

ITIL ▪ ACTIVE



ACIO Funding Proposal, Electronic High-level reporting for the IAW Commercial Fisheries Sector

**Bold Comments indicate sections that help with the ranking process**

**Highlighted text indicates changes from the first submission**

**Ranking Guide - Maintenance Projects:**

<b>Primary Program Priority</b>	<b>Point Range</b>	<b>Description of ranking consideration</b>
Catch and Effort	0-10	Rank based on range within module and level of sampling defined under Program design. When considering biological or bycatch funding rank according to priority matrices.
Biological Sampling	0-8	
Bycatch/Species Interactions	0-6	
Social and Economic	0-4	
Metadata	+2	Additional points if metadata collected and supplied to Program defined within the proposal.

<b>Project Quality Factors</b>	<b>Point Range</b>	<b>Description of ranking consideration</b>
Multi-Partner/Regional impact including broad applications.	0-5	Rank based on the number of Partners involved in project OR regional scope of proposal (e.g. geographic range of the stock).
> yr 2 contains funding transition plan and/or justification for continuance	0-4	Rank based on defined funding transition plan away from Program funding or viable justification for continued Program funding.
In-kind contribution	0-4	1=1%-25% 2=26%-50% 3=51%-75% 4=76%-99%
Improvement in data quality/quantity/timeliness	0-4	1=Maintain minimum level of needed data collections.  ↓ 4=Improvements in data collection reflecting 100% of related module as defined within the Program design.
Potential secondary module as a by-product (In program priority order)	0-4, 0-3, 0-2, 0-1	Rank based on <u>single</u> additional module data collection and level of collection as defined within the Program design of individual module.
Impact on stock assessment	0-3	Rank based on the level of data collection that leads to new or greatly improved stock assessments.

<b>Other Factors</b>	<b>Point Range</b>	<b>Description of ranking consideration</b>
Properly Prepared	0-5	Meets requirements as specified in funding decision document Step2b and Guidelines

**Ranking Guide – Maintenance Projects: (to be used only if funding available exceeds total Maintenance funding requested)**

<b>Ranking Factors</b>	<b>Point Range</b>	<b>Description of Ranking Consideration</b>
Achieved Goals	0 – 3	Proposal indicates project has consistently met previous set goals. Current proposal provides project goals and if applicable, intermediate metrics to achieve overall achieved goals.
Data Delivery Plan	0 – 2	Ranked based if a data delivery plan to Program is supplied and defined within the proposal.
Level of Funding	-1 – 1	-1 = Increased funding from previous year 0 = Maintained funding from previous year 1 = Decreased funding from previous year
Properly Prepared	-1 – 1	-1 = Not properly prepared 1 = Properly prepared
Merit	0 – 3	Ranked based on subjective worthiness



ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

**June 17, 2024**

Atlantic Coastal Cooperative Statistics Program  
Operations and Advisory Committees  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

To Whom it May Concern,

We are pleased to submit the proposal entitled “**FY25: North Carolina socioeconomic database construction for the management of existing and future data**” for consideration for funding in FY2025.

This maintenance proposal is being submitted to fund an additional year of monies for a developer to continue work to develop NCDMF’s novel socioeconomic database application. The new socioeconomic database and associated interface will allow the socioeconomic program at NCDMF to better store data, analyze data, and develop new surveys as required by NCDMF and fishery managers. This FY2025 proposal is requesting one year of funding after the FY2023 grants ends to complete development of the socioeconomic database and web-based front-end interface that will allow for efficient data entry and survey development. NCDMF hopes to support the existing developer position with one-time monies in-between ACCSP grant periods to ensure progress is not delayed on this project.

Information about the FY2023 grant and its challenges is provided in the attached proposal.

The scope of the project has not changed which was to develop a SQL relational database for data storage and analysis and to develop a web-based interface for survey development and data entry. The new database and front-end interface will be the primary data entry, storage, analysis, and survey development tools for the socioeconomic program at the completion of this project. Work on this project is on-going and set to be completed by the end of June 2026.

Thank you for your consideration.

Sincerely,

Jason Walsh

Proposal for Funding made to:

Atlantic Coastal Cooperative Statistics Program  
Operations and Advisory Committees  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

**FY25: North Carolina socioeconomic database construction for the management of existing and future data**

Submitted by:

Jason Walsh  
North Carolina Division of Marine Fisheries  
3441 Arendell Street; P.O. Box 769  
Morehead City, NC 28557  
[jason.walsh@ncdenr.gov](mailto:jason.walsh@ncdenr.gov)



**Applicant Name:** North Carolina Division of Marine Fisheries

**Project Title:** FY25: North Carolina socioeconomic database construction for the management of current and future data

**Project Type:** Maintenance

**Principal Investigator:** Jason Walsh  
NCDMF Fisheries Economics Program Manager

**Requested Award Amount:** \$145,020

**Requested Award Period:** For one year, beginning after the receipt of funds.

**Original Date Submitted:** June 17, 2024

## **Objective**

To build a consolidated socioeconomic database to be used by the North Carolina Division of Marine Fisheries (NCDMF) to organize existing data for easier analysis and standardize future data entry and storage, as well as facilitate transmissions of fishery-dependent socioeconomic data to the Atlantic Coastal Cooperative Statistics Program (ACCSP) Data Warehouse.

## **Background/Need**

North Carolina's fisheries are a significant social and economic resource to the state and its communities. The North Carolina Division of Marine Fisheries (NCDMF) works to better understand and predict the impact these fisheries have both on their communities and on the state's economy. The North Carolina Fisheries Economics Program (NCFEP) has a wide range of surveys that they use to monitor economic performance over time.

NCDMF has been collecting socioeconomic information on commercial and recreational fishing in North Carolina for more than two decades. The NCFEP collects data on all stakeholders in commercial and recreational fisheries to better understand the role fisheries play in the state of North Carolina. Due to the diversity of stakeholder groups in fisheries the data collected varies between surveys and between years as surveys are continuously updated to summarize contributions. The variables that are often collected include but are not limited to the following: demographic information, gear used, species targeted, expenditure and/or costs associated with business, income, fishing history, and perceptions and awareness of regulations. These data are collected to better understanding coastal communities that rely on the fishing industries, recreational and commercial fishermen, and the impact of all fishing industries on the State's economy through intra and interstate commerce.

The program administers surveys to stakeholders to monitor species-specific and broad fishery performance to achieve the goals of the Division. The data collected through these surveys are considered sensitive and confidential information about fishermen and dealers in North Carolina but are currently stored on a NCDMF network drive that is open to every employee within the License and Statistics Section. These data are collected and stored in Microsoft Excel or Microsoft Access formats in organized folders with corresponding metadata in Microsoft Excel or Microsoft Word documents according to standard operating procedures written by the NCFEP. Given the diversity and structure of datasets there has not been a centralized location for data to be stored. This leads to data being disorganized, difficult to work with and challenging to identify trends which is pertinent to the goal of identifying fishery economic performance and participation over time. Consolidation of these data into a database will also allow for increased protection and organization to ensure data are handled appropriately.

Some surveys are newly created every year, while other surveys are updated about every five years. In the last few years, there has been a delay in data collection due to the COVID-19 pandemic and staff turnover. To better accommodate future variability, a centralized location for data will allow for less delay and better organization and structure of resources to adequately collect, structure, and share data across management bodies.

ACCSP funded a new project in FY2023 and a developer to build this new database and interface was finally hired in January 2023. The delay in the start date was due to funds not being available to NCDMF until September 2022 and longer than expected recruitment of a contract developer. The recruitment process can be lengthy at times but for this project, the chosen candidate declined the position close to their start date in December 2022; therefore, we had to regroup to get another developer

hired. This maintenance proposal is being submitted to continue funding a contractor for development of the socioeconomic application for one year. This project is a large consolidation of past surveys that have a variety of survey question types and variables. The new system will allow for standardized storage and use of past survey data and the development of a novel survey application to meet the needs of fishery managers and the Division. The development of this interface is centered around being flexible and object oriented by using one past survey as an example to build the infrastructure of the new system but still allow the economist to add all other past surveys and their associated data without having to build additional functionality into the system. The new system will have a modular structure which will vary across fishery sectors and will provide the socioeconomic program with a simple “point and click” format that can adapt to changes in survey needs over time. Gaining an additional year of funding will allow for the developer to continue building this application. The scope of this project has not changed but will build upon the progress the developer has made to date.

### **Review of Previous Results:**

A relational SQL Server database was developed to store existing data that have been historically housed in Access and Microsoft Excel documents on the NCDMF servers. One survey was chosen as our prototype for this project which was a survey of commercial fishermen who fish in the Atlantic Ocean. The database can be linked to the NCDMF FIN database for commercial license data and the GoOutdoors (formerly known as ALVIN) database which houses the recreational license data. The development of an interactive web-based interface has started but access to only a few of the supporting tables have been completed as of now.

Through the development of the database, it has become clear that the socioeconomic surveys are complex and variable across sectors. There is a wide variety of types of questions unique to sectors that require diverse relational structures in the database. The developer has produced versions of the database for the commercial sector and has received feedback from NCDIT and the PI. The developer is currently working with NCDIT and the PI to identify the best format for the interface to interact with data from past surveys as well as for new socioeconomic survey development.

The FY2023 grant is still in progress and a no-cost extension will be submitted to extend the grant out through December 2024. If the FY2024 maintenance proposal is approved, that project will begin in July 2025 (or whenever the money becomes available). NCDMF hopes to support the developer during this gap in ACCSP funding with one-time internal monies to ensure progress continues. The developer will continue to work with NCDIT and the PI on the development of the interactive interface if this maintenance proposal is accepted. To help facilitate the timely completion of this project, two additional NCDIT staff were included in this year’s project as in-kind to support the contractor on developing the best approach to this application’s development to create an application unlike others currently used by NCDMF.

### **Approach**

NCDMF staff will work with NCDIT staff on a requirements document to detail specific needs and expectations of the new data structure and corresponding input/output (I/O) interface. This document will be fluid and will be updated as decisions are made.

All data will be consolidated into a relational database within SQL Server. This database will be able to interact with the NCDMF FIN database where the commercial license data are stored as well as access to

the Wildlife Resources Commission GoOutdoors (formerly known as ALVIN) database where the recreational license data are stored.

A web-based application will be built to serve as the front-end interface for data entry and editing. NCDMF staff will work with NCDIT staff to complete this project. Several NCDIT staff are housed at the NCDMF Headquarters office in Morehead City, NC and will be overseeing, assisting, and facilitating this project as well as helping with database development. A contractor will be hired to complete the interface development.

The new SQL Server database and web-based interface will allow for consolidation of NCFEP data for optimized use by the NCDMF to meet fishery management goals. Once the data are consolidated, a file can be submitted to ACCSP for use by other state partners and in regional fishery management plans such as Black Sea Bass, Bluefin Tuna, American Shad, Cobia, and other commercially and recreationally targeted species in North Carolina.

NCDIT at NCDMF has been using the Agile SCRUM methodology for software development over the last 8-10 years. Development of the database and interface referenced in this proposal will also be conducted using Agile development and 3-week development Sprints. User stories to define “bite-sized” pieces of functionality from the requirements document will be created to guide the development process.

## **Results and Benefits**

Successful fulfillment of this project will provide:

- Consolidation and standardization of NCDMF’s socioeconomic data
- Data that can be easily formatted to facilitate use of fishery-dependent socioeconomic data by NCDMF staff and other state partners once data are submitted to ACCSP
- Enhanced data entry and verification functionality for North Carolina NCFEP data
- Increased timeliness and cleanliness of North Carolina’s socioeconomic data to state and regional fishery managers and stakeholders

## **Geographic Location**

The NCDMF Headquarters are located in Morehead City, North Carolina. This project may be performed remotely and does not require the position to be located in Morehead City. NCDIT staff working on this project are also based in Morehead City. NCDIT contractors working for the Department are located in Raleigh, North Carolina. The current NCFEP manager is located in Kill Devil Hills, NC, which is close to the NCDMF Manteo field office.

## **Data Delivery Plan**

Documentation of the new data entry and editing interface as well as any metadata and the new database schema will be provided to ACCSP as part of the annual report. New documentation on the new database will include data mapping tables that provide a definition of each variable. Any new stored procedures created during this project will include documentation on primary function, data tables being accessed, and corresponding variables within the procedure’s SQL code.

**Completed Data Delivery to ACCSP**

The FY2023 project is currently in progress, and a no-cost extension will be submitted to extend the project through December 2024. Throughout the project, performance reports have been submitted as required. The annual report for FY23 will be completed by the due date.

**Milestone Schedule** (start date depending on time of grant award):

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Hire Contractor	X	X										
Develop requirements document	X	X	X	X	X	X	X	X	X	X	X	X
Create user stories		X	X	X	X	X	X	X	X	X	X	X
Database will be created			X	X								
Interface for data entry and editing will be built and tested				X	X	X	X	X	X	X	X	X
Finalize documentation											X	X

The contractor is expected to work 40 hours a week on this project. Report writing will follow the requirements of two semi-annual status reports and a final report due at the end of the grant award.

**Project Accomplishments Measurement (Metrics and Achieved Goals)**

Projects	Accomplishments
Update requirements document, as needed throughout project	<ul style="list-style-type: none"> <li>Document is completed and describes functionality that needs to be completed in new application</li> </ul>
User stories are created for Agile Development	<ul style="list-style-type: none"> <li>User stories are written and document small tasks for developers to complete requirements within Sprints</li> </ul>
Create database and migrate data	<ul style="list-style-type: none"> <li>Consolidated database was created and accurately contains all socioeconomic data required</li> </ul>
Create interface for data entry	<ul style="list-style-type: none"> <li>Process completed and fully documented</li> <li>Data can be entered into the new database</li> </ul>

Projects	Accomplishments
Create interface for data verification/editing	<ul style="list-style-type: none"> <li>• Process completed and fully documented</li> <li>• Data can be viewed and edited</li> </ul>
Finalize documentation	<ul style="list-style-type: none"> <li>• Documentation reflects new enhanced process and data structure</li> </ul>

**Project Personnel**

Jason Walsh— Fisheries Economics Program Manager, NCDMF License and Statistics Section (NCDEQ)  
Stephanie McInerny—Section Chief, NCDMF IT Section (NCDIT)  
Brandi Salmon—Section Chief, NCDMF License and Statistics Section (NCDEQ)  
Brett Messner – Applications Systems Analyst II, NCDMF IT Section (NCDIT)  
Chris Capoccia – Applications Systems Analyst II, NCDMF IT Section (NCDIT)

**Funding Transition Plan**

This project should be completed within the proposed 1-year maintenance grant period. After the no-cost extension of the FY2023 grant, funding for the current project will end in December 2024 and funding will not be available from the proposed maintenance grant until July 2025. NCDMF hopes to support the current developer in-between ACCSP grant periods to continue progress on this project. If other funding is not secured in the interim, a new developer will need to be identified if this proposal is accepted. NCDIT and NCDMF staff can maintain the completed systems developed from this grant; therefore, subsequent years of funding are not needed once the project is completed.

**FY25 Budget Narrative**

The cost summary table below shows an explanation for each budget item for a one-year period. NCDIT will not charge an indirect fee for the Contractor. The cost for the developer in the summary below is based on an expert level .NET developer from NCDIT’s convenience contracts.

The hours represent the time dedicated to this project from the developer, NCDIT staff, and L&S staff. The contractor that was hired on the FY23 grant is still working on this project and will continue to work on this project in the proposed maintenance window, if approved. In the case of the departure of the contractor from this project, a new contractor will be hired at the same hourly rate. Additional NCDIT staff were included in this year’s project as in-kind to support the contractor on developing novel approaches to application development to facilitate this project.

**FY25 Cost Summary**

<b>Category</b>	<b>Expense</b>	<b>Units</b>	<b>Cost</b>	<b>ACCSP Request</b>	<b>State In-Kind</b>	<b>Explanation</b>
<b>Personnel</b>	Contractor	1	\$143,520	\$143,520		One Analyst @ \$69/hr for 2,080 hrs (1 year)
	IT Section Chief	1			\$40,768	\$10,192/month for 4 months
	L&S Section Chief	1			\$13,602	\$6,801/month for 2 months
	IT Applications Systems Analyst II	2			\$45,600	\$7,600/month for 3 months
	Fisheries Economics Program Manager	1			\$34,422	Average salary of \$5,737/month for 6 months
<b>Subtotal</b>				\$143,520	<u>\$134,392</u>	
<b>Fringe</b>	Retirement, Social Security, Health Insurance				\$44,965	Fringe=25.02% of salary (\$33,625) plus \$7,557/year for health insurance (1 month insurance = \$630*18 months combined work=\$11,340)
<b>Indirect</b>						No indirect needed for NCDMF contractors
<b>Subtotal</b>				\$0	<u>\$44,965</u>	
<b>Supplies</b>	Computer	1	\$1,500	\$1,500		Replacement laptop for contractor, if needed
<b>Subtotal</b>				\$1,500	\$0	
	<b>Column Totals</b>			\$145,020	<u>\$179,357</u>	Total project cost = \$324,377
	<b>Total Request</b>					
	<b>Percent</b>			45%	55%	Percentage calculated from total cost

**Attachment 1: Budget Narrative and Cost Summary for previously funded project (FY2023)**

**FY23 Budget Narrative**

The cost summary table below shows an explanation for each budget item for a one-year period. NCDIT will not charge an indirect fee for the Contractor. The cost for the developer in the summary below is based on an expert level .NET developer from NCDIT’s convenience contracts.

**FY23 Cost Summary**

Category	Expense	Units	Cost	ACCSP Request	State In-Kind	Explanation
<b>Personnel</b>	Contractor	1	\$143,520	\$143,520		One Analyst @ \$69/hr for 2,080 hrs (1 year)
	IT Section Chief	1			\$18,938	\$9,469/month for 2 months
	L&S Section Chief	1			\$11,154	\$5,577/month for 2 months
	Fisheries Economics Program Manager	1			\$28,134	Average salary of \$4,689/month for 6 months
Subtotal				\$143,520	<u>\$58,226</u>	
<b>Fringe</b>	Retirement, Social Security, Health Insurance				\$20,245	Fringe=24.19% of salary (\$14,085) plus \$7,397/year for health insurance (1 month insurance = \$616*10 months combined work=\$6,160)
<b>Indirect</b>						No indirect needed for NCDMF contractors
Subtotal				\$0	<u>\$20,245</u>	
<b>Supplies</b>	Computer	1	\$1,500	\$1,500		Laptop for contractor, if needed
Subtotal				\$1,500	\$0	
	Column Totals			\$145,020	<u>\$78,471</u>	Total project cost = \$223,491
	Total Request					
	Percent			65%	35%	Percentage calculated from total cost

**Attachment 2: Project History and Total Project Cost by Year**

Year	Title	Cost	Results
2023	<i>North Carolina socioeconomic database construction for the management of existing and future data</i>	\$145,020	Project currently underway, SQL database has been completed, design decisions on interface development are on-going, development started on novel web-based interface for developing new surveys and managing data



## **Summary of Proposal for Ranking Purposes**

**Proposal Type:** *Maintenance*

### **Program Priority**

**Catch and Effort:** 0%

**Biological Sampling:** 0%

**Bycatch/Species Interactions:** 0%

**Social and Economic:** 100%

The NCFEP strives to assess and follow the economic performance of the State's marine resources. This goal includes, but is not limited to, understanding coastal communities that rely on the fishing industries, recreational and commercial fishermen, and the impact of all fishing industries on the State's economy through intra and interstate commerce. The program administers surveys to recreational fishermen, commercial fishermen, processors, and other stakeholders to achieve the goals of the Division. (Page 3-5)

### **Metadata:**

New documentation on the new database will include data mapping tables that provide a definition of each variable. Any new stored procedures created during this project will include documentation on primary function, data tables being accessed, and corresponding variables within the procedure's SQL code. Documentation will be provided as part of the grant completion report. (Page 3)

## **Project Quality Factors**

### **Multi-Partner/Regional impact including broad applications:**

Although this project only covers data for North Carolina, many species within North Carolina are managed regionally. Regional management agencies such as the Atlantic States Marine Fisheries Commission (ASMFC) and Mid-Atlantic Fishery Management Council (MAFMC) would benefit from having more access to these fishery-dependent socioeconomic data. (Page 3-5)

### **Contains funding transition plan and/or justification for continuance:**

The goals defined in this project should be completed within the grant cycle. (Page 7)

### **In-kind contribution:**

55% (see cost table on Page 7-8)

### **Improvement in data quality/quantity/timeliness:**

The project identified in this proposal will greatly improve data quality and timeliness by providing a more modernized format for the data with enhanced data entry/verification screens and workflows that will prepare North Carolina for future data reference and analysis. (Page 4)

### **Potential secondary module as a by-product:**

None

**Impact on stock assessment:**

Although this project only covers data for North Carolina, future organization of socioeconomic data will benefit other partners as the data will be more readily available for data requests and stock assessments. Many species within North Carolina are managed regionally. Regional management agencies such as the Atlantic States Marine Fisheries Commission (ASMFC) and Mid-Atlantic Fishery Management Council (MAFMC) would benefit from having more access to these fishery-dependent socioeconomic data. (Page 3-5)

**Properly Prepared:**

This proposal follows the guidelines provided in the ACCSP Funding Decision Document.

**Merit:**

Modernizing NCDMF's Socioeconomic Database and the front-end interface that allow data entry clerks and analysts to interact with the database is crucial to the success of socioeconomic data collection programs in North Carolina. (Page 5)

# Jason Walsh

Cell:(525)269-9299 Email: [Jason.walsh@ncdenr.gov](mailto:Jason.walsh@ncdenr.gov)

## SUMMARY OF QUALIFICATIONS

---

### EDUCATION

<b>University of Rhode Island</b>	<b>Graduated: 2021</b>
M.S., Environmental and Natural Resource Economics	
<b>University of North Carolina (Wilmington, NC)</b>	<b>Graduated: 2015</b>
B.A., Economics	
B.S., Environmental Science	
<b>Nelson Mandela Metropolitan University (Port Elizabeth, South Africa)</b>	<b>January-May 2014</b>
<b>Moulay Ismail University (Meknes, Morocco)</b>	<b>January-May 2013</b>

### WORK EXPERIENCE

<b>North Carolina Division of Marine Fisheries</b>	Morehead City, North Carolina
<ul style="list-style-type: none"><li>• Fisheries economics program manager</li><li>• Supervisor of social research scientist temporary staff</li><li>• Support fishery managers in the development of fishery management plans</li><li>• Complete fiscal notes in the rule development process</li><li>• Leading PI to ongoing project identifying economic contribution of for-hire industry to North Carolina economy funded by ACFCMA</li><li>• Leading PI to ongoing project on an update status of economic contribution of shellfish aquaculture industry to North Carolina economy funded by SK grant</li><li>• Leading PI on ongoing project to create novel economic database for the NC fisheries economics program funded by ACCSP</li><li>• Member of SAFMC SSC and ASMFC CESS</li></ul>	<b>January 2022-Present</b>
<b>McArthur Environmental Consulting</b>	Framingham, Massachusetts
<ul style="list-style-type: none"><li>• Prepare documents for clients and local municipalities</li></ul>	<b>December 2020-December 2021</b>
<b>Rhode Island Fish and Wildlife</b>	Wakefield, Rhode Island
<ul style="list-style-type: none"><li>• Field interview marine recreational anglers</li></ul>	<b>July 2017-October 2017</b>

### RESEARCH

<b>Research Assistant (Dr. Todd Guilfoos, Professor of Natural Resource Economics URI)</b>	<b>May 2017-May 2021</b>
<ul style="list-style-type: none"><li>• 20 Hours/Week</li><li>• Creating hedonic studies on the economic effect of dam removals in New England using statistical tools Stata and ArcGIS</li></ul>	

**Student Trainee (USDA Economic Research Service)****June 2019-August 2019**

- 40 Hours/ Week
- Intern modelling nutrient runoff of farms from the agricultural resource management survey using the environmental policy integrated climate model software.

**Research Assistant (Annette Bourbonniere)****September 2018-May 2019**

- 10 Hours/ Week
- A team member developing the model and performing analysis using R for a discrete choice study on the effect of removing earnings from insurance and social security payments for persons with spinal chord injuries

**Research Consultant (Chris Brozyna)****December 2018-May 2019**

- 5 Hours/ Week
- A team member providing assistance during analysis and writing stages of an experimental economics study on TURFS (a rights based fishery management strategy)

**Directed Independent Study (Dr. Peter Schuhmann, Professor of Economics at UNCW) July 2015-2016**

- Used Contingent valuation methods and regression analysis to assess willingness to pay and willingness to return of tourists to Barbados

**Directed Independent Study (Dr. Zachary Long, Professor of Ecology at UNCW) July-December 2014**

- Studied macro algae at Fort Fisher recreation area to find how stability of benthic marine communities' consumers is influenced by the presence of invasive macro algae

**PUBLICATIONS****A Hedonic Study of New England Dam Removals****September 2021**

- An analysis of dam removals heterogeneous effects on housing prices in New England
- <https://www.sciencedirect.com/science/article/abs/pii/S0921800922002853>

**TURF Wars: Group Dynamics in Resource Management****October 2019**

- Working paper at the Center for Growth and Opportunity on TURF as a fishery management tool.
- <https://www.thecgo.org/wp-content/uploads/2020/04/working-paper-2019.013.pdf>

**PRESENTATIONS****AAEA Conference Presentation****August 2018**

- Present preliminary results from first chapter of dissertation. A hedonic study on dam removals heterogeneous effect on housing prices.

**Guest Lecturer****February 2019 & February 2020**

- Present results from first chapter of dissertation in an ecohydrology graduate course. A hedonic study on dam removals heterogeneous effect on housing prices. This also serves as an introduction to environmental economics to the masters of environmental management at URI.

Geoff White, Director  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22201

August 19, 2024

Dear Mr. White,

The North Carolina Division of Marine Fisheries is pleased to submit the proposal titled, 'Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems' for your review.

Please address questions to Brandi Salmon of the NC DMF.

Sincerely,

**Brandi Salmon**

License and Statistics Section Chief  
NC Division of Marine Fisheries  
NC Department of Environmental Quality  
3441 Arendell Street  
PO Box 769  
Morehead City, NC 28557-07

Proposal for FY2025 ACCSP Funding

**Applicant Name:** North Carolina Division of Marine Fisheries

**Project Title:** Building A Modernized Framework For Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems

**Project Type:** New

**ACCSP Program Priorities:** Catch, Effort, and Landings

**Principal Investigator:** Jeff Moore, [jeffrey.n.moore@deq.nc.gov](mailto:jeffrey.n.moore@deq.nc.gov)

**Project Staff:** Brandi Salmon, [brandi.salmon@deq.nc.gov](mailto:brandi.salmon@deq.nc.gov)  
Andrew Valmassoi, [andrew.valmassoi@deq.nc.gov](mailto:andrew.valmassoi@deq.nc.gov)  
Stephanie McInerney, [stephanie.mcinerney@deq.nc.gov](mailto:stephanie.mcinerney@deq.nc.gov)

Harbor Lights Software

Full-time, part-time, and contract-based staff

**Requested Award Amount:** \$162,000

**Requested Award Period:** July 1, 2025 – June 30, 2026

**Submission Date:** August 19, 2024

## Objectives

This proposal will be a pilot project for fiscal year 2025 to build a **modernized** framework for anadromous creel data collection that can be broadly applied by all regional partners to **enhance the timeliness, accuracy, and regional accessibility** of **catch, effort, and biological** data supplemental to the MRIP data stream.

The specific objectives include:

- Develop a **modernized** tablet based anadromous creel survey software that can adapted to regional partners needs
- Building the data architecture to **standardize**, transmit and house creel survey data within the **ACCSP data warehouse**
- Creating a web interface to allow all partners to access submitted data
- Planning and scoping **improvements to legacy data collection systems**

## Need

North Carolina is renowned for its diversity and breadth of saltwater fishing opportunities. Well over a million licensed recreational saltwater anglers and out of state visitors take anywhere between 15 to 20 million recreational saltwater fishing trips annually (Table 1). In 2023, these recreational anglers harvested an estimated 16 million fish and released an estimated 52 million fish in North Carolina's coastal waters (Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division June 13, 2024). The North Carolina Division of Marine Fisheries (NC DMF) is committed to the sustainable management of these fisheries using the best science and data available. From early Marine Recreational Information Program (MRIP) pilot studies in 2011 to collaboration on the implementation of tablet use for MRIP Access Point Angler Intercept Survey (APAIS) data collection in 2019, NC DMF continues to be a leading proponent of improved fisheries data collection, sharing, and utilization. The Coastal Angling Program (CAP) operates under the License and Statistics Section of NC DMF and administers and manages all of the state's marine recreational fishing data collection programs. Together, these programs provide a comprehensive dataset of the coastal recreational fisheries of North Carolina needed to comply with the Magnuson Stevens Fisheries Act. These programs include all aspects of MRIP, the Saltwater Activity Mail Surveys, and an anadromous creel survey. The survey data from the anadromous survey are used to produce estimates of recreational catch and effort in estuarine and adjacent riverine waters for estuarine striped bass, American shad, and hickory shad, which are species of great interest and concern.

According to the 2020 American shad benchmark stock assessment, the stock of American shad is depleted coastwide. This assessment also points out the overall low availability of recreational landings data for most stocks because most in-river angling efforts are not captured by the MRIP APAIS, which is primarily designed to intercept coastal fishing trips. A common weakness identified in the stock assessment was the paucity of data pertaining to the recreational fishery catch. Potential impacts of recreational fisheries on the population are unknown, with the exception of a few creel surveys that are mostly limited in scope and often occur at a single access point. Of the many stocks along the Atlantic coast, only the Potomac and Albemarle sound (NC) systems had sufficient data to even attempt a statistical catch at age model. The benchmark stock assessment concluded that all American shad recreational fisheries should be monitored, and that **“monitoring programs should collect total catch, effort, size, individual weight, and age data at a minimum”**. The **Atlantic Coast Cooperative Statistics Program (ACCSP) ranked American shad as a priority species.**

According to the 2022 review of the Atlantic Striped Bass Stock Assessment Update, stocks of Atlantic striped bass are still overfished, and overfishing is no longer occurring. However, emergency action was required in May 2023 to change the recreational size limit due to a shocking near doubling of recreational harvest from 2021 to 2022. Striped bass stocks are heavily impacted by the recreational sector, which accounted for 90% of all removals in numbers of fish in 2022. In North Carolina waters, the status of estuarine stocks of striped bass is concerning. According to the 2022 Albemarle Sound – Roanoke River Striped Bass Stock Assessment Update, the stock is overfished and overfishing is occurring. In NOAA's 66<sup>th</sup> Northeast Regional Stock Assessment Workshop Assessment Report, **“improv[ing] estimates of striped bass harvest removals** in coastal areas during wave 1 and inland waters of all jurisdictions year round” was listed as a fishery-dependent research priority.

The NC DMF anadromous creel survey is administered in eastern North Carolina waters that are minimally covered by the MRIP APAIS and designed to specifically target the Albemarle Sound Management Area (ASMA) and Central Southern Management Area (CSMA) relevant to striped bass. **Most of the catch and effort for striped bass and shad takes place in the westernmost areas of coastal rivers year-round and in freshwater rivers during the Spring spawning run. Although the anadromous creel survey is similar to APAIS, there are barriers that preclude a simple expansion of the site register to include these waters. While some sampling overlap does occur in the coastal rivers, APAIS does not sample those sites as frequently as needed to produce reliable estimates of anadromous species. Furthermore, the sites sampled during the Spring run are out of the scope of APAIS because they have a salinity of <1ppt. Other than the anadromous species**



sampled, the reported catch from these sites is predominantly freshwater species. The anadromous survey affords NC DMF the ability to produce reliable estimates of anadromous species without compromising the sampling constraints of APAIS. The survey data from the anadromous creel survey provide valuable contributions to Fisheries Management Plans and **Stock Assessments** for estuarine striped bass, American shad, and hickory shad.

The Atlantic Coastal Cooperative Statistics Program recreational technical committee determined several recreational data collection priorities for year 2024. Those include improved recreational fishery discard and release data, biological sampling for recreational fisheries separate from MRIP, and improved in-season monitoring. We propose that the **modernization** of NC DMF anadromous survey will achieve these priorities. This project supports several priorities outlined in the Atlantic States Marine Fisheries Commission (ASMFC) 2024 Action Plan. Atlantic striped bass and shad are both listed as high priority species. Stock assessment updates for both species are needed. To provide the scientific foundation for stock assessments to support informed management actions, the ASMFC 2024 action plan calls for increased resolution of catch and survey information, including increased monitoring of shad. The action plan also states that dependable and timely marine fishery statistics are a priority, and they encourage participation in the FIS data modernization projects. Recreational surveys are specifically mentioned as an area that could expand collection of discard data from recreational anglers. The ASMFC Striped Bass Addendum II highlights the importance and urgency of timely data collection and sharing. The ASMFC Atlantic striped bass research priorities further highlights the importance of improving inland striped bass harvest removals year round.

The need to modernize the anadromous survey arises from several factors:

- Pencil-on-paper inefficiencies: NC DMF conducts 5,000 to 7,000 angler interviews per year through participation in the anadromous creel survey. Survey data is currently recorded on paper forms by hand, and then transcribed into a database. Entering the data into an electronic mobile device would eliminate the keying of data from these interviews while providing near real-time access.
- User error: Data entry on paper forms is prone to human error, especially in the field. Electronic mobile devices can significantly decrease the error rate among entered data. Guided entry, drop down menus, data entry logic filters, would all contribute to improved accuracy of data entry.
- Decline in creel survey capacity: Anadromous creel surveys have been discontinued or scaled back in many states due to limited resources. Development of modernized creel survey and centralized database may achieve efficiencies that would increase the capacity of regional partners to collect this important data.
- Regional data sharing: Regional partners could benefit from access to NC DMF anadromous creel data, however, no system is currently in place to facilitate the sharing of this data. This is also true of state creel data collected from other states. Unlike the MRIP APAIS, a central database has not been established to standardize and house this data. States have varying levels of available creel data and no formal processes of collaboration are currently in place. Information sharing is initiated through emailed requests, which can be slow and unreliable due to competing priorities and limited staff availability. When contacted about their creel activities, other responding states have indicated a decline in their activity over time due to a variety of factors and considerable time series gaps, and not all contacted states have responded.
- Standardization: Several states conduct or have conducted state specific anadromous creel surveys, but they are independently designed in terms of data collection, frequency, duration, formatting, etc. A well-designed creel application for electronic tablets that standardizes data collection but still allows for regional flexibility would be a valuable tool for partners throughout the region.
- Legacy software modernization: The MRIP APAIS utilizes a legacy Dockside Intercept Application to administer angler intercept surveys and is used in the Atlantic, Gulf, and Hawaii. Structural improvements are needed to improve performance when over 25 intercepts have been recorded. A software modernization project would provide a unique opportunity to make and test improvements to the software structure without disrupting APAIS.

To address these needs, we propose to partner with Harbor Light Software to develop tablet based anadromous creel survey software. We will use the existing North Carolina anadromous creel standards and coordinate with other states to identify the key data collection fields for standardization. We have identified several states (VA, MA, CT, ME) who have responded positively to inquiries about their creel methodologies. We also plan to partner with ACCSP to contract development of a database structure to hold the data within the ACCSP data warehouse, a web interface to interact with the data, and an API for accessing the data. These solutions will be made available to all partners in an effort to promote and improve data sharing and collaboration. The development process will also afford opportunities to explore legacy software modernization.

## Results and Benefits

This project will result in several key benefits:

- Increased capacity to **collect and share recreational fisheries data** complimentary to MRIP
- **Increased accuracy, efficiency, and cost savings** of anadromous creel survey data collection and data management
- Establishment of a **standardize framework for regional partners** to submit and access anadromous creel data
- Planning and scoping of **legacy system updates which could result in added efficiencies** to the APAIS DIA

Comprehensive recreational fisheries data will only continue to grow in demand and relevance as the impacts of the recreational sector expand, especially in relation to stocks that are now predominantly catch and release. This project will promote and strengthen valuable supplemental recreational data streams collected outside of MRIP. **Efficiencies** gained through tablet-based data collection have been well documented with the APAIS transition to the Dockside Intercept Application (DIA) and can be expected to be realized with a similar modernization of the anadromous creel survey. Entering the data into an electronic mobile device would eliminate the keying of data from these interviews while providing near real-time access. Guided entry, drop down menus, data entry logic filters, would all contribute to **improved accuracy** of data entry. **Cost savings** also include reduced staff time in data transcribing, data editing, and paper/postal supplies. This project represents an important step in increasing the **timeliness and accessibility** of the anadromous survey **catch and effort** data. Once the structure and web interface are developed for the ACCSP data warehouse, the data can be utilized by regional partners, stock assessment scientists, and managers. This is especially important considering the high priority species (e.g. shad, striped bass) data that are captured by the anadromous survey. Other states will have the ability to add their creel data to the database as well, thus **increasing coordination and data sharing** between regional partners. A comprehensive tablet-based creel survey with a built-in data stream to the ACCSP data warehouse would be a valuable resource for partners who have had to scale back their own creel efforts and may provide for a more standardized data collection scheme across states and regions. Further **savings** and utility will be achieved by including a built-in site selection feature that can be accessed through the web interface. This may result in an increased capacity across regions to conduct these surveys, ultimately resulting in a regionwide increase of data collection. Finally, this project provides a unique planning and scoping opportunity to **update the legacy DIA system**. Structural improvements can be applied and tested in the anadromous creel software development without disruption to the APAIS before they are implemented in the MRIP environment.

## Data Delivery Plan

This project will establish a data stream parallel to but separate from the MRIP APAIS. We will use the existing NC anadromous creel data collection standards and Harbor Light's experience developing the DIA to design an anadromous creel application. We will also use the existing NC anadromous creel as a reference to develop the necessary database structure to hold the data within the ACCSP data warehouse, a web interface to interact with the data, and an API for

accessing the data. Upon completion of this pilot project, the structure will be in place to enable the following data flow process outlined in figure 1. Following this project, individual creel intercept data can be collected on tablets by state representatives, transmitted to the ACCSP database, and then reviewed by state reviewers. Data will then be finalized and made available to state partners.

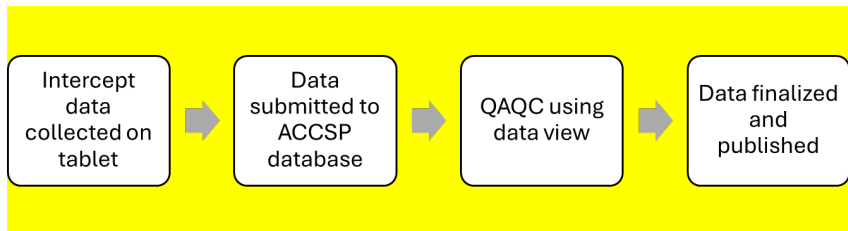


Figure 1. Data delivery plan.

## Approach

There are five main components to this project:

- Software development
- Data structuring, API development, and web interface design
- Planning and scoping legacy system updates
- Local deployment and testing
- Regional deployment

Software development: We will partner with Harbor Light Software to develop tablet based anadromous creel survey software. NC DMF has successfully collaborated with Harbor Light in the past to develop the citizen science application Catch U Later. Survey interview prompts and tablet functionality will initially be modeled after the NC DMF Anadromous Survey Form (Appendix A) and the Dockside Intercept Application. During development, NC DMF will also consult with other state partners and collaborate with Harbor Light to ensure the software will meet the needs of all interested partners. Harbor Light developed the successful Dockside Intercept Application that is currently utilized by the MRIP APAIS and is well suited to take on this development project.

Database structuring, API development, and web interface design: We will partner with ACCSP to develop a data structure to hold the survey data within the ACCSP data warehouse, a web interface to interact with the data, and an API for accessing the data. Data structuring will initially model the NC DMF anadromous creel database (Appendix B). During development, NC DMF will also consult with other state partners and collaborate with ACCSP to ensure the necessary flexibility to meet the basic needs of all interested partners. API development will utilize a secured connection to automate the transfer of collected data stored on local tablets to the ACCSP data warehouse. This will prevent excessive manual processing of the data, eliminate a potential source of human error, and help to ensure adequate data security. A web interface to the data will enable partners to view, query, and download the data. Authorized state representatives will have login privileges to conduct QAQC edits on their state's data. Each state will be responsible to QAQC their own datasets and indicate the date when the data is reviewed. Once the data has been reviewed, all partners will be able to view and download the data and associated metadata using the same web interface. This work will be contracted by the ACCSP.

Planning and scoping legacy system updates: The software structure that will be developed through this project will closely resemble the legacy Dockside Intercept Application (DIA). These similarities provide a unique opportunity for this project to scope potential upgrades to legacy architecture and software and plan for future upgrades to the DIA.

Local deployment and testing: Following the completion of the development phase of this project in 2025, NC DMF staff will field test the modernized anadromous creel survey application during the 2026 season. System performance and user feedback will be evaluated and reported.

Regional deployment: This project will provide the foundational technological guidance needed by regional partners to establish or enhance their own creel survey programs. The data collection and transfer methods developed by this project will be easily transportable to regional partners. This will promote data standardization and collaboration between partners.

**Funding transition plan**

This project is intended to establish a new product. Funding will cover the initial costs of development. Upon completion of this project, we propose future costs be absorbed under ACCSP operating costs. We are open to exploring alternatives if the proposal is only partially funded.

**Geographic Location**

State specific benefits will be realized for the management of North Carolina stocks of shad and striped bass, but the data will also be made available to all state, regional, and federal partners. Broadly, the scope of this project has the potential to cover the Atlantic coast from Maine through Georgia. The intent of this project is to enhance the collection of recreational saltwater fisheries data for anadromous species in waters adjacent to coastal waters sampled under MRIP. Additional benefits from the planning and scoping of legacy software upgrades may be realized in the Atlantic region, Gulf region, as well as Hawaii in future years should data structure and system enhancements from this project be implemented in the MRIP environment.

**Project Accomplishments Measurement Metrics**

The success of the project will be measured by the following metrics:

<b>Project Goals</b>	<b>Metrics</b>
Development of creel survey software for Android tablets	<ul style="list-style-type: none"> <li>- Software development is complete</li> <li>- Software effectively captures creel survey data</li> <li>- Software can be used effectively by regional partners</li> <li>- Software user interface is efficient, accurate, and intuitive</li> </ul>
Data structuring, API development, and web interface design	<ul style="list-style-type: none"> <li>- Data architecture is complete</li> <li>- Database meets needs of NC DMF anadromous survey</li> <li>- API is complete; data stream from tablets to ACCSP warehouse established</li> <li>- Web interface allows user log in and data editing by state representatives</li> <li>- Web interface allows all partners to view, query and download reviewed data</li> </ul>
Planning and scoping legacy system updates	<ul style="list-style-type: none"> <li>- Demonstrate system efficiencies that will support at least 40 intercepts for an assignment without performance loss</li> <li>- Document a plan to recommend changes to upgrade legacy system (DIA) based from the results of this project</li> </ul>
Local deployment and testing	<ul style="list-style-type: none"> <li>- Conduct initial field tests of project during 2026 season and evaluate performance in field.</li> <li>- Field staff are able to effectively collect data and upload to the ACCSP warehouse</li> <li>- During testing, evaluate</li> <li>- API is complete; data stream from tablets to ACCSP warehouse established</li> <li>- Web interface allows user log in and data editing by state representatives</li> <li>- Web interface allows all partners to view, query and download reviewed data</li> </ul>



Cost Summary (Budget)

Category	Expense	Units	Cost	ACCSP Request	State In-Kind	Explanation
<b>Personnel</b>	Contractor - ACCSP		\$ 100,000.00	\$ 100,000.00		Database, API, and web interface development
	Harbor Light Software		\$ 62,000.00	\$ 62,000.00		Tablet software development
	L&S Section Chief				\$ 6,801.00	\$6,801/month for 1 month
	DIT Section Chief				\$ 30,576.00	\$10,192/month for 3 months
	Program Manager				\$ 21,220.00	\$5,305/month for 4 months
	Biologist II				\$ 20,208.00	\$5,052/month for 4 months
	Field Interviewer	8			\$ 88,736.00	\$2,773/month for 4 months
<b>Subtotal</b>				\$ 162,000.00	\$ 167,541.00	
<b>Fringe</b>					\$ 49,478.76	Fringe=25.02% of salary (\$43,620) plus \$7557/year for health insurance (1 month = \$630*13 months combined work=\$8190)
<b>Indirect</b>						NA
<b>Subtotal</b>					\$ 49,478.76	
<b>Supplies</b>	Tablet	8	\$ 3,742.56		\$ 3,742.56	8 Samsung Galaxy Tab S9 FE tablets
<b>Subtotal</b>					\$ 3,742.56	
	<b>Column Totals</b>			\$ 162,000.00	\$ 220,762.32	Total project cost = <b>\$321,762</b>
	<b>Total Request</b>					
	<b>Percent</b>			42%	58%	Percentages from total cost

Personnel – Harbor Light Software will develop the application software, building upon existing lessons learned from the Dockside Intercept Application software build and deployment. The database structuring, API development, and web interface design will be contracted by ACCSP. The ACCSP contractor will also lead in planning and scoping of legacy system updates and coordinate this work with Harbor Light Software. NC DMF staff will provide in-kind contributions at various levels of management. The section chief positions and program manager position will coordinate closely with Harbor Light Software and ACCSP staff, collaborate with other potential partners, assist with technical complexities, and assist in planning and project management. The biologist II will assist with survey design and structure and oversee field staff during the testing phase. The field interviewers will test the product during the evaluation phase of this project.

Supplies – NC DMF has completed the purchase of eight Android based electronic tablets for the evaluation phase of this project. The tablets can be considered an in-kind contribution to the project. There are several reasons why Android tablets were chosen.

- Harbor Light has extensive experience developing Android based tablet software.
- Samsung Android tablets have been successfully deployed for the MRIP APAIS across the entire east coast and states are very familiar with their operation and maintenance.
- Samsung Android tablets are an affordable option and have proven to be durable, secure, and user friendly during their service to the MRIP APAIS.
- Selecting Samsung Android tablets provides a unique planning and scoping opportunity to explore updates to the legacy DIA system. Structural improvements can be applied and tested in the anadromous creel software development without disruption to the APAIS

## 2023 CSMA CREEL SURVEY

### Interview Form

1. INTERVIEWER ID     5. INTERVIEW TIME (use 2400 clock)     8. PERIOD

2. YR/MO/DAY       6. FISHING TRIP 1  Yes 2  No 9. REFUSAL

3. INTERVIEW NUMBER   4. TYPE OF DAY  7. TIME FISHING BEGAN     10. SITE

---

11. HOURS FISHED     12. PARTY SIZE   16. WERE YOU FISHING FOR ANY PARTICULAR KINDS OF FISH TODAY? IF YES, WHAT KINDS?  
(Hours/Minutes)

13. WERE YOU FISHING FROM  
1  Private Boat 2  Charterboat 3  Shore

14. AREA FISHED (Specific waterbody) \_\_\_\_\_

15. WATERBODY CLASSIFICATION  
1  Coastal 2  Joint 3  Inland

17. PRIMARY FISHING METHOD  
1  Casting 2  Trolling 3  Cut Bait 4  Live Bait 5  Gill Net

**UNAVAILABLE CATCH.** Did you land any fish that are not here for me to look at? For example, any that you may have thrown back or used for bait?

THROW BACKS	SPECIES CODE	DISP	# OF FISH	DISPOSITION CODES							
				1	2	3	4	5	6	7	
1 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**AVAILABLE CATCH, COMPLETE TYPE 3 RECORD BY ASKING:** May I look at your fish?

KEPT	SPECIES CODE	# OF FISH	LENGTH (mm)	WEIGHT (kg)	SEX (male=1, female=2)
1 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
4 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
5 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
6 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
7 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
9 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
10 _____	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>



**CSMA Creel Socioeconomic Questions**

- 1) How old were you on December 31, 2022? \_\_\_\_\_
- 2) What state do you live in? \_\_\_\_\_
- 3) If the state is NC, what county do you live in? \_\_\_\_\_
- 4) Are you,  Male  Female
- 5) What do you consider your ethnic background?  Hispanic/Latino (all races)  Asian-Pacific Islander  
 White/Caucasian  Native American  
 African-American/Black
- 6) How many years have you been recreational fishing? \_\_\_\_\_
- 7) How many fishing trips do you expect to take this year on this river for American shad, hickory shad, or striped bass? (if indicated as target species) \_\_\_\_\_

**The following questions ask you about this fishing trip. If you aren't sure of the exact answer, please give your best estimate.**

8) How many nights is the trip? (if none, skip questions 10 and 11).	
9) How many miles did you travel to get here?	
10) How many people who are on the trip are fishing?	
11) How much do you expect to pay for lodging per night on this trip?	
12) How much do you expect to pay for food on this trip?	
13) How much do you expect to pay for ice on this trip?	
14) How much do you expect to pay for bait on this trip?	
15) How much do you expect to pay for boat fuel and oil on this trip?	
16) How much do you expect to pay for vehicle fuel on this trip?	

- 17) Please rate your overall happiness with your fishing trip today on a scale of 1 to 10, with 1 being extremely unhappy and 10 being extremely happy. \_\_\_\_\_
- 18) Please rate your fishing success today on a scale of 1 to 10, with 1 being extremely unsuccessful and 10 being extremely successful. \_\_\_\_\_
- 19) The following is a hypothetical question, however, will help provide information to better understand the economic value of our fisheries resources. Please be as accurate as possible when providing an answer. Keeping in mind the total expenses that you just mentioned, what is the maximum amount of additional money that you would be willing to spend to be able to take this fishing trip today? \_\_\_\_\_
- 20) Out of the following income categories, would you be willing to provide your personal pre-tax annual income?  
 Less than \$40,000    \$40,000 to \$80,000    \$80,001 to \$120,000    More than \$120,000
- 21) Will you be willing to participate in a follow-up survey?  Yes  No

First	MI	Last
Street		
City	ST	ZIP

## Appendix B: NC Anadromous Creel Database Summary

ASSIGNMENT	INTERVIEW	AVAILABLE CATCH	LENGTH WEIGHT	UNAVAILABLE CATCH	SOCIO	SCHEDULE	WEEKLY EFFORT
Assignment ID	Assignment ID	Assignment ID	Assignment ID	Assignment ID	Assignment ID	Schedule Date	Date
Date	Interview ID	Interview ID	Interview ID	Interview ID	Interview ID	Day Type	Month
Period	Date	Date	Date	Date	Date	Access Area	KOD
Access Area	Day Type	Access Area	Access Area	Access Area	Period	Period	Site
Zone	Access Area	Period	Period	Period	Access Area	Start Time	Trailers Arrive
Interviewer	Period	Interview #	Interview #	Interview #	Interview #	Zone	Trailers Mid
Time Arrived	Interviewer ID	ITIS TSN	ITIS TSN	ITIS TSN	Angler Age	Access Area Probability	Trailers Depart
Time Departed	Fishing Trip	# of Fish	Centerline Length (mm)	Disposition Code	State	Time Probability	Bank Depart
Trailer Count Arrival	Refusal		Weight (kg)	# of Fish	County		Striped Bass Released
Trailer Count Mid-Count	Interview #		Sex		Gender		Striped Bass Caught
Trailer Count Departure	Interview Time				Ethnic Background		Shad Released
Bank Count Arrival	Time Fishing Began				Marital Status Household Size		Shad Caught
Bank Count Mid-Point	Hours Fished				Trip Nights		Total Fishing
Bank Count Departure	Party Size				Miles Traveled		Total Effort
Parties Missed	Fishing Location				Number not Fishing		
Comments	Area Fished				Fishing		
	Waterbody Classification				Number not Fishing		
	Primary Fishing Method				Lodging Cost		
	First Target				Food Cost		
	Second Target				Ice Cost		
					Bait Cost		
					Boat Fuel and Oil Cost		
					Vehicle Fuel Cost		
					Guided Trip Cost		
					Maximum Cost		
					Years Fishing		
					# Trips This Year		
					Overall Happiness		
					Overall Success		
					Income		

## Appendix C: Summary of Proposal for Ranking

### Summary of Proposal for Ranking

Proposal Type: New

Primary Program Priority:

Catch, Effort, and Landings (90%)

- Recreational catch, effort, and landings data collection and sharing for striped bass, American shad, and hickory shad will be enhanced through this project.

Biological Sampling (10%)

- Biological sampling will yield length, weight, and sex data for harvested striped bass, American shad, and hickory shad.
- Scale samples for striped bass and American shad will opportunistically be taken for aging.
- Striped bass pelvic fin clippings will opportunistically be collected for genetic testing.

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** –A comprehensive tablet-based creel survey and data stream to the ACCSP data warehouse could be a valuable resource for partners. Additional benefits from legacy software upgrades may be realized in the Atlantic region, Gulf region, as well as Hawaii in future years should data structure and system enhancements from this project be implemented in the MRIP environment.

Funding

- **Contains funding transition plan** – This proposal contains a transition to funding plan on p.8.
- **In-kind contribution:** 58%.

Data

- **Improvement in data quality/quantity/timeliness** – This project will promote and strengthen valuable supplemental recreational data streams collected outside of MRIP. **Modernizing** the collection of data through the use of tablets will increase **data accuracy and improve timeliness** by streamlining the data collection and transmission process. Increased access to anadromous survey **catch and effort** data will benefit **regional** partners, stock assessment scientists, and managers. Realized **improvements to legacy systems** may also be applied in the future to improve the quality of APAIS data.
- **Impact on stock assessment** – The survey data from the anadromous survey provide valuable contributions to Fisheries Management Plans and Stock Assessments for estuarine striped bass, American shad, and hickory shad. **Biological sampling** will provide fisheries dependent data such as **length, weight, and sex** for harvested striped bass, American shad, and hickory shad. Field interviewers also collect biological samples outside of the scope of the creel survey. **Scale samples** are collected from American shad and striped bass for NCDMF's age lab. Striped bass **pelvic fin clippings** are collected for genetic testing to determine if it was a hatchery produced fish or non-hatchery fish.

## Appendix D: Curriculum Vitae for Principal Investigator

### Jeffrey N. Moore

3441 Arendell St, Morehead City, NC 28557  
(252) 515-5541 · [Jeffrey.n.moore@deq.nc.gov](mailto:Jeffrey.n.moore@deq.nc.gov)

#### Personal Statement:

I am an experienced program manager, well versed in biological survey design, analytics, programmatic oversight, budgeting, technical writing, inter-agency coordination, and leadership.

#### Division of Marine Fisheries, NC DEQ – Morehead City, NC 2023-Present Coastal Angling Program Manger

- **Environmental Supervisor** of coast wide data collection program for the state of North Carolina, overseeing four biologists, 27 technicians, and administering budget of ~\$1.5M.
- **Administer** recruitment, training, and oversight of employees. Prepare grant proposals, administer federal grant awards and reporting, coordinate with state, regional and federal agencies. Approve proposed expenditures and manage a complex database.

#### Division of Marine Fisheries, NC DEQ – Morehead City, NC 2022-2023 Conservation Biologist

- **Shellfish Aquaculture Leasing Program** –Conducted assessment and sampling of proposed shellfish aquaculture leases, created and analyzed maps and charts, coordinated communication between agencies and various stakeholders
- **Benthic Habitat Mapping** – Mapped North Carolina estuarine habitat types using UAS drones and GIS software, sampled intertidal and subtidal oyster habitat using various skiffs and tong boats, sampled for Submerged Aquatic Vegetation (SAV).

#### SUQUAMISH TRIBE – Suquamish, WA 2016-2021 Shellfish Biologist

- **Lead Biologist** – Planned, scheduled, and conducted advanced technical field work, monitoring, and research projects; supervised two biologists and six technicians
- **Data Management** – Created and maintained online GIS databases to monitor oyster habitat changes over time. Analyzed monitoring and fisheries data and presented translated results to wide range of audiences. Authored scientific reports, charts, and figures
- **Project Management** – Prepared and submitted habitat enhancement and conservation grant proposals, budgeted allocated funding, coordinated efforts with state, federal and tribal agencies, oversaw multiple aspects of a dynamic program simultaneously.

#### SKOKOMISH TRIBE – Skokomish, WA 2013 - 2016 Shellfish Biologist

- **Fisheries science** - Planned and conducted bivalve population surveys, supervised a team of technicians (3), collected and entered field data, authored technical reports, monitored larval recruitment of native species, scientific diver.

## EDUCATION

Brigham Young University, Provo UT

*M.S. Integrative Biology 2010*

*B.S. Integrative Biology 2008*

Miami University, Oxford OH

*Additional graduate studies 2011-2012*



# Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201  
703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

**TO:** ACCSP Operations and Advisors Committee Members

**FROM:** Julie DeFilippi Simpson, ACCSP Deputy Director

**DATE:** July 24, 2024

**SUBJECT:** ACCSP Staff Workload for Proposed Project

---

**Project Title:** Building A Modernized Framework for Anadromous Creel Surveys and Scoping Improvements to Legacy Data Collection Systems

**Project Type:** New Project

**Principal Investigators:** Jeff Moore (NC DMF)

**ACCSP Staff Workload Comments: \***

This proposal will be a pilot project for fiscal year 2025 to build a modernized framework for anadromous creel data collection that can be broadly applied by all regional partners to enhance the timeliness, accuracy, and regional accessibility of valuable survey data supplemental to the MRIP data stream.

The technical work for project will be split between two contractors and the ACCSP staff. In addition to project and contract management, ACCSP Software Team and Recreational Team staff will be partially addressing the “Database structuring, API development, and web interface design” and “Planning and scoping legacy system updates.” ACCSP staff would also be heavily involved in the standard creation process, which would have to be done by committee per ACCSP policy.

ACCSP Software Team and Recreational Team staff time required will be medium to high depending upon how the project unfolds. This has the potential to impact other scheduled projects.

ACCSP leadership is concerned that the burden of the funding transition plan will have a significant impact by having a low return on investment if other ACCSP partners do not have and/or are not interested in their own creel surveys. The object of funding transition is to have projects move from RFP funding to partner funding streams with a transition to ACCSP operations reserved for those projects with broad coastal applicability that benefit all or most partners.

*This project is intended to establish a new product. Funding will cover the initial costs of development. Upon completion of this project, future costs will be managed under standard operating expenses for the ACCSP.*

\* Comments and opinions are based on evaluation of solely this project. Memos can be read cumulatively.

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*



**Rhode Island Department of Environmental Management**  
**Division of Marine Fisheries**

Office 401.423.1920 | Fax 401.423.1925 | [dem.ri.gov/marine](http://dem.ri.gov/marine)

**Fort Wetherill Marine Laboratory**  
3 Fort Wetherill Road, Jamestown, RI 02835

**Coastal Fisheries Laboratory**  
1231 Succotash Road, Wakefield, RI 02879



Geoff White, Director  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

August 19, 2024

Dear Mr. White,

The Rhode Island Division of Marine Fisheries is pleased to submit the new proposal titled “Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries” for review. This proposal will aid in collecting fisheries dependent data, answering regulatory questions surrounding fisheries in Rhode Island, and contribute to informing regional management.

Please address questions jointly to Patrick Williamson and JA Macfarlan of the Rhode Island Division of Marine Fisheries.

Sincerely,

Patrick Williamson  
Rhode Island Department of Environmental Management  
Division of Marine Fisheries  
3 Fort Wetherill Road  
Jamestown, RI 02835  
[Patrick.Williamson.ctr@dem.ri.gov](mailto:Patrick.Williamson.ctr@dem.ri.gov)

JA Macfarlan  
Rhode Island Department of Environmental Management  
Division of Marine Fisheries  
3 Fort Wetherill Road  
Jamestown, RI 02835  
[Reuben.Macfarlan@dem.ri.gov](mailto:Reuben.Macfarlan@dem.ri.gov)

**Enclosures:**

ACCSP Proposal: *“Pilot Observer Program for Rhode Island State Waters Trawl and Fish Pot Fisheries”*  
Appendix A: Principal Investigators’ Curricula Vitae

**Proposal for funding made to the  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street, Suite 200A-N  
Arlington, VA 22201**

**FY25: Pilot Observer Program for Rhode Island State Waters Trawl and  
Fish Pot Fisheries**

**Total Cost: \$188,712.19**

Submitted By:  
Patrick Williamson  
Rhode Island Department of Environmental Management  
Division of Marine Fisheries  
3 Fort Wetherill Road  
Jamestown, RI 02835  
Patrick.Williamson.ctr@dem.ri.gov

JA Macfarlan  
Rhode Island Department of Environmental Management  
Division of Marine Fisheries  
3 Fort Wetherill Road  
Jamestown, RI 02835  
Reuben.Macfarlan@dem.ri.gov

**Bold comments intended to help with ranking**

**Applicant Name:** Rhode Island Department of Environmental Management  
Division of Marine Fisheries

**Project Title:** Pilot Observer Program for Rhode Island State Waters Trawl and Fish  
Pot Fisheries

**Project Type:** New Project

**Requested Award Amount:** \$188,712.19

**Requested Award Period:** One year after receipt of funds (July 2025 through June 2026)

**Program Priority:** Primary: bycatch (60%)  
Secondary: catch and effort (40%)

**Date Submitted:** August 19, 2024

**Project Supervisor:** John Lake Supervising Biologist, John.Lake@dem.ri.gov

**Principal Investigator:** Patrick Williamson, Fisheries Specialist I,  
Patrick.Williamson.ctr@dem.ri.gov

**Project Staff:** JA Macfarlan, Principal Biologist, Reuben.Macfarlan@dem.ri.gov  
Fisheries Specialist I (to be hired)

**Bold comments intended to help with ranking**



## Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the State of Rhode Island

### Objectives:

- **Collect bycatch and discard data in the state waters trawl and fish pot fisheries** while continuing to evaluate the feasibility of a Rhode Island state waters **observer program** for all gear types.
- **Collect catch and effort data to characterize the fishing behavior of the Rhode Island black sea bass, summer flounder, and mantis shrimp fisheries.**
  - Data reported by trawl and fish pot fishers commercial catch and effort logbooks will be validated by collecting effort data while at-sea including gear code, gear quantity, number of hauls, and days fished.
  - Additional effort data currently not reported by commercial fishers will be collected including mesh size, number of buoy lines, depth, and area fished (latitude/longitude).
- **Analyze data collected and conduct modeling to investigate: (1) bycatch in the state waters trawl and fish pot fisheries, (2) the utility of weekly aggregate limits in reducing discards, (3) the potential for regulatory changes that will increase effort and potential winter flounder bycatch for active trawlers in the mantis shrimp fishery, and (4) the size distribution of discarded target species.**

### Need:

In recent years RI Department of Environmental Management (RIDEM) Division of Marine Fisheries (DMF) has received an increased number of requested regulatory changes to increase the efficiency and profitability of harvesters' operations. In 2020, a request resulted in DMF establishing a Pilot Summer/Fall Black Sea Bass and Summer Flounder Aggregate program to scope the development of weekly aggregate limits in the black sea bass and summer flounder fisheries. **This scoping included an initial evaluation of feasibility funded by the Atlantic Coastal Cooperative Statistics Program (FY20 Use of Geographic Data and SAFIS Data Sources to Evaluate an Aggregate Landings Commercial Fishing Management Program).** In 2024, the Summer/Fall Summer Flounder and Black Sea Bass Aggregate Program was codified in RIDEM regulation. **While the DMF worked with stakeholders and constituents to analyze the potential impact of the black sea bass and summer flounder aggregate program on discards, fishing behavior, bycatch, and quota usage, analysis focused on projections based upon a limited number of vessels allowed in the pilot aggregate program. Now that the aggregate program is a full-scale program open to all participants, and with the recent reduction to the commercial summer flounder quota, it is necessary for DMF to re-evaluate the aggregate program at the full-scale.** Additionally, DMF is expecting additional requests for aggregate programs in other fisheries and has increased concern from constituents regarding this program's effects on fishing behavior, discards, and bycatch. It is therefore necessary to collect observer data from the trawl and fish pot fleets to answer questions surrounding the effectiveness of aggregate programs.

In 2023, harvesters proposed changes to regulations in the mantis shrimp small mesh trawl fishery which is conducted at night within Narragansett Bay. This industry proposal would effectively increase effort for a fishery where there is little to no fisheries dependent data. The fishing occurs mostly in the fall converging with both a spatial closure to trawl gear and a temporary increase in mesh size. Both of those requirements are in place to protect spawning winter flounder and their eggs. Additionally, the timing and gear used in the fishery have the potential for increasing bycatch of river herring, juvenile Atlantic herring, juvenile black sea bass,

**juvenile summer flounder, and winter flounder.** Before the DMF could consider adopting such a proposal, data collection on fishing behavior, effort, bycatch, regulatory discards, and logbook validation is necessary. **Observing the fishery, particularly the discards, is the first step for DMF to make informed decisions on both season and mesh size in the area in which the fishery operates.**

While the Commercial Fisheries Research Foundation (CFRF) has worked with a research fleet to help collect fisheries dependent data on black sea bass, this proposed RI observer project has several key differences from the work conducted by CFRF. Importantly, the CFRF research fleet is comprised of 24 vessels from both RI and NJ who mostly fish in federal waters. The proposed observer program plans to sample from the entire RI trawl and fish pot fleets (85 vessels in 2023) when fishing exclusively in state waters.

Developing a state waters observer program for all commercial fisheries in the state of Rhode Island would be a costly, time-intensive endeavor that would also require hiring several additional staff members. As such, the DMF is conducting a pilot observer program for the state waters gillnet fleet to test the feasibility of an observer program. This pilot program has allowed DMF to develop sampling protocols and training materials, and the project will be completed in June 2025. However, the pilot gillnet observer program focuses on a single gear type that composes a small fleet (~20 vessels) with limited effort when compared to the remaining gear types used in state waters. DMF seeks to continue to scope a state waters observer program for all RI commercial fisheries, by conducting a state waters trawl and fish pot observer program in FY2025. This new program will allow DMF to answer questions regarding the feasibility of a statewide observer program that includes multiple fleets, gear types, and year-round sampling effort. **Upon completion of the proposed trawl and fish pot observer project, the DMF will complete its scoping of a statewide observer program that includes all commercial fleets and gear types. Potential funding for such program has been identified under an alternate source (e.g., Recovering America's Wildlife Act (RAWA)).**

### **Results and Benefits:**

Conducting an expanded observer project on the RI state waters trawl and fish pot fleet will provide the DMF with an opportunity to test the feasibility of administering an observer program across multiple fleets simultaneously throughout the year. **This study will allow DMF staff to model the potential impacts of proposed regulatory changes on effort, bycatch and discards in the Rhode Island state waters trawl and fish pot fleets.** By modeling the potential impacts of these proposals, RI stakeholders, the Rhode Island Marine Fisheries Council (RIMFC), and the RIDEM will have a better understanding of any associated risks and will be able to make more informed decisions on which proposals to recommend for adoption.

**Although the geographical scope of this proposal is confined to Rhode Island state waters, the Mid-Atlantic Fishery Management Council (MAFMC) has indicated that evaluating the relationship between changes in landings limits and the rates and magnitude of discarding in commercial fisheries is a high research priority for the species they manage (MAFMC, 2019). Additionally, the New England Fisheries Management Council (NEFMC) lists continuing to improve reporting accuracy, including accurate reporting of species and area fished as a research priority (NEFMC, 2022). Furthermore, the Rhode Island Trawl fleet is part of the New England Otter Trawl Fleet which is in the top quartile of the FY25 Bycatch Matrix contained in the ACCSP Request for Proposals (RFP). While New England Fish Pot is not in the top quartile of the FY25 Bycatch Matrix, the MAFMC lists improving the precision of commercial discard estimates and estimating the uncertainty of commercial black sea bass discards with an emphasis on**

commercial pot and trap gear as a research priority (MAFMC, 2019). Additionally, black sea bass, is in the top quartile of the FY25 Biological Matrix contained in the ACCSP RFP. **Moreover, trip reports and dealer reports indicate** that this project may collect bycatch data on several of the species in the FY25 Biological Matrix including river herring, gray triggerfish, American lobster, American eel, and spiny dogfish.

**Mantis shrimp are not in the top quartile of the Biological Matrix because the species has not been listed on the matrix previously. A request was made to the ACCSP Biological Review Panel to add Mantis shrimp to the matrix. Due to the fact that this committee only updates the matrix every other year, Mantis shrimp will be added and evaluated on the matrix in 2025.** In the case of winter flounder, the Winter Flounder Technical Committee has noted concerns that the federal output control-based management established in Amendment 16 requires accounting of all removals, but this conflicts with the inshore effort control rules. Thus, the Plan Development Team uses long term trends with an assumption that limited new state waters measures are being considered that could substantially change the number of removals (ASMFC, 2023). **Increasing fishing effort in the mantis shrimp small mesh trawl fishery and allowing vessels into the winter flounder closed area could substantially alter winter flounder removals in RI. Similarly, bycatch data collected by this project will aid in improving river herring life stage-specific estimates of fishing mortality rates in state waters and collect data on discards of other clupeids, both of which are important research priorities (NEFMC, 2022). River herring and winter flounder have long-standing protections in Narragansett Bay which are now being challenged by the industry.** Due to the depressed state of the winter flounder and river herring stocks, the necessity of these protections has come into question. More information is needed to consider changing these long-standing protections.

#### **Data Delivery Plan:**

**Data will be submitted to ACCSP as soon as a platform for submitting bycatch and discard data is made available to state partners.** Data will be made available to any state partner upon request and will be submitted for inclusion in individual species stock assessments during the benchmark stock assessment process.

#### **Approach:**

The following outlines the approach that DMF staff will take to complete the proposed work regarding personnel, outreach, data collection, and analysis.

#### *Personnel:*

**The DMF will contract a full-time Fisheries Specialist I to work out of the DMF offices in Jamestown, RI. This contract position will be maintained throughout the trawl and fish pot observer project to conduct at-sea data collection. The employee will go through the following:**

- Standard DMF onboarding process
- At-sea vessel safety training
- Species identification training
- Fisheries data collection and data entry training
- Training on frequently landed species, and fishing practices

The employee will be provided with foul weather gear, a laptop computer, and supplies necessary to conduct at-sea data collection. Additionally, when more than three trips per week are required, DMF has designated two staff members to conduct at-sea data collection on the remainder of trips. These

individuals will be provided the same training and necessary supplies as the contracted Fisheries Specialist I, and this will allow us to ensure coverage targets are met.

*Outreach:*

**DMF staff will continue to communicate all aspects of this project to trawl and fish pot fishers who fish in state waters to inform them of our plans and get their feedback. DMF does not anticipate any challenges in gaining participation and achieving our sampling targets.**

DMF staff will send a letter to fishers who reported fishing with trawl or fish pots in 2024 to inform them that a state waters trawl and fish pot observer program will be starting. Additionally, the DMF will dedicate a page on our website to the project, discuss the proposed project at our finfish regulatory workshops in 2024 and early 2025, and present an overview of the project to our RI Marine Fisheries Council. At the start of the program, DMF staff will reach out to each fisher individually to inquire if they plan on fishing in state waters, federal waters, or both. **Any fishers who plan to fish exclusively in federal waters will be removed from the pool of fishers. This will ensure there is no overlap between our pilot observer program and the federal waters observer program.** For reference, 85 commercial fishers reported using trawl gear or fish pots in 2023.

*Data Collection:*

Data will be collected for this project from July 2025 through July 2026, **or one year from the receipt of funds.** A target of **2% sampling coverage per week for the fish pot and trawl fleet will be used to determine the number of trips sampled each week, using data from 2024 as a proxy. The value of 2% was chosen as it is the accepted pilot coverage rate used by the Northeast Fisheries Science Center when previous bycatch estimates are not available to calculate variance estimates that can be used to further define the level of sampling need (NMFS, 2004). Additionally, the ACCSP Atlantic Coast Fisheries Data Collection Standards (2012) defines adequate sampling as 2 – 5 % observer coverage (ACCSP, 2012). Due to the smaller number of trawl trips targeting mantis shrimp (<200 trips in 2023) a target coverage rate of 10% will be used for trips in this fishery. The 10% was chosen to ensure a sample size robust enough to ensure proper analysis.** Analysis of 2023 data indicates that the number of required trips per week will range from 1 – 5. Trip selection will be completed following the protocols established by the RI Pilot Gillnet Observer Program. Each licensed fisher will be assigned a random number and on Friday of each week, DMF staff will use a random draw to select 1 – 5 fishers for the following week (RIDEM, 2023). These fishers will be contacted on Friday and notified that they have been selected to have a trip observed for the following week (RIDEM, 2023). DMF will remain in close communication with these fishers the following week to coordinate trips and ensure that the required number of trips are completed (RIDEM, 2023). Should it be determined that a fisher will not be fishing at all in a selected week, an alternate fisher will be selected (RIDEM, 2023).

The sampling protocols established by the RI Pilot Gillnet Observer Program will be used. These protocols are comparable to those utilized by the Northeast Fisheries Observer Program (NEFOP) where detailed information will be collected for each haul and **individual weights and lengths will be collected for all target species to the extent practical and for non-target species as time allows (RIDEM, 2023). Sub-sampling procedures will be used for high-volume catches and notes will be made regarding the disposition of discarded fish (i.e., no quota, too small for regulation, dead, alive, unmarketable, etc.) (RIDEM, 2023). Any interaction with marine mammals or protected species will be recorded. The total weight of all catch per haul will be recorded along with the disposition code and the estimation method used, e.g. spring scale, sub-sampling, captain**

estimate, etc.) to identify the weight of each species. This will allow for complete composition of the catch for each haul.

*Analysis:*

All data collected at-sea will be entered into an MS Access database by DMF staff. The statistical software R, ArcGIS, and MS Excel will be used for all data analysis. The following details the analyses that will be performed to address the specific questions outlined in this proposal.

Investigating the effectiveness of weekly black sea bass and summer flounder aggregate limits

All discards of target species on each trip will be analyzed and extrapolated to estimate total landed catch and discards of each target species for each week. Data from trips fishing daily limits will be compared to those fishing aggregate limits. Appropriate quantitative analysis will be determined based on the data collected. Modeling simulations will be performed to test the effect of weekly aggregate limits on effort and discards to determine if weekly aggregate limits are significantly reducing regulatory discards and changing vessel behavior in state waters.

Examining the regulatory proposal to expand the mantis shrimp small mesh trawl fishery

Trip and haul data including day, time, latitude and longitude of the beginning and end of trawl, depth, mesh size, door spread, length of tow, duration of tow, and area trawled will be explored as factors affecting the catchability of mantis shrimp in small mesh bottom otter trawls. Length frequency data of mantis shrimp will be used to determine **how many age 1 and age 2 individuals are caught per trip. Importantly discard values of Mantis shrimp and their disposition will be collected.** These data will be used to (1) characterize the fishery, (2) examine size structure of retained and discarded mantis shrimp, (3) examine the spatial extent of the fishery in Narragansett Bay, (4) collect data on discarded species of importance such clupeids, flounders, and other commercial species. Given the dearth of information on the fishery ranging from the number of vessels involved, dealers, catch rates, CPUE, and discards: the data collected here will allow us to examine emerging proposals from the industry with a minimum baseline knowledge of fleet operations. These data will be used to calculate mantis shrimp densities and to build size frequency histograms of the species. To better understand the patterns of abundance, seasonality, timing of fishing activity, and fishing effort on the resource we will conduct parametric (e.g. ANOVA) and non-parametric (e.g. Kruskal-Wallis) analyses of factors that may affect the size and density of mantis shrimp collected from the observer data.

**Geographic Location:** This project will be conducted by RIDEM DMF staff out of Jamestown, RI. At-sea sampling will occur on vessels with commercial pots and bottom otter trawls in Rhode Island state waters.

**Table 1. Milestone Schedule:**

Activity	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Annual vessel safety training	X											
Conduct at-sea sampling	X	X	X	X	X	X	X	X	X	X	X	X
Analyze data									X	X	X	X
Report writing										X	X	X

**Table 2. Project Accomplishments Measurement:**

Goal	Metric
Safety training	Vessel safety course completed
At-sea sampling	2% weekly trip coverage with a 10% coverage rate for trips targeting mantis shrimp
Data analysis	Analysis and modeling in R
Report writing	Report submitted to ACCSP

**Table 3. Cost Summary (Budget):**

Budget Category	Federal ACCSP	In-Kind	Total
<b>a. Personnel</b>			
Supervisor (3%)	-	\$2,391.00	\$2,391.00
Principal Biologist (15%)	\$14,012.10	-	\$14,012.10
<b>b. Fringe Benefits</b>			
Supervisor (3%)	-	\$1,141.00	\$1,141.00
Principal Biologist (15%)	\$5,079.74	-	\$5,079.74
<b>c. Travel</b>	\$3,537.60	-	\$3,547.60
<b>d. Equipment</b>	-	-	-
<b>e. Supplies</b>	\$860.94	-	\$860.94
<b>f. Contractual</b>			
ASMFC Fisheries Specialist #1 (35%) Salary	\$21,216.38	-	\$21,216.38
ASMFC Fisheries Specialist #1 (35%) Fringe	\$7,691.49	-	\$7,691.49
ASMFC Fisheries Specialist #2 (100%) Salary	\$60,618.50	-	\$60,618.50
ASMFC Fisheries Specialist #2 (100%) Fringe	\$21,975.72	-	\$21,975.72
ASMFC Indirect (15%)	\$16,725.31	-	\$16,725.31
<b>g. Training</b>	\$3,131.00	-	\$3,131.00
<b>h. Total Direct</b>	\$154,848.78	\$3532.00	\$158,380.78
<b>i. Indirect</b>			
RIDEM (22.32%)	\$33,863.41	\$788.34	\$34,651.75
<b>j. Total</b>	\$188,712.19	\$4,320.34	\$193,032.54
<b>k. Percentage</b>	97.8%	2.2%	100%

**Bold comments intended to help with ranking**

**FY25 COST DETAILS:**

**Description of budget categories and expenses for this project**

**Overall match: RIDEM is providing 2.2% of services as in-kind contribution.**

- a. **Personnel:** The DMF project team has several staff members working in a collaborative effort to accomplish project objectives. Each staff member will spend a percentage of their time on the project as follows:

**From ACCSP:**

- i. **Principal Biologist:** 15% funded position to act as support to the principal investigator and may conduct initial observer trips; 15% of salary (\$93,414.00) for one year = \$14,012.10.

**From RIDEM as In-kind:**

- i. **Supervisor:** 3% funded to provide project oversight and staff management; 3% salary (\$79,700.00) for one year = \$2,391.00.

- b. **Fringe Benefits:** Annual fringe benefit rates for employees vary depending upon the employee's pay rate and what the employee chooses for health care. This may include the following:

Retirement 24%  
Deferred Compensation 0.4%  
FICA 6.2%  
Medicare 1.45%  
Health care \$21,937/year  
Dental \$1,132/year  
Vision \$165/year  
Assessed Fringe 4.25%  
Retiree Health 6.75%

**From ACCSP:**

- i. **Principal Biologist:** Fringe benefits for 15% of the Principal Biologist = \$5,079.74.

**From RIDEM as In-kind:**

- i. **Supervisor:** Fringe benefits for 3% of the supervisor's time = \$1,141.00.

- c. **Travel:** Travel for this grant includes mileage to travel roundtrip from the DMF Office located in Jamestown, RI to the Port of Galilee. The ASMFC mileage rate of \$0.67 per mile was used to travel 44 miles roundtrip with a total of 120 trips. A total of 120 trips were estimated based on 2% coverage of the state water trawl and fish pot fisheries and an enhanced 10% coverage for the mantis shrimp fishery using 2023 data as a proxy.

- d. **Equipment:** There are no equipment costs for this project.

- e. **Supplies:** Supplies for this grant includes for this grant will be for the Fisheries Specialists and additional staff member as needed to conduct at-sea sampling on-board commercial fishing

vessels. Supplies include four (4) Rite in the Rain notebooks (\$25.02), twenty-four (24) pairs of sampling gloves (\$29.96), Rite in the Rain paper (\$226.48), three fish baskets (\$79.50) and foul weather gear (boots, jacket, bib \$500).

**f. Contractual:** The DMF project team has several ASMFC contractors working in a collaborative effort to accomplish project objectives. Each contractor will spend a percentage of their time on the project as follows:

**Salary:**

- i. **Fisheries Specialist #1:** 35% funded position (contracted through ASMFC) to serve as the principal instigator; 35% of salary (\$60,618.50) for one year is \$21,216.38.
- ii. **Fisheries Specialist #2:** 100% funded position (will be contracted through ASMFC) to serve as the primary fisheries observer; 100% of salary for one year is \$60,618.50.

**Fringe:**

- i. **Fisheries Specialist #1:** 35% of annual fringe benefits for the Fisheries Specialist for one year is \$7,691.49.
- ii. **Fisheries Specialist #2:** 100% of annual fringe benefits for the Fisheries Specialist for one year is \$21,975.72.

**ASMFC Indirect (15%):** The ASMFC indirect for the above positions is \$16,725.31.

**g. Training:** Training includes annual at-sea vessel safety training for the fishery specialists (\$3,131.00).

**h. Total Direct:** The total direct from ACCSP for this program is \$154,848.78. The total direct from RIDEM is \$3,532.00. The total direct for the project is \$158,380.78.

**i. Indirect (22.32%):**

**From ACCSP:** 22.32% of the total direct from ACCSP is \$33,863.41.

**From RIDEM as In-kind:** 22.32% of the total direct for in-kind contributions is \$788.34.

**j. Total:** The total ask from ACCSP is \$188,712.19. The total in-kind contribution from the RIDEM is \$4320.34, and the total cost of the project is \$193,032.54.

**k. Percentage:** The RIDEM is contributing 2.2% of the total project cost through in-kind, while ACCSP is contributing 97.8% of the total cost.



## SUMMARY OF PROPOSAL FOR RANKING

**Proposal Type:** New

**Primary Program Priority:** Bycatch/Species Interactions (60%)

- Bycatch and discard data (number, length, weight) will be collected from the Rhode Island trawl and fish pot with an emphasis on black sea bass, summer flounder, mantis shrimp, winter flounder, river herring, and Atlantic herring. Data will be collected on additional species as time allows.
- The Rhode Island trawl fleet is part of the New England Otter Trawl Fleet which is in the top quartile of the FY25 Bycatch Matrix contained in the ACCSP Request for Proposals (RFP).
- Several of our species of interest including black sea bass and river herring are in the top quartile of the FY25 Biological Matrix contained in the ACCSP RFP.

**Data Delivery Plan:** Data will be submitted to ACCSP as soon as a platform for submitting bycatch and discard data is made available to state partners. Data will be made available to any state partner upon request and will be submitted for inclusion in individual species stock assessments during the benchmark stock assessment process.

**Multi-Partner/Regional Impact:** Although the geographical scope of this proposal is confined to Rhode Island state waters, the collection of this data will be of great value to many ACCSP partners and species-specific stock assessments.

- The MAFMC has indicated:
  - Evaluating the relationship between changes in landings limits and the rates and magnitude of discarding in commercial fisheries is a high research priority (MAFMC, 2019).
  - Improving the precision of commercial discard estimates and estimating the uncertainty of commercial black sea bass discards from commercial pot and trap gear is a research priority (MAFMC, 2019).
- The NEFMC lists
  - Continuing to improve reporting accuracy, including accurate reporting of species and area fished as a research priority (NEFMC, 2022).
  - Collecting data that can inform life stage specific discard estimates of river herring and other clupeids in state waters as an important research priority (NEFMC, 2022).
- This project will collect data from several species in the top quartile of the FY25 Biological Matrix and from a fleet in the top quartile of the FY25 Bycatch Matrix

**Contains Funding Transition Plan:** This project will be used to further test the feasibility of a Rhode Island state waters observer program for all commercial gear types. This pilot project may warrant two years of data collection and therefore Rhode Island anticipates submitting this proposal for funding as a new project for one year, and up to but not exceeding, one additional year as a maintenance project. At the completion of this pilot project, Rhode Island will evaluate the feasibility of a full-scale state waters observer program and plans to apply for funding from an alternate source to fund the project moving forward.

**In-Kind Contribution:** In-kind contribution for this project is 2.2% as stated in the budget table.

**Bold comments intended to help with ranking**

**Improvement in Data Quality/Quantity/Timeliness:** This project will collect data that addresses priorities in the **FY25** Bycatch and Biological Matrices. Additionally, data collected will address several research recommendations identified in species-specific management documents.

**Potential Secondary Module:** **Catch and Effort (40%)**

- Effort data will be collected to characterize the fishing behavior of the Rhode Island trawl and fish pot fishery.
- Data reported by trawl and fish pot fishers on commercial catch and effort logbooks will be validated by collecting effort data including gear code, gear quantity, number of hauls, and days fished.
- Additional effort data currently not reported by commercial fishers will be collected including mesh size, number of panels per string, haul time, depth, and area fished (latitude/longitude).

**Impact on Stock Assessment:** Data collected as part of this project will address questions regarding the quantity and size distribution of commercial discards occurring the New England trawl and fish pot fleet. Information on commercial discards remains limited for many stock assessments and in some cases is assumed to be zero but has not been validated in state waters.

**Properly Prepared:** This proposal meets the requirements as specified in the Funding Decision Document.

**Merit:** This project will sample from a fleet in the FY25 Bycatch Matrix, will collect data from several species in the FY25 Biological matrix, and will address several species-specific research needs. This project is innovative in that it is attempting to further test the feasibility of a state waters observer program by sampling multiple fleets and deploying observers year-round. In federal waters, NEFOP collects data on bycatch and discards, but fishing operations occurring in state waters are not targeted by this program. This project will not only test the feasibility of having a multi-fleet observer program in state waters, but it will fill large data gaps identified in regional fisheries management documents.

**LITERATURE CITED:**

Atlantic Coastal Cooperative Statistics Program. (2012). Atlantic Coast Fisheries Data Collection Standards.

Atlantic States Marine Fisheries Commission. (2023). Winter Flounder Technical Committee Meeting Summary.  
[https://asmfc.org/uploads/file/63ff514aWF\\_TC\\_Meeting\\_summary\\_1\\_11\\_23.pdf](https://asmfc.org/uploads/file/63ff514aWF_TC_Meeting_summary_1_11_23.pdf)

Mid-Atlantic Fishery Management Council. (2019). Mid-Atlantic Fishery Management Council Comprehensive Five Year (2020-2024) Research Priorities.  
[https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/61d45ad56093c611d2ec796e/1641306837901/Updated\\_2020-2024+Research+Priorities+Document\\_01\\_2022.pdf](https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/61d45ad56093c611d2ec796e/1641306837901/Updated_2020-2024+Research+Priorities+Document_01_2022.pdf)

National Marine Fisheries Service (NMFS). (2004). Evaluating bycatch: a national approach to standardized bycatch monitoring programs. US Dept Commerce,  
<https://spo.nmfs.noaa.gov/sites/default/files/tm66.pdf>; 108 p.

New England Fishery Management Council. (2022). NEFMC Research Priorities, 2022-2026.  
<https://d23h0vhsm26o6d.cloudfront.net/2022-26-NEFMC-research-priorities.pdf>

Rhode Island Department of Environmental Management. (2023). FY23: Pilot Observer Program for Rhode Island State Waters Gillnet Fishery Sampling Protocols.

## Appendix A: Curriculum Vitae for Principal Investigator

Patrick Williamson

patrick.williamson.ctr@dem.ri.gov

401-560-4131

---

### PROFESSIONAL EXPERIENCE

#### RI Department of Environmental Management, Jamestown, RI, June 2023 – Present

Fisheries Specialist I (Marine)

- Manages implementation of Addendum XXIX to Amendment 3 of the American Lobster Fisheries Management Plan and Addendum IV of the Jonah Crab Fisheries Management Plan
- Manages Summer/Fall Black Sea Bass and Summer Flounder Aggregate Program
- Participates in regional multi-agency meetings to discuss, troubleshoot, and rectify common issues regarding Addenda XXIX
- Assists in completing and implementing fisheries management actions
- Participates in discussions that shape agency policies

#### AIS Inc, Dartmouth, MA, February 2023 – Present

Electronic Monitoring Reviewer

- Reviews and annotates electronic monitoring footage from groundfish audit model trips

#### AIS Inc, Toms River, NJ, February 2021– June 2023

Task Manager

- Assisted in managing the Northeast Biological Port Sampling Program
- Analyzed, interpreted, and applied data to monitor program performance
- Produced data queries and developed reports
- Assisted in sampling lengths and collecting otoliths from commercially caught fishes

#### TechGlobal Inc, Bethesda, MD, June 2021 – April 2023

Principal Investigator

- Assisted in the implementation and management of NOAA Fisheries Atlantic Herring Exempted Fishing Permit
- Coordinated with service providers, harvesters, and NOAA to assist in implementing and managing the use of Electronic Monitoring in the Atlantic herring fishery
- Collaborated with other NOAA Fisheries programs to provide recommendations to participants and implement the exempted fishing permit
- Participated in Atlantic herring quota monitoring meetings and Sustainable Fisheries Division herring team meetings

#### AIS Inc, Toms River, NJ, July 2018 – January 2021

Field Biologist

- Sampled lengths and collected otoliths from commercially caught fishes for the Northeast Biological Port Sampling Program

#### Massachusetts Division of Marine Fisheries, Gloucester, MA, March 2017 – July 2017

Seasonal Fisheries Technician

- Performed field work monitoring diadromous fishes

**Bold comments intended to help with ranking**

New York Department of Environmental Conservation, New Paltz, NY, March 2016 – July 2016  
Seasonal Fisheries Technician

- Performed field work monitoring diadromous fishes

### **SKILLS DEVELOPED**

Computer and statistical skills (R, ArcMap, SPSS, Microsoft software); Field work experience on a variety of fisheries surveys.

### **EDUCATION**

University of Regina, Regina, SK, CA, 2014 - 2015

Graduate Course Work. Major: Biology. Withdrew in good standing August 2015. Credit hours: 12. GPA: 88 out of 100.

Roger Williams University, Bristol, RI, 2010 - 2014

B.S. (May 2014) Majors: Biology, Environmental Science, Environmental Chemistry.

Thesis: "Creating effective mercury consumption advisories for recreationally important coastal fishes in southern New England". Credit hours: 155. GPA: 3.51 out of 4.0. Cum Laude.

### **PUBLICATIONS**

Taylor, D.L. and P.R. Williamson. (2017) Mercury contamination in Southern New England coastal fisheries and dietary habits of recreational anglers and their families: Implications to human health and issuance of consumption advisories. *Marine Pollution Bulletin*. 114:144-156.

Campbell, S.H., P.R. Williamson, and B.D. Hall. (2017) Prevalence of Microplastics in Gastrointestinal Tracts of Fish and Water from Wascana Creek. *FACETS* 2:395-409

### **SELECT AWARDS**

2015 Saskatchewan Fish and Wildlife Development Fund Student Research Award

2014 Roger Williams University Faculty Association Scholarship

2014 Roger Williams University Outstanding Senior in Environmental Science

2014 Roger Williams University Thesis with Distinction

2014 Selected to present by the American Chemical Society at the invitational Sci-Mix presentation during the national conference

Proposal for Funding made to:  
Coordinating Council and the Operations Committee  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St., Ste. 200 A-N  
Arlington, VA 22201

**Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app**

Submitted by:

Anthony Wood, Ph.D.  
Northeast Fisheries Science Center  
Resource Evaluation and Assessment Division  
Population Dynamics

Office: (401) 954-1563  
Email: [anthony.wood@noaa.gov](mailto:anthony.wood@noaa.gov)

## Proposal for ACCSP Funding

**Applicant Name:** Anthony Wood  
NOAA's Northeast Fisheries Science Center  
American Saltwater Guides Association (ASGA) / GotOne Media

**Project Title:** Enhancing and modernizing recreational fisheries data collection through crowd-sourced citizen science, remote sensing and emerging AI technology via the GotOne fishing app

**Project Type:** New Project

**Requested Award Amount:** \$200,000

**Primary Program Priority:** Biological Module (50%); Recreational Catch and Effort Module (discards) (50%)

**Date Submitted:** June 17, 2024

**Project Supervisor:** Luyen Chou (GotOne Media)

**Principal Investigator:** Anthony Wood

**Project Staff:** Tony Friedrich & Cody Rubner (ASGA)  
Luyen Chou, Tom Fuda, Dirk Liebich (GotOne Media)  
Kate Wilke & Brendan Runde (The Nature Conservancy)

## Introduction:

We stand at the convergence of two transformative trends: seismic advances in multimodal AI technology and the rapid adoption of mobile apps by recreational anglers. This presents a unique opportunity to revolutionize fisheries management and science by **leveraging cutting-edge AI models and crowd-sourced data from angler apps to fill in key gaps in our understanding of coastal fisheries and stocks.**

GotOne, a new recreational angler fishing log app, launched at the beginning of 2023, has gained the support of leading organizations including the American Saltwater Guides Association (ASGA) and The Nature Conservancy (TNC). Moreover, **GotOne** has been adopted by top professional guides and tackle innovators, such as Hogy Lures and Hatch Outdoors, because it **harnesses these emerging technology innovations to improve anglers' experiences and expertise while also contributing to research needed to support sustainable marine resources.**

The app is gaining significant usership (11,000 logged fish by 2,500 anglers since inception in 2023), and we expect it to continue to grow. **One reason GotOne has established a strong and growing user base is the formation of partnerships with the Atlantic States Marine Fisheries Commission (ASMFC), Louisiana Department of Wildlife and Fish (LDWF), Massachusetts Division of Marine Fisheries (MA DMF), to fill targeted data gaps.** As such, we believe it is critical that GotOne adopt ACCSP data standards, and implement a standardized approach via the ACCSP data warehouse to share angler data efficiently and effectively with ACCSP partner organizations. By doing so, we also see an opportunity to promote the participation and compliance of other consumer fishing apps to similarly align their data strategies with ACCSP.

In addition, given the amount of discard length (and other) data currently being collected by GotOne's rapidly growing user base, there is an opportunity to contribute significantly to gaps in recreational fishing data.

**Specifically, this project will support ACCSP Program Goals, as well as priorities set forth by the Recreational Technical committee, by improving biological data and discard data for all recreationally targeted Program Priority Species (see Fig. 1 below), plus NOAA Northeast Fisheries Science Center (NEFSC) priority species bluefish, scup, and winter flounder. Black sea bass will be included as well, which is a priority for both the Program and NOAA, and has been suffering from data and management challenges.** This project proposes innovative fisheries-dependent data collection and management technology in partnership with NOAA Fisheries, leveraging ongoing partnerships with ASMFC, LDWF, MA DMF, NEFSC, SEFSC, University of Chicago's Marine Biological Lab at Woods Hole, among others.

Finally, the participation of ASGA and TNC in the proposed project provides unique advocacy, outreach, and marketing capabilities and connections across key stakeholder communities, including scientists, for-hire charter captains, tackle manufacturers and retailers, and the broader recreational fishing community. We believe **leveraging these capabilities and connections can drive high levels of engagement and participation in angler collection of biological and discard data to supplement and enhance current data collection methods.**



## Objectives:

- **Augment the collection of recreational fisheries data through recreational angler use of the GotOne fishing app by increasing the number of anglers reporting (sample size) on priority species and increasing geographic scope of data collected.**
- **Align GotOne’s fishing data with ACCSP data definitions and standards.**
- **Implement and maintain a regular data feed of fishing data collected from GotOne’s users (coastal recreational anglers and professional charter captains) into the ACCSP data warehouse.**
- **Promote the importance of data standardization and integration, as well as promote broader compliance with ACCSP data standards in the recreational fishing app market.**
- **Expand species-specific recreational discard data collection for recreationally-targeted species named in the Priority Matrix, plus NEFSC priority species, including black sea bass, bluefish, scup and winter flounder (Fig. 1).**
- **Implement AI-powered species and length determination capabilities in GotOne to improve and verify data accuracy while increasing angler participation in data capture.**
- **Define species-specific, common protocols and image-based AI training models for individual fish identification, allowing GotOne to serve as a high-tech, low-cost, low-impact fish “tagging” tool to greatly increase the tracking of individual fish within defined stocks.**
- **Enable NOAA to accomplish their goal of “Re-envisioning the Recreational Fisheries Data Partnership” by providing cutting edge technology to better manage our shared marine resources.**
- **Be a partner in restoring faith in fisheries science and management, provide a path forward from MRIP, and support advancements in the NOAA Fishing Effort Survey.**

## Need:

Fisheries management has long struggled with challenges related to accurate and timely data collection necessary for stock models to support fisheries policy decisions. The challenge is greater for stocks with a significant recreational component because of the large number of anglers, variety of access points, and lack of reporting requirements for both catch and discards. Specific challenges this project will address are:

- **Filling key data gaps related to recreational discards, including fish length, seasonality, and environmental covariates. Stock assessments regularly list discard lengths as an area for improvement across many economically important species.** Emerging technology can address these concerns and advance our understanding of fisheries impacts on stocks.
- **Recreational data collection has been a source of frustration within the community. We have a tremendous opportunity to reshape the fisheries landscape by enhancing the current system based on the needs of scientists, managers, and the general angling community. GotOne addresses these needs by leveraging the participation of recreational anglers, who are motivated to log their fishing activities for personal improvement rather than regulatory compliance, to provide a growing abundance of data that can be shared by researchers and managers.**

Consumer recreational fishing apps like GotOne provide an opportunity for large-volume collection of catch-related data “in real time” and not reliant upon memory. Emerging data and AI capabilities, such as GPS-specific location gathering, time and location-based environmental data gathering via recognized application program interfaces (APIs), and AI length and species determination through catch photography allow for a rich, and potentially more accurate capture of data that minimizes human error associated with species recognition and recall bias.

However, app-based data collection has its own limitations that have yet to be addressed:

- Inconsistent data standards and definitions (e.g. length, disposition, mode)
- Inherent biases related to factors such as user avidity, regional distribution, etc.

As such, the authors of this proposal do not propose app-based data collection as a substitute for current, official data collection methodologies (e.g., MRIP/APAIS). Instead, **the intention of the proposal is to make recreational angler data collection through apps like GotOne more useful to the management community by committing to alignment of data standards and definitions with ACCSP, and regular data feeds into the ACCSP data warehouse, and by creating validation methods (AI length and species identification)**. By doing so, we hope to create the opportunity to compare data sourced from different apps and from more traditional surveys, to better identify management applications for app-based data, and to fill in gaps in current data collection.

**An example of the value of this combined approach is the Massachusetts Division of Marine Fisheries [Striped Bass Citizen Science Project](#), which uses GotOne to efficiently collect striped bass recreational discard data that includes landing time, release time, water temperature, gear type, and fish vitality. As a result of high levels of participation (over 11,000 recorded catches), significant correlations can be made between these factors and catch-and-release vitality, which is already influencing recreational angler behavior, and driving changes in fishing gear design by industry leaders like Hogy Lure Company.**

## **Results and Benefits:**

**This project addresses program priorities related to Catch and Effort and Biological Sampling of recreationally targeted species ranked in top 25% of the Priority Matrix.**

- **Data Collection:** Leverage the GotOne fishing app to collect large volumes of data on recreational **catch and** discards, including additional information such as fish length, condition, release time, and more
- **Data Protection:** Ensure the privacy of GotOne’s anglers by establishing user consent, aggregating and anonymizing user-collected data, and generalizing specific location information
- **Data Sharing: Standardize and automate regular transfers of discard data to ACCSP data warehouse**, which can then be used as a central repository for ACCSP Program Partner access
- **Scientific Advancements:** Provide critical data to **fill gaps in current scientific knowledge, improving stock assessments** and management practices

- **AI Integration: Enhance data accuracy and utility through AI** features like automated species identification and length measurement
- **Data Standards and Integration: Integrate with ACCSP standards, leveraging SciFish API, while providing a path forward and template for other technologies to comply with shared data**

## Approach:

The proposed project consists of four discrete, but related, components aligned with the objectives listed above:

- 1. Integrate GotOne's data into the ACCSP:**
  - a. Work with ACCSP to review GotOne and ACCSP data definitions, and align GotOne's data definitions and database accordingly. We will also work with existing research partners (e.g. LDWF) to ensure alignment between data collected on their behalf by GotOne with ACCSP data definition and architecture. For instance, this may entail modifying or clarifying the specific definition and format of "length" as reflected in GotOne's existing partners' surveys with the ACCSP standard.
  - b. Work with ACCSP to design and implement an ETL (Extract, Translate, Load) process to transfer data from GotOne to the ACCSP data warehouse for broader access to ACCSP Partners. We recognize that ACCSP may require further data cleansing and validation before making this data more widely available, but the goal is to make GotOne's data available to ACCSP for research and analysis, and as a standardized method for data sharing with GotOne research partners, in lieu of direct data transfers. **The approach will leverage existing SciFish platform APIs and other best practice ACCSP data tools and approaches for this integration. We plan to complete the SciFish pre-application for the October 2024 deadline.**
- 2. Collect and deliver species-specific discard length data via ACCSP to support stock management:**
  - a. **Currently, GotOne shares species-specific recreational discard data (including length) directly with management agencies, such as NOAA, MA DMF, ASMFC and LDWF (typically via CSV or JSON files). This proposed project component would build on the work in Component 1 above to reroute these data transfers through the ACCSP data warehouse, thereby also allowing broader access for ACCSP's Partners to discard data from GotOne's users.**
  - b. **The project would also expand the number of species for which GotOne is collecting and sharing discard length data to include all recreationally targeted fish from the Biological Sampling Priority Matrix, as well as scup and winter flounder, which are priorities for NOAA Northeast Fisheries Science Center (NEFSC). We believe this enhancement can result in a material increase in discard length data available to scientists and managers, a major gap in current stock assessment data. For context, NOAA Fisheries currently collects roughly 40 bluefish discard lengths per**

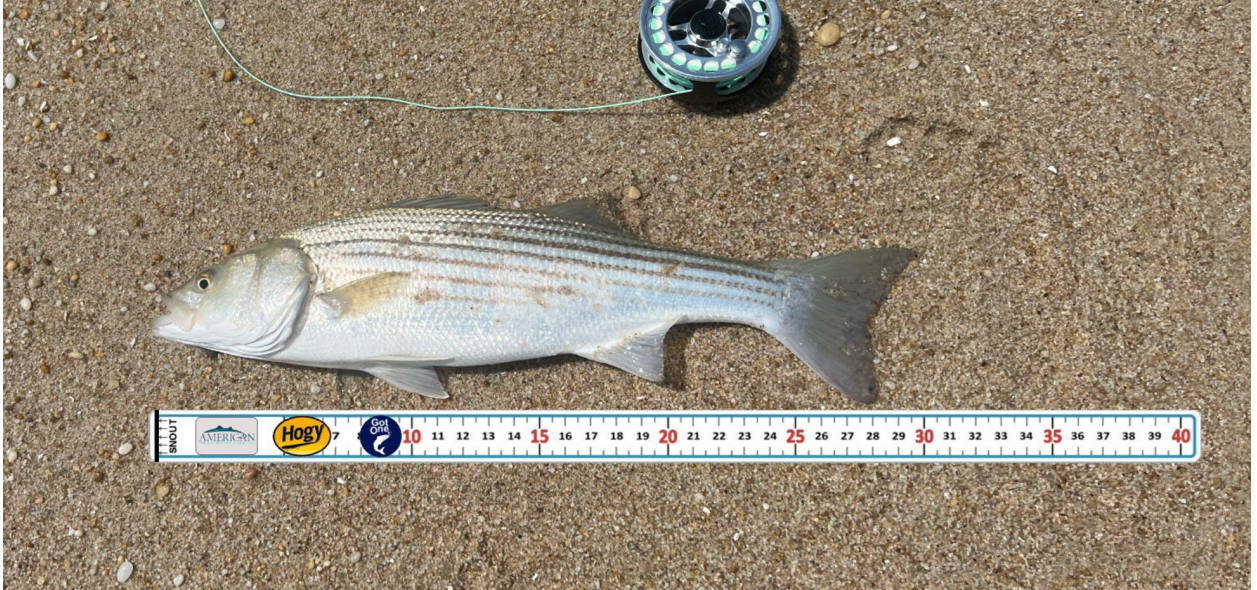
year. Last season alone, GotOne collected over 800 bluefish discard lengths from recreational anglers.

Figure 1. List of species to be added to GotOne:

Biological sampling priority matrix	Priority species currently supported by GotOne	Priority species to be added to GotOne	Species currently supported by GotOne	Additional species to be added to GotOne
Black Sea Bass	Black Sea Bass		Albacore (longfin)	Scup
Red Grouper		Red Grouper	Atlantic bonito	Winter flounder
Tilefish		Tilefish	Bigeye tuna	
Snowy Grouper		Snowy Grouper	Black drum	
American Shad		American Shad	Black sea bass	
Atlantic Menhaden			Blackfin tuna	
River Herring	Cobia		Bluefin tuna	
Spanish Mackerel		Spanish Mackerel	Bluefish	
Atlantic Halibut			Bonefish	
Blueline Tilefish		Blueline Tilefish	Cobia	
Finetooth Shark			False albacore (little tunny)	
Gray trigger		Gray trigger	Fluke (summer flounder)	
Bluefin Tuna	Bluefin Tuna		Jack crevalle	
Gag grouper		Gag grouper	Mahi-mahi	
Vermillion Snapper		Vermillion Snapper	Permit	
American Lobster			Red drum (redfish)	
Spiny Dogfish			Sheepshead	
Red Snapper		Red Snapper	Skipjack tuna	
American Eel			Skunk	
Sortfin Mako Shark			Snook	
			Speckled trout	
			Striped bass (rockfish)	
			Tarpon	
			Tautog (blackfish)	
			Weakfish (squeteague)	
			Yellowfin tuna	

**3. Train AI model for accurate discard length measurements from photographic input, and create common protocol for image capture for training AI models for future capabilities:**

Recent frontier AI models have been trained to “understand” visual inputs with astonishing sophistication. If you upload a photo of a landscape, these models can now identify humans, distinguish them from animals and trees, and even identify the flora and time of year. This capability is the result of training AI vision models against vast databases of visual content, accompanied by descriptions and metadata, typically added by humans. Based on similar approaches, fishing app developers and AI researchers have made significant progress on reliable identification of fish species from web-sourced angler photos. Progress has also been made in the area of estimating fish size (length) from photographs including calibration marks or totems.



In addition, early efforts to identify individual fish within specific species via AI vision models have shown [promising results](#), as evidenced by recent efforts by the US Geological Survey in collaboration with Trout Unlimited. Developing the capability to identify recreationally landed fish by species, and to determine accurate length measurements would be an important catalyst to the efficiency and effectiveness of crowd-sourcing discard data from consumer fishing apps, like GotOne. **From a photo of an angler's catch, all relevant data could be captured - not only time, date, location, environmental conditions, but also species and length, without any data input from the angler, while increasing the validity and accuracy of angler-contributed data.** To accelerate the training of AI models to estimate fish lengths, improve species identification, and ultimately contribute to species-specific AI identification of individual fish, we propose to:

- a. **Create a common protocol for visual recording of recreationally landed fish** that would consist of full-length photos (one photo of each side of the fish) alongside measuring devices with calibration totems (the logo stickers in the photograph above). NOAA would work with ASGA, TNC, and GotOne to reach out to a broad cross-section of scientists, academic institutions, recreational anglers and for-hire captains to participate in the defined protocol. The resulting photographic database will then be used to train AI models to accurately estimate length. Over time, these photographic recordings may also serve a further training purpose, which is the development of species-specific models for identifying individual fish.
- b. **Enhance the GotOne app to provide automatic AI length estimation of fish photographed with the calibration totem in the frame.** In the photo above, we have designed three totems for testing and calibration: The circular (GotOne) totem is the diameter of a golf ball (1.68"). The ASGA and Hogy logos are the dimensions of a US credit card (3.375" x 2.125"). After training on photos of fish recorded with the measuring device and totems in view, we anticipate being able to provide accurate estimates of fish length, simply by having anglers hold a sticker, golf ball, or credit card alongside any fish that is photographed, obviating the need for a measuring

device. This capability can significantly increase the participation of anglers in discard length recordings, and greatly improve the accuracy of such measurements.

Length measurement estimations using calibration totems is already a relatively established AI approach. While length estimation of fish from photos captured in-situ (e.g. from underwater photography of fish in their environment) has proven challenging without specialized photographic equipment (Rishoholm, et al. 2022), our approach - creating a standardized protocol that includes the fish photographed against a single surface plane, with a ruler and totem in the frame, capitalizes on best practices and recent learnings in AI measurement to minimize error. In addition, since GotOne requires anglers to manually enter the fish's length, the proposed approach creates the triple redundancy of human measurement, visual confirmation from the measuring device (ruler) and the totem itself. For further quality control, we can elect to discard data where discrepancies across the three measurements occur. As part of its quality control process, GotOne's staff will also audit and monitor recorded fish and associated lengths to identify spurious or inaccurate data, and to use such discrepancies to further refine the model training.

4. **Outreach & Communications:** Through its network of fisheries scientists, for-hire captains, tackle industry partners, and recreational anglers, The American Saltwater Guides Association will lead outreach and education activities with help from The Nature Conservancy (in-kind contribution). This will include media and PR focused on fishing shows, science symposiums, and other forms of advocacy and marketing to encourage participation in data capture via the established protocol.

## Data Delivery Plan:

**The project team shares a deep conviction in the importance of common, shared data standards, and open access for qualified stakeholders to fisheries data.** While there are many emerging benefits from the expanding universe of fishing apps available to recreational anglers, a potential for siloed data repositories and inconsistent data definitions creates a real risk of lost opportunity to leverage crowd-sourced data to support better management. **We envision GotOne continuing to play an important role in collecting recreational fishing data for use by research partners and agencies (e.g. NOAA), but shifting its approach to put ACCSP's data standards at its core. As such, data will be delivered to existing and future GotOne partners, and also made more widely available to ACCSP's own partners, via the data warehouse, rather than directly, as currently architected.** We plan to deliver data to ACCSP monthly, or as agreed based on further discussions with ACCSP. This integration will enhance the usability and compatibility of the data for fisheries management and research purposes.

As part of this proposed project, we will work closely with ACCSP to:

- Ensure data elements and metadata conform to ACCSP standards.
- Include comprehensive details such as species, length, condition, location, and time.
- Implement validation protocols to ensure data accuracy.
- Work closely with ACCSP to streamline data sharing and usage, contributing to ACCSP’s goal of improving data collection and management across the Atlantic coast.

GotOne staff will be responsible for ongoing quality audits of catch recordings and associated data, as well as building on existing validation checks (e.g. geographical, environmental readings) in the GotOne database. For example, user recordings of striped bass landed in Africa would not be included in exported data payloads.

### Geographic Location:

Atlantic coast (including the south Atlantic) and Gulf of Mexico. To date over the past 16 months since launch, over 2,500 anglers have contributed data on roughly 11,000 fish from every coastal state along the Atlantic and in the Gulf, as well as from the Exclusive Economic Zone (EEZ). We have existing partnerships with Atlantic States Marine Fisheries Commission (ASMFC), Louisiana Department of Wildlife and Fish (LDWF), Massachusetts Division of Marine Fisheries (MA DMF), Northeast Fisheries Science Center (NEFSC), and Southeast Fisheries Science Center (SEFSC).

### Milestone Schedule:

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.a. Align GotOne data w/ ACCSP	X	X													
1.b. Define/implement ETL approach with ACCSP		X	X	X											
2.a. Re-implement existing GotOne ETL through ACCSP				X	X										
2.b. Expand GotOne species	X	X	X												
3.a. Create common protocol for discard photo recording					X	X	X								
3.b. Enhance GotOne with AI length estimation							X	X	X	X	X	X			
Data ETLs for discard lengths to ACCSP					X	X	X	X	X	X	X	X			
Outreach, advocacy, education efforts to drive angler participation	X	X	X	X	X	X	X	X	X	X	X	X			
Semi and annual report writing							X						X	X	X

### **Project Accomplishments Measurement:**

- **Sample Rate:** Number of data points (species, logged catches) on recreational discards and length measurements
- **User Engagement:** Number of active users and frequency of log entries
- **AI Accuracy:** Accuracy rates of AI-driven length measurement
- **Partnership Impact:** Contributions to partner projects and scientific studies
- **Outreach Effectiveness:** Levels of engagement and feedback from the fishing community
- **Data Delivery:** GotOne data delivered successfully to ACCSP warehouse and via ACCSP warehouse to research partners



**Cost Summary:**

<b>Description</b>	<b>Cost</b>	<b>In-Kind</b>
<b>Personnel (a)</b>		<b>\$34,884.82</b>
TNC Marine Scientists (Runde/Wilke)		\$19,884.82
GotOne Management support		\$15,000.00
<b>Fringe (b)</b>		<b>\$15,283.47</b>
(2) TNC Marine Scientists (32% Runde/Wilke)		\$15,283.47
<b>Travel (c)</b>	<b>\$0.00</b>	
<b>Equipment (d)</b>	<b>\$0.00</b>	
<b>Supplies (e)</b>	<b>\$0.00</b>	
<b>Contractual (f)</b>	<b>\$200,000.00</b>	
GotOne - Integrate GotOne's data into the ACCSP	\$40,000.00	
GotOne - Collect and deliver species-specific discard length data via ACCSP to support stock management	\$50,000.00	
GotOne - Train AI model for accurate discard length measurements /Create Common protocol	\$70,000.00	
ASGA - Outreach and communication to angling community and partners	\$40,000.00	
<b>Other (h)</b>	<b>\$0.00</b>	
Length data for 3 species already included in GotOne! (including infrastructure, sampling effort, outreach; valued at \$10k/species = \$30k)		<b>\$30,000.00</b>

<b>Totals</b>		
Total Direct Charges (i)	\$200,000.00	
Total Indirect Charges (j)		
Total In-kind		\$80,168.29
Total project cost (sum of Direct and Indirect) (k)	\$280,168.29	
<b>Requested amount</b>	<b>\$200,000.00</b>	
In-kind Percent Contributions	<b>28.6%</b>	

Budget Narrative:

- a. Personnel (0 Requested; \$34884.82 Match) The Nature Conservancy (TNC) will provide in-kind support from two staff (@10% each over 1yr = \$19,884.82). GotOne Media will provide in-kind management support (\$15,000). There is no request for salary from the ACCSP. TNC and GotOne Media staff CVs are attached. TNC provides unique advocacy, outreach, and marketing capabilities and connections across key stakeholder communities, including scientists, for-hire charter captains, tackle manufacturers and retailers, and the broader recreational fishing community.
- b. Fringe (0 Requested; \$15,283.47 Match) TNC will provide in-kind matching funds to cover fringe expenses (32%) associated with match salary.
- c. Travel (0 Requested)
- d. Equipment (0)
- e. Supplies (0 Requested)
- f. Contractual (\$200,000 Requested)
  - **Integrate GotOne database with ACCSP data warehouse and transfer GotOne historical catch data (\$40,000 to GotOne Media):**
    - Deliverables:
      - Discovery and design phase required to understand ACCSP data standards and requirements, and technical integration details
      - Alignment of GotOne data definitions and database with ACCSP standards, as necessitated via modifications to database or through ETL process design.
      - Modifications to current GotOne app user interface, as needed.
      - Exporting of existing (historical) GotOne catch and discard data from 2023 through 2024 into ACCSP data warehouse, including quality audit/validation of data by GotOne team (exports of existing GotOne data to ACCSP will exclude items where there is low confidence in accuracy, for instance in the case of duplicate records or catch recordings outside US coastal waters).
        - >12,700 catches, 29 species for >2,600 anglers as of August 2024
        - Data available for sharing with ACCSP:

- Catch location (integer long/lat, state)
- Catch time and date
- Species
- Length
- Air, water temperature
- Wind speed, direction
- Tide and moon stage
- Project team and cost breakdown:

	Days	Total
Front end	10	8,750
Tech lead	9	11,250
Prod man	8	6,000
Proj man	8	4,000
Back end	10	5,000
Data analyyst	10	5,000
<b>Total:</b>		<b>40,000</b>

- **Add** **new species to GotOne app and establish ongoing collection and delivery of catch and discard length data to ACCSP to support stock management (\$50,000 to GotOne Media):**
  - Deliverables:
    - Redesign ETL approaches for current GotOne research partners to align with new ACCSP-based approach
    - Establishment of data sync processes to load GotOne data into ACCSP data warehouse for all forward-going catch recordings, including data validation.
    - Add 12 new species to GotOne for catch and discard length recording (10 new species on ACCSP’s Biological Sampling Priority Matrix plus 2 NOAA priority species)
    - Establish regular ETL of discard length data for all relevant species (new and historical) into ACCSP data warehouse
    - Note that these costs cover initial setup and implementation of the 12 new species in GotOne. **Addition of new species as well as ongoing maintenance and support for data transfers will be evaluated after twelve months**

- Project team and cost breakdown:

	Days	Total
Front end	10	8,750
Tech lead	10	12,500
Prod man	9	6,750
Proj man	9	4,500
Back end	10	5,000
Data analyst	10	5,000
UX/Design	10	7,500
<b>Total:</b>		<b>50,000</b>

- **Train** **AI model for accurate discard length measurements from photographic input, and create common protocol for image capture for training AI models for future capabilities (\$70,000 to GotOne Media):**

- Deliverables:
  - Define protocol for visual recording of landed fish to support training of AI length-estimation model
  - GotOne app development for enhanced visual data capture and metadata requirements
- Project team and cost breakdown:

	Days	Total
Front end	6	5,250
Tech lead	10	12,500
Prod man	10	7,500
Proj man	10	5,000
Back end	9	4,000
Data analyst	9	4,500
AI lead developer	25	31,250
<b>Total:</b>		<b>70,000</b>

- **Outreach and communication to angling community and partners to drive awareness, engagement and participation (\$40,000 to ASGA)**
  - Video Production to promote app, drive usage, and train anglers (\$15k)
  - Promotional items - boat stickers with QR codes, rulers with logo to aid in AI training for fish length, occasional give-aways for App usage and adoption (example prizes - sunglasses, jackets, etc.) (\$5K)
  - Outreach via events and social media - Example event ASGA roadshow <https://www.saltwaterguidesassociation.com/the-asga-roadshow/> & Hands-on training for fishing guides on app usage for grassroots outreach (\$15k)
  - Website upgrades & tournament integration - app usage during tournaments will serve to increase usership and uptake, this will require website investments and upgrades to facilitate (e.g. real-time web updates) (\$5k)
  
- g. Indirect (\$0 Requested; \$15,283.47 Match)  
TNC will provide in-kind indirect charges of \$15,283.47. TNC brings science and federal fisheries expertise
  
- h. Other (\$0 Requested; \$30,000.00 Match)
  - GotOne project leadership and oversight
  - GotOne outreach to industry partners for promotion and awareness
  - GotOne outreach to existing research partners to align initiatives with grant requirements
  - Technical infrastructure costs (GotOne database, image storage, AI API / web services, technical maintenance and support during grant period)

**First year deliverables and anticipation of future costs:**

In this first year of funding, we will complete all of the activities listed under letters f, g and h above, including all maintenance and technical support requirements. The proposed project is envisioned as a pilot, and as such, we have not as yet ascertained the required ongoing costs to maintain the proposed data integrations past the grant funding period. Part of the scope of the proposed work will be to determine these forward-going requirements and costs, which may lead to a request for a maintenance grant in forward-going years. However, if such maintenance is not funded through ACCSP, our intention, as an in-market product, would be to find independent funding for the capabilities developed as part of this project proposal to support our growing user base and research partnerships. In any event, our expectation would be that any ongoing maintenance costs will be significantly lower than the initial implementation costs as the data migrations processes become increasingly automated.

## References:

Goldsmith, W., K.M. Wilke, B.J.Runde, D. Moss. 2024. Future Directions for Electronic Self-Reporting in U.S. Marine Recreational Fisheries. Submitted for publication.

Risholm, P., A. Mohammed, T. Kirkhus, S. Clausen, L. Vasilyev, O. F. Øistein. 2022. Automatic length estimation of free-swimming fish using an underwater 3D range-gated camera. Aquacultural Engineering. v97. <https://doi.org/10.1016/j.aquaeng.2022.102227>

## Summary of Proposal for Ranking Purposes

**Proposal Type:** New

**Program Priority:**

- **Biological Sampling: 50%** - photos, species ID, length (add 12 new species to GotOne for discard length recording - 10 new species on ACCSP's Biological Sampling Priority Matrix plus 2 NOAA priority species)
- **Catch and Effort: 50%** - recreational catch and discards >12,700 catches, 29 species for >2,600 anglers as of August 2024
- Social and Economic: while not the priority of this project, the GotOne! app has potential to provide valuable socio-economic data in the future which is why integration with ACCSP data standards and warehouse is important

**Overview:**

Catch, effort, discard, and biological data from private anglers are difficult to collect. GotOne is a consumer application, developed by fishermen to serve as a personal logbook to record catch information and corresponding environmental covariates (pulled automatically from third-party APIs with access to sensors and other established data sources). The project team has been growing usership over the last year through partnerships with ASMFC, LDWF, MA DMF, NEFSC, and SEFSC—encouraging anglers to use the app to fill data gaps for specific priority species. As anglers continue to find value in the app to enrich their fishing experience, we anticipate usership to grow over time, providing a valuable stream of data.

This project will build on our work to develop the capability to use AI as a validation technique for species identification and length. From a photo of an angler's catch, all relevant data will be captured - not only time, date, location, environmental conditions, but also species and length, without any data input from the angler, while increasing the validity and accuracy of angler-contributed data.

Through this project, GotOne! will establish a connection with ACCSP, through the SciFish API, to provide data to the ACCSP data warehouse, thus making data to project and Program partners in a timely and transparent manner. We see this project as a pilot to allow us to align with ACCSP data standards and to develop protocols for data transfer to the Program warehouse. We will estimate costs associated with on-going future data transfers.

## Project Quality Factors:

### Partners

- **Multi-Partner/Regional impact including broad applications** - Broad partnerships including ASMFC, LDWF, MA DMF, NEFSC, and SEFSC facilitates data collection from a wide geographic range along the Atlantic coast, including the south atlantic, and the Gulf of Mexico. The GotOne! App and AI technology can be used to collect data across a broad range of species, over the last year >12,700 catches, 29 species for >2,600 anglers have been logged. And usership continues to grow. Integration with ACCSP's data warehouse means this information will be available on an ongoing basis for data requests and stock assessments for regionally managed species.

### Funding

- **Contains funding transition plan on pg 16**

In this first year of funding, we will complete all of the activities listed under letters f, g and h above, including all maintenance and technical support requirements. The proposed project is envisioned as a pilot, and as such, we have not as yet ascertained the required ongoing costs to maintain the proposed data integrations past the grant funding period. Part of the scope of the proposed work will be to determine these forward-going requirements and costs, which may lead to a request for a maintenance grant in forward-going years. Our expectation would be that any ongoing maintenance costs will be significantly lower than the initial implementation costs as the data migrations processes become increasingly automated.

- **In-kind contribution:**

28.6%

TNC - \$35,168.29  
GotOne! - \$45,000  
Total - \$80,168.29

### Data

- **Improvement in data quality/quantity/timeliness:** Quantity of discard length data will be increased. For example, NOAA Fisheries currently collects roughly 40 bluefish discard lengths per year. Last season alone, GotOne collected over 800 bluefish discard lengths from recreational anglers.  
GotOne Media will be responsible for QA/QC of data. Through this project we will align GotOne data with ACCSP data standards and use the SciFish API to provide data to the ACCSP data warehouse, demonstrating possible best practices for data-sharing by other consumer apps. The GotOne data architecture and ETL process is highly flexible and dynamic, and can provide on-demand data transfers, as needed. Currently, transfers with existing research partners are conducted as frequently as weekly. Our intention as part of

this project is to determine the optimal cadence and frequency of data deliveries based on ACCSP's desires and needs, as well as the SciFish API capabilities.

- **Potential secondary module as a by-product:** Secondary module is Catch & Effort - recreational catch, discards, and environmental covariates from 2,600 users (and growing) across 29 species. Socio-Economic data may be made available to the Program and Program Partners as a by-product of the app.
- **Innovative:** The GotOne! App is innovative in that it was designed by fishermen as a personal logbook that improves fishing success. Because it provides value to anglers, it's likely to gain increased usership and increased retention of users over time (Goldsmith *et al.*, in press). In addition, this project will build on Artificial Intelligence to be used in photo fish ID as a means of data validation.
- **Impact on stock assessment** - Agency partners have identified release lengths as a critical data gap for multiple recreational species. Released fish are an important component of the catch data for many stock assessments, however, very little information is available to characterize the length distribution of these released fish. Release lengths for multiple species collected through GotOne! and provided to the ACCSP data warehouse will be available to agency partners for use in stock assessment. These direct length observations will help reduce assumptions often made about release length distribution and improve uncertainty in model estimates.

#### **Other Factors**

- **Properly Prepared** - This proposal follows the guidelines provided in the ACCSP Funding Decision Document.
- **Merit** - This project fills gaps in biological data for ACCSP and NOAA priority species. This project also facilitates data accessibility and sharing by establishing a mechanism to deliver data collected by private anglers through a commercial app into the ACCSP data warehouse.





Geoff White, Director  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

July 30, 2024

Dear Mr. White,

Rhode Island Division of Marine Fisheries, Massachusetts Division of Marine Fisheries, New Hampshire Fish and Game Department, and Maine Department of Marine Resources, are pleased to resubmit the new proposal titled “*Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application*” for your review. We believe this proposal is critical to successfully managing vessel tracking programs at the state partner level. Improvements to existing applications and data access points will streamline both compliance monitoring and analyses of tracking data.

The contributing partners acknowledge there may be some hesitation regarding submitting this proposal as a “new” project. We are submitting this proposal as new for the following reasons: 1) the proposed work is an expansion of a single objective from the FY22 funded proposal, “*Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2*” and the scope of that single objective is significantly expanded into five new objectives, 2) additional state partners are now involved in this proposal, 3) there was a one year lapse in funding, and 4) a sixth objective regarding data access controls that was not addressed by previous proposals has been added.

Please address questions jointly to Rich Balouskus of the Rhode Island Division of Marine Fisheries, Anna Webb of the Massachusetts Division of Marine Fisheries, Robert Atwood of the New Hampshire Fish and Game Department, and Nathan Willse of the Maine Department of Marine Resources.

Sincerely,

Rich Balouskus (RIDMF)      Anna Webb (MADMF)      Robert Atwood (NHFGD)      Nathan Willse (MEDMR)  
richard.balouskus@dem.ri.gov      anna.webb@mass.gov      robert.atwood@wildlife.nh.gov      nathan.willse@maine.gov

**Enclosures:** ACCSP Proposal: “*Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application*”

Appendix A: Principal Investigators’ Curricula Vitae  
Memo from ACCSP regarding proposed work

Proposal for Funding made to:  
Atlantic Coastal Cooperative Statistics Program  
Operations and Advisory Committees  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

**Vessel Tracking Data and Program Management Improvements: Expansion  
of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel  
Tracking Application**

**Submitted by:**

Rhode Island Division of Marine Fisheries  
3 Fort Wetherill Drive  
Jamestown, RI 02835

Massachusetts Division of Marine Fisheries  
30 Emerson Avenue  
Gloucester, MA 01930

New Hampshire Fish and Game Department  
11 Hazen Drive  
Concord, NH 03302

Maine Department of Marine Resources  
194 McKown Point Road  
West Boothbay Harbor, ME 04575

**Applicant Name:** Rhode Island Division of Marine Fisheries, Massachusetts  
Division of Marine Fisheries, New Hampshire Fish and Game  
Department, Maine Department of Marine Resources

**Project Title:** Vessel Tracking Data and Program Management Improvements:  
Expansion of Vessel Tracking Data Access Controls and  
Upgrading the SAFIS Vessel Tracking Application

**Project Type:** New Project

**Principal Investigators:** Rich Balouskus (RIDMF), Anna Webb (MADMF), Robert  
Atwood (NHFGD), Nathan Willse (MEDMR)

**Requested Award Amount:** \$108,000

**Requested Award Period:** For one year, beginning after the receipt of funds

**Date Submitted:** July 30, 2024

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page 13.  
Revisions are highlighted in yellow.

### **Terminology:**

The contributing partners acknowledge there may be some hesitation regarding submitting this proposal as a “new” project. We are submitting this proposal as new for the following reasons: 1) the proposed work is an expansion of a single objective from the FY22 funded proposal, “*Integration of vessel monitoring systems and electronic reporting in SAFIS and SAFIS applications through API development and field testing of multiple hardware options: Phase 2*” and the scope of that single objective is significantly expanded into five new objectives, 2) additional state partners are now involved in this proposal, 3) there was a one year lapse in funding, and 4) a sixth objective regarding data access controls that was not addressed by previous proposals has been added.

### **Objective:**

Within the scope of the project, the following objectives and deliverables will be met:

- Update the trip report to positional data matching procedures to be more efficient and comprehensive.
- Enhance the vessel tracking application (VTA) housed within Standard Atlantic Fisheries Information System (SAFIS) to improve workflows.
- Develop the ability for partners to define and implement new compliance frameworks within the VTA.
- Implement a report to identify vessels fishing in a specific region over time.
- Enhance the existing ACCSP tracking API to accept additional data fields.
- Resolve any outstanding administrative and data consumer restricted data access issues.

### **Need:**

Satellite-based vessel-monitoring-systems (VMS) have been deployed for years on federally permitted vessels and utilized by NOAA Fisheries and NOAA Office of Law Enforcement (OLE) successfully. Most ACCSP state partners have not yet implemented this technology due to high costs and logistics. VMS technology using cellular transmission has emerged that is relatively less expensive to purchase and use, thus providing opportunity for vessel tracking management strategies to be implemented by partners with limited resources. Within the scope of this proposal we exclusively refer to cellular VMS technologies as those adopted by Addendum XXIX. State managers and law enforcement are eager to explore the utility of this technology to meet management and assessment needs as well as to allow for more flexible management programs in various fisheries.

VMS data allows for significantly more robust accountability for management programs especially where the current level of reported location data is insufficient. Furthermore, with the increasing presence of other ocean uses in recent years (e.g., renewable energy, aquaculture) in historically utilized commercial fishing areas, the ability to track spatiotemporal use with catch may be of interest to various commercial fishery participants in addition to management groups.

The robustness of spatiotemporal analyses gained from VMS data led the Atlantic States Marine Fisheries Commission (ASMFC) to publish Addendum XXIX to Amendment 3 to the Interstate Fishery Management Plan for American Lobster in March 2022. The Addendum implemented electronic cellular-based tracking requirements for federally-permitted vessels in the American lobster and Jonah crab fishery, with the goal of collecting high resolution spatial and temporal effort data. In previous proposals to ACCSP, MADMF and RIDMF collaborated with both ACCSP and ASMFC to support the successful development of a basic administrative interface, what is now

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page 13. Revisions are highlighted in yellow.

known as the VTA, for viewing tracking and trip data built within the SAFIS suite of applications. This interface was solely designed to be used by state managers for compliance issues related to Addendum XXIX. However, the backend of this interface was designed to be scalable to allow for additional frameworks (e.g., individual state opt-in programs) to be added.

By early 2024, all states with federal lobster trap permitted vessels principally ported in their state had implemented rules to establish the tracking requirement from Addendum XXIX and administrative staff began using the VTA available to state managers. Several additional needs, which became the objectives of this proposal, were quickly identified to build upon the existing application and to increase functionality of the program for both managers and enforcement.

Post hoc linking of positional data generated from VMS devices with trip-level vessel trip report (VTR) data, as well as efficient access to these data for further review, are necessary to analyze the spatiotemporal patterns of fishing activity within various fleets. This trip (VTR) to track (VMS) matching is the key procedure underlying the existing VTA and is critical to not only tracking compliance with regulations, but also analyzing spatiotemporal effort. Additionally, current data access controls restrict the ability to use these data in a consequential way due to limitations on the volume of data that can be extracted. This proposal will create an opportunity for more broad scale use of these data by managers and analysts within the bounds of confidentiality. Improving matching procedures and developing regulated data access points in order to collate the matched data into functional data products are objectives of this proposal. One example of a functional data product includes the aggregation of matched catch and effort data into an input for a stock assessment.

The ability to implement new VMS programs by partners without relying on already strained time of ACCSP staff is another objective. This work will allow partners to seamlessly build new compliance frameworks as new regulatory requirements are implemented. Already, both Rhode Island and Massachusetts have additional VMS programs in the queue that will need new compliance frameworks within the VTA. The State of Rhode Island currently administers a black sea bass/summer flounder weekly aggregate program that requires participants to report catch electronically and to have a cellular VMS device onboard. Currently state administrators are utilizing a combination of vendor provided interfaces for VMS data interrogation and an internal system for VTR aggregation. By implementing this black sea bass/summer flounder aggregate compliance framework into the VTA the workload of administrators on data accounting minutia will be greatly reduced, thus increasing efficiency and allowing for both higher compliance rates and greater analysis capabilities.

The proposed work represents the next steps necessary to continue the development of the programmatic systems needed to fully take advantage of VMS technologies, to simplify the onboarding process for new partners, and efficiently manage new and existing VMS programs.

### **Results and Benefits:**

The addition of geographic/positional fisheries-dependent data streams is becoming a priority of many jurisdictions with improved spatial understanding of fisheries necessary to continued successful management. As such, during previously funded work, ACCSP acquired appropriate GIS licenses and dedicated staff time to advancing ACCSP's spatial data storage and use. Additionally, the Commercial Technical Committee initiated a spatial coordination working group to assist and guide ACCSP in spatial data development. ACCSP is the ideal location for this type of data

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in **green** with a summary on page 13. Revisions are highlighted in **yellow**.

compilation as they encompass both state and federal systems and thus is usable among all partners. Having a central repository for storage and display of VMS data at ACCSP makes multi-jurisdiction management of such programs more streamlined and data more easily available and accessible to fisheries managers.

This project ultimately addresses the ACCSP's catch and effort priority by further integrating and advancing the presentation of data collected through location tracking, which further supports emerging spatial management issues and improves the quality of data used to make decisions. This work is integral to SAFIS and SAFIS applications keeping current with emerging technologies. Most likely, requests for spatial analyses will only increase over time as seen with the recent implementation of Addendum XXIX and ongoing shared ocean use conflicts.

This proposal intends to improve upon the gains made during previous work and significantly improve efficiencies regarding management of VMS data collection programs, primarily within the SAFIS VTA. While the current iteration of the VTA is operable and provides managers with numerous tools to manage compliance and analyze data, months of initial use with a now significant data set have clarified to users where upgrades can and should be made. By more accurately and precisely highlighting out of compliance vessels and improving the matching of trip (VTR) to track (VMS) processes, partner program managers will be able to streamline workflows and focus more attention on data quality, which has been identified as a problem for certain device types and requires additional review. Incorporating additional data elements into the API will further facilitate reviewing potential device failures within the VTA. Through improving quality control measures of tracking data, end users and analysts will have a more easily consumable dataset.

Data access is another pillar of this proposal. Within the bounds of confidentiality, managers and analysts need access to a clean and robust dataset. Expanding the access to layers of data under a tiered approach based on confidentiality laws will provide this function. This will benefit not only program administrators and managers, but other data consumers such as state and federal fisheries managers, stock assessment scientists, and more. After accomplishing the objectives of this proposal, partners can expect to have the ability to significantly streamline the vessel compliance management process within a given compliance framework, expand access to fully matched trip and track data within the bounds of confidentiality laws, and seamlessly and efficiently implement additional compliance frameworks for new programs.

Upon success, the results from this effort would make VMS programs more accessible to all partners. A spatiotemporally explicit catch reporting system that seamlessly joins location data to trip data will allow for easier adjustment of catch and effort information into discrete spatial units, thus precluding the need for some of the assumptions currently being used for more progressive assessments. Additionally, the availability of this type of spatially defined catch and effort information could allow for other population assessments to progress to more spatially refined structures, thus improving the stock assessment enterprise as a whole. This type of management strategy is particularly valuable for stock assessments that are spatially refined, such as those used for menhaden, black sea bass, tautog, and proposed for striped bass. Managers, harvesters, and various stakeholders may also find utility in aggregated tracking data in relationship to proposed ocean uses such as offshore renewable energy development and aquaculture, or the spatial extent of protected species and their population density estimates. While this project will not make harvester's personal tracks available for use by the public, the value of these data in large scale analyses is apparent.

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page 13. Revisions are highlighted in yellow.

By utilizing new technologies, expanding an avenue of integrated reporting, and streamlining the effectiveness of existing and new programs, this project will open new opportunities for quasi-real-time data collection and utilization by all state partners. This project emphasizes partner collaboration, including four partners as co-PIs, all while developing a product that can be used by any single partner, particularly for inshore fisheries.

### **Data Delivery Plan:**

All data will be stored at ACCSP following established protocols. Tracks from completed trips will POST via API into ACCSP tables. Authorization schemes at the application and database level ensure that administrators only have access to location data under their jurisdiction or approved via another jurisdiction. Reports are accessed through applications in the SMS portal, and data will be available to export in multiple formats. Database connections would also be available to directly analyze trip location data from partner locations and within the bounds of confidentiality.

### **Approach:**

#### *Overall:*

The proposed work necessitates a heavy commitment from ACCSP and/or their contractors, but this work is backed by the included letter of support. Development to be conducted by ACCSP and/or their contractors includes a range of modifications and new code resulting in application enhancements, report query updates, and database/API adjustments.

#### *Objective 1: Trip to Track Matching*

Data submitted by current ASMFC approved tracking devices include only vessel identifiers, time stamps, and vessel positions. To link vessel locations to a trip and gear type, tracking data must be matched to a VTR using solely these fields as additional information such as fishery declarations used in federal VMS programs are not included in these programs. ACCSP conducts a nightly procedure that matches VTRs to tracks that occurred between a start and end date and time reported on a VTR for a given vessel. Additionally, for efficiency purposes, only trips with a trip start date within the past 60 days are matched to vessel tracks as part of this nightly matching routine. Currently, this system is only set up for federal lobster vessels administered under Addendum XXIX.

Since April of 2024, all federal lobster permitted vessels are now required to report to NOAA Fisheries via federal VTRs. Additionally, since early 2023, another nightly routine moves a copy of all federal VTR data into the SAFIS database tables, which allows the matching of all trips regardless of the jurisdiction to which the trip was reported. Though NOAA fisheries specifies that VTRs be submitted within 48 hours of landing, late submissions of vessel trip reports are common. Additionally, failures may occur during the copying of VTR data from NOAA Fisheries to SAFIS. These delays in receiving trip reports lead to tracks failing to be associated properly to a trip during the nightly matching routine. It is estimated that roughly 20 percent of VTRs submitted by vessels with a federal lobster permit between May 1, 2023, and April 30, 2024, were received in SAFIS over 60 days past the trip end date, and therefore would not be matched under the current program design. To mitigate this delay, a monthly process will be developed and implemented to match late VTR submissions to vessel tracks and run at a time that will not negatively impact the processing power necessary for the nightly matching process.

Due to the 24/7 tracking requirement, extraneous, non-trip tracking data are collected and stored. However, using start and end date and times to bin vessel tracking data has proved problematic, as VTRs often are submitted with inaccurate start and end times. This creates additional derelict tracking data for fishing trips that are not associated with a VTR. Managing this unmatched tracking data from legitimate fishing trips has become difficult due to the large volume of data. To reduce this error, matching procedures will be updated to match tracks that occur between start and end date for a given trip rather than rely on the reported times. By removing start and end times from the matching procedure, partners foresee that most tracks will properly be associated with a trip and reduce the impact of inaccurate VTRs.

Though rare in lobster trap fisheries and therefore not a problem for the Addendum XXIX framework, this proposed matching procedure will be problematic for programs targeting fisheries with multiple trips in the same day. A new tool will be created in the VTA to properly match tracks when multiple trips may exist on the same date. This tool will be an Oracle APEX report that isolates and highlights when multiple VTRs are assigned to the same tracking data.

#### *Objective 2: VTA Enhancements*

The SAFIS VTA was developed during previously funded tracking projects, and the administrative interface of the application has been utilized by state managers to conduct compliance management and post-hoc analysis required for Addendum XXIX. While the development of the SAFIS database and administrative interface was completed prior to the initiation of Addendum XXIX, the use of the VTA has highlighted the need for enhancements to streamline the compliance management framework. The work proposed here intends to create enhancements to identify device failures in a timely manner, improve the ability to isolate activity when needed, and improve report formatting (Table 1). Proposed enhancements will streamline and standardize vessel tracking management across different state jurisdictions.

An estimate of workload is included in Table 1 after consideration by the ACCSP Software Team.

#### *Objective 3: Compliance Framework Management*

ACCSP initially developed the SAFIS administrative interface of the VTA to address Addendum XXIX but requires users to select the framework prior to entering the application. Both the program's back-end database as well as the end-user facing interface were designed to scale, allowing for the integration of additional frameworks in the future, however, the current implementation requires significant coding by ACCSP staff to complete and initiate a new framework. An objective of this project is the ability for partner administrators to seamlessly implement additional frameworks within the SAFIS VTA or SMS administrative interface and without involving ACCSP staff unless absolutely necessary.

This new module for the SAFIS vessel tracking compliance framework administrative interface will either reside within the VTA or within SAFIS SMS with other administrative tools. This interface will allow partners to initiate the creation of a new framework and manage existing frameworks for which the user has update permissions. Creating a new framework will include several steps including creating a unique identifier, defining compliance parameters, and identifying participating vessels and their reporting agency (state vs. federal).



**Table 1.** VTA Enhancements expected to be completed, in order of priority. Estimated workloads are based on feedback from the ACCSP Software Team and relate to number of hours needed for completion. In general, if a single developer is working on a task, Low workload enhancements would typically take 1-3 days of work, Medium is 4-7 days, and High is 8 days or more.

Feature	Need/Justification	Development Needed	Est. Work-Load
<b>Force assign a Trip ID to location data</b>	Changing the matching procedure as outlined in Objective 1 improves many of the issues encountered with this problem, however, this will create the need to assign a location to a specific trip when multiple trips occur within the same calendar day, or a track occurs outside of the dates reported.	Matching procedure modification	High
<b>Create report identifying tracks matching to multiple trip ids</b>	More efficiently identifies tracks that need to be reviewed for assigning Trip IDs based on multiple Trips per day.	Query writing, implementation of new report	Medium
<b>Ability to query all reports by coastguard documentation number or state registration number</b>	Currently can only query by vessel name, and this change would increase ease of searching or downloading desired data.	Query modification	Low
<b>Create report identifying devices that have not sent a location to the API in the last day and devices where locations are impossibly far apart</b>	Identifying device failures has been one of the more complicated tasks in the current VTA. This change would allow managers to more quickly identify potential device failures before a harvester report is submitted.	Query writing, implementation of new report	Medium
<b>Remove automatic filtering of opt-out vessels from compliance reports and add as queryable field</b>	Improves identification of vessels that improperly submitted opt-out paperwork.	Query modification	Low
<b>Automatically show potential tracking points when viewing Vessel Transit page</b>	Reduces steps needed to add unassigned location data to a trip and ensures state managers always view unassigned points when viewing a trip in the transit report. Dependent on objective 1's outcome the need for this change may be reduced.	Query and Interface/ app modification	High
<b>Standardize time display in reports to 24hr clock. Default queries to a time period of one calendar day maintaining the ability to change the queried time.</b>	Viewing time based on a 24hr clock reduces miscommunications. State managers are generally interested in viewing data based on a specific date, and defaulting to a calendar day reduces steps in a standard query.	Query modification	Low
<b>Search for a trip in the Trip Viewer by trip ID</b>	Increases ease of use of Trip Viewer when assessing a specific trip.	Query and Interface/ app modification	Medium
<b>Add ability to mark a trip as non-fishing within a compliance framework in Unreported Vessel Transit Report so it can be filtered out of the report</b>	Reduce time state managers spend investigating a non-fishing trip within a compliance framework.	Query, Interface/ app, and database modification	Medium
<b>Standardize field names between different reports</b>	Improves ease of use of report outputs in analysis.	Interface/ app modification	Low
<b>Addition of eVTR number to reports and Trip Viewer selection options</b>	Improves ability to identify eVTR errors or trip matching errors. May also be used for joining catch and spatial data for analysis.	Query and interface/ app modification	Low

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page 13. Revisions are highlighted in yellow.

The new framework interface must first be initiated with a unique name – which must be unique across all jurisdictions and programs so that it can be selected through the generic VTA application home page. Next, administrators will be asked if they would like to copy settings from an existing framework or start from scratch. If they choose to copy, business rules will auto-populate, but vessel lists will not. If they choose to start from scratch, no information will auto-populate. Administrators will then move into the framework builder module. From this module, a list of vessels participating in the program will need to be uploaded. The module will then prompt users to establish the baseline business rules for the program such as defining a set of compliance rules, opt in/opt out options, and potentially manipulating the trip matching algorithm frequencies or rules for number of trips per day depending on the outcome of Objective 1. Lastly, the administrator will need to grant view and update permissions for the framework to groups of users.

Finally, this framework builder module must also allow administrators to modify frameworks as needed. This can be as simple as adding new vessels or ending a vessel's participation in a program, or as complicated as modifying compliance rules to accommodate regulatory changes. Additionally, permissions should be able to be maintained through this module. Frameworks cannot be deleted, but they can have a sunset end date.

#### *Objective 4: Identify Vessels in a Given Region over Time*

An interface catering directly to the specific needs of law enforcement is needed, not only to fully address the goals Addendum XXIX as well as the Rhode Island Aggregate Program, but to utilize these data to their full extent. While some funds are requested to begin creating an interactive multi-vessel track viewer, additional scoping is necessary to define the approach for development of a full standalone application. This application will incur a significant cost, and in 2024, and with assistance from ACCSP and outside funding, the proposal PIs and other project personnel will convene with law enforcement personnel familiar with VMS data to outline requirements and investigate vendors and existing technology (V-TRACK, AIS, etc.) to find the right fit for implementation. A subsequent proposal is expected to be submitted for this standalone development after requirements are defined.

For the interim time period funded through this proposal, a few tweaks to the existing VTA are requested. This includes modifying the existing Vessel Heat Map to be able to quickly identify vessels in a specific region, likely an approximate 10-minute square, across a specific amount of time, perhaps limiting time to a specific number of days at most. Additionally, adding a speed filter to the output would allow managers to identify probable fishing activity to further reduce the output. This provides a quick access report to answer pressing concerns from law enforcement until a standalone application can be developed.

#### *Objective 5: API*

As part of the initial development of the VTA, ACCSP built a new API that would ingest the ping data sent from the devices. Currently, this API collects data on the location, date/time, vessel, and device. This project suggests that the API be enhanced to include the collection of device voltage, which is a commonly displayed field available on vendor data portals and valuable to analyze problems with the vessel device hardware. Specifically, this will be a non-required field; however, data submissions should be validated by field type. **Other additions may be added pending Addendum modifications potentially in development.** This task requires a small amount of ACCSP staff time and is not considered significant.

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in **green** with a summary on page 13. Revisions are highlighted in **yellow**.

As regulations requiring the use of trackers on the vessels were implemented and devices were installed and activated, ACCSP saw a significant increase in API traffic. Since the fall/winter of 2023, the location endpoint of the API has received up to 400 calls per minute and 300,000 calls per day on peak activity days. This is resulting in over 3 million calls per month, which is over a 50-fold increase in API traffic. Bottlenecks in AWS/cloud connections and database processing can cause connection failures. ACCSP has already tuned the database and optimized the cloud hosting infrastructure, which reduced processing times and connection failures. However; there are still a significant number of vessels and trackers to come online as the fishing season begins and traffic is guaranteed to increase again. ACCSP would like to isolate the host for the locations API and implement redundant cloud instances for failover and load-balancing. Inflation Reduction Act (IRA) funding has been secured to fund the IT upgrades to handle the API traffic.

#### *Objective 6: Data Access*

VMS data can be useful to diverse audiences and end users outside of tracker management personnel with necessary data access modifications. Data release is controlled through existing ACCSP and partner standard operating procedures independently of this proposal. As part of this work, we propose a tiered data access approach to make these emerging data available to approved collaborators completing relevant analyses while ensuring uniform outputs, maintenance of confidentiality laws, and preventing diverging database formats. Levels of data accessibility through the ACCSP Data Warehouse can be differentiated by what views, rows, and/or columns are visible to end users upon log in based on the privileges of the user.

Raw data coming into the existing ACCSP database is available only to staff working directly within the tracker program for QC and analysis, and researchers with confidentiality agreements. These staff are best positioned to QC/QA these data without mischaracterizing fishery behavior. Issues with data collection, like partial trips and fishery attribution, as well as basic analyses like vessel speed and trip attribution will be completed at this tier to ensure the methodology is consistent across all subsequent access tiers. Critically, concerns about data confidentiality can be addressed at this stage to produce levels of confidential and non-confidential modeled outputs of gear distribution and QC tracker pings.

QC/QA spatial data can be committed to a separate level once reviewed and made available to the next tier of users. These users will develop modeling approaches to describe gear distribution, density, and end use products without the burden of validating mechanistic tracker program operations. Approaches to modeling gear layers and spatial analyses collaboratively developed within this group of users can be passed on to subsequent tiers of users, to prevent development of alternative gear layers without proper validation from program staff. Methodology validated by regional administrators will ensure singular versions of these data are used in end user data outputs.

Modeled data outputs represent another tier of users. This level would be able to pull modeled non-confidential data for broad purposes. These data represent an unparalleled spatial footprint of the fishery and have immediate relevant use for management and conservation cases across the Northwest Atlantic e.g. stock assessments and offshore renewable energy development. The breadth of research applications for these data drive the need for a comprehensive metadata and best practices to prevent competing versions of these data and betrayal of confidentiality in data access.

**Geographic Location:**

Work will be conducted between Rhode Island and Maine at all partner agencies and at ACCSP. Current data collection is occurring from Maryland to Maine in state and federal waters.

**Milestone Schedule:**

Task	Month												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Finalize requirements gathering	X	X											
Objective 1		X	X	X									
Objective 2			X	X	X	X	X	X	X	X	X		
Objective 3					X	X	X						
Objective 4							X	X	X				
Objective 5									X	X			
Objective 6										X	X	X	
Report writing						X	X					X	X

**Project Accomplishments Measurement:**

Project Goal	Measure of Accomplishment
Trip to track matching is less sensitive to VTR time reporting errors	Percentage of tracks of vessels’ fishing activity missing trip ids is reduced as compared to current
Trip to track matching occurs for late VTRs on a regular cadence	Regular schedule for late matching is established and running successfully
Administrators have a more seamless experience managing compliance within a framework	Data quality and the ability to identify device failures quickly (before a VTR is submitted) will improve
New frameworks can be created and managed independent of ACCSP staff	Framework building module successfully developed, tested, and launched with testing if not production implementation.
Identification of a vessel in time and space is possible and can be done quickly	Response to such requests is completed within minutes.
API collects additional optionally sent information about devices	API deployed to production and vendors are notified of the new available elements.
Data consumers have tools at their disposal to use the spatial data for analyses and management decisions	Within the bounds of confidentiality, at least one method producing data outputs available to data consumers is developed, tested, and implemented.

**Cost Summary:**

Description	Calculation	In-Kind	Requested from ACCSP
<b>Personnel (a)</b>		\$0.00	\$0.00
<b>Fringe (b)</b>		\$0.00	\$0.00
<b>Supplies (all divided evenly amongst partners) (c)</b>		\$0.00	\$0.00
<b>Contractual (d)</b>		\$0.00	\$108,000.00
ACCSP Contractors	Development for 800 hours @ \$135/hour = \$108,000	\$0.00	\$108,000.00
<b>Other (all divided evenly amongst partners) (e)</b>		\$0.00	\$0.00
<b>Total Direct Charges</b>		\$0.00	\$108,000.00
<b>Indirect Charges (f)</b>		\$0.00	\$0.00
<b>Totals</b>		\$0.00	\$108,000.00
<b>Total Project Cost</b>		\$108,000.00	
<b>In-kind versus Direct Percent Contribution</b>		0.00%	100.00%
<b>Requested Amount</b>		\$108,000.00	

**Cost Details:**

- a. Personnel (\$0 Requested; \$0 Match):** Partners commit to working with ACCSP contractors on the proposed work but are not requesting directed funds for personnel. Therefore, no personnel costs are included.
- b. Fringe (\$0 Requested; \$0 Match):** Partners commit to working with ACCSP contractors on the proposed work but are not requesting directed funds for personnel. Therefore, no fringe costs are included.
- c. Equipment/Supplies (\$0 Requested; \$0 Match):** No supplies are necessary for this work as all tasks are software and application development.
- d. Contractual (\$108,000 Requested; \$0 Match):** All costs for the proposed work are contracted application, report, and API development hours. This is inclusive of all work for all objectives. Funds should be distributed to ACCSP for payment to contractors and no funds should be distributed to the partners. ACCSP staff time is not included in the budgeted work, and their commitment is outlined in the attached memo.
- e. Other (\$0 Requested; \$0 Match):** No other costs are necessary for this work as all tasks are software and application development.
- f. Indirect Charges (\$0 Requested; \$0 Match):** Partners commit to working with ACCSP contractors on the proposed work but are not requesting directed funds for personnel. Therefore, no indirect costs are included.

ACCSP Funding Proposal: Vessel Tracking Data and Program Management Improvements

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page 13. Revisions are highlighted in yellow.

## Summary of Proposal for Ranking Purposes

**Proposal Type:** *New Project*

### Primary Program Priority:

**Catch and Effort:** **100%** - This proposal focuses on enhancements to the collection and integration of positional data with catch and effort data already collected through SAFIS applications.

**Data Delivery Plan:** See outline on page 6.

### Project Quality Factors:

#### **Multi-Partner/Regional impact including broad applications:**

This is a joint project between several Northeast partners. However, the results will be directly applicable to any partner interested in developing a location monitoring program in inshore waters. Additionally, any partner with federal lobster vessels impacted by Addendum XXIX will benefit from this work.

#### **Contains funding transition plan/defined end-point:**

This is a one-year project with a defined end goal. The goal is to enhance the existing product to better serve both managers and data consumers.

**In-kind contribution:** Please see the costs table on page 12.

#### **Improvement in data quality/quantity/timeliness:**

The enhancements to the SAFIS VTA will improve the ability to quality control location data collected through cellular based vessel tracking devices and posted to the ACCSP tracking API. Additionally, the improved matching procedures will make matched trip to track data more readily available to end users and reduce processing time.

#### **Potential secondary module as a by-product:**

None

#### **Impact on stock assessment:**

Access to these location and matched catch and effort data, within the bounds of confidentiality, is particularly valuable for stock assessments that are spatially refined. The availability of this type of spatially defined catch and effort information could allow for other population assessments to progress to more spatially refined structures, thus improving the stock assessment enterprise.

## Appendix A: Curricula vitae for the principal investigators

### **Richard G. Balouskus**

3 Fort Wetherill Rd · Jamestown, RI 02840  
Richard.Balouskus@dem.ri.gov · (401) 423-1924

#### **EDUCATION:**

##### **Graduate Education:**

Master's of Science Degree, Marine Biosciences, *College of Earth, Ocean, and Environment*,  
University of Delaware, 2011

##### **Undergraduate Education:**

Bachelor of Science Degree, Environmental Science, University of Vermont, 2005

#### **WORK EXPERIENCE:**

**Principal Marine Biologist**, Rhode Island Division of Marine Fisheries, Jamestown, RI  
February, 2019 - Present

##### **Ongoing Responsibilities:**

- Manage RI federal lobster tracking program including device distribution, harvester customer service, VTA management and development, and data analysis.
- Oversees the RI aggregate fluke and black sea bass program development. Performed extensive data analysis of fishing activity to determine efficacy of program. Works with harvesters to ensure compliance with VMS and reporting requirements.
- Lead PI for the Rhode Island ventless fish pot survey. Collects monthly samples of structure oriented species in state waters. Performs data entry and analysis on collected biological samples; maintains project database. Conducts research with state partners.
- Lead PI for the Rhode Island winter flounder spawning stock survey. Conducts weekly fyke net surveys in RI coastal ponds in winter months. Maintains winter flounder tagging project conducted since 1999. Performs data entry and analysis on collected biological samples; maintains project database. Conducts research with state partners.

**Fisheries Biologist**, INSPIRE Environmental, Newport, RI  
July, 2017 – February, 2019

- Developed protocol and secured funding for a hook and line survey to address concerns of federal and state agencies regarding locations of spawning cod aggregations on Cox Ledge with regards to offshore wind development.
- Served as chief scientist for research; responsible for procurement and maintenance of equipment, contracting and community engagement with vessels and anglers, dissection and assessment of collected cod, data analysis and reporting.
- Additional work includes assessment of sediment profile and plan view images to assess seafloor habitat characteristics.
- Preparation of proposals to private, federal, international, and NGO RFPs. Responsible for scoping and monitoring of project budgets through to completion and delivery of final products to clients.

**Project Manager**, Applied Science Associates (dbs RPS ASA), Wakefield, RI  
April, 2011 – July, 2017

- Performed marine fisheries and coastal habitat research calculating injuries and reporting scientific findings for the DeepWater Horizon oil spill NRDA. Conducted analyses of large fisheries and environmental datasets.
- Developed novel methodologies for assessment of marine fish and invertebrate population dynamics.

- Project manager for development, application, and training of environmental risk assessment regarding oil and offshore wind development and operation in marine and coastal waters.
- Conducted risk assessments for coastal waters incorporating socioeconomic and ecological resources, including climate change planning.
- Preparation of proposals to private, federal, international, and NGO RFPs. Responsible for scoping and monitoring of project budgets through to completion and delivery of final products to clients.

**SPECIAL SKILLS:**

- Relational database management including MS Access
- Proficient in Microsoft Office Suite, R, and GIS
- Small boat handling including safe boating courses

**SYNERGISTIC ACTIVITIES**

- Atlantic States Marine Fisheries Commission Winter Flounder Technical Committee; Chair (2020 – Present)
- Atlantic States Marine Fisheries Commission Lobster Tracking Technical Committee; Member (2022 – Present)
- New England Fisheries Management Council Groundfish Plan Development Team; Member (2019 – Present)



# Anna R. Webb

30 Emerson Ave · Gloucester, MA 01930  
[anna.webb@mass.gov](mailto:anna.webb@mass.gov) · (978) 491-6212

## EDUCATION:

### Continuing Education:

Intro to Programming University of Massachusetts, Lowell; Fall 2016  
Relational Database Concepts, University of Massachusetts, Lowell; Spring 2015  
Hands-On Technology Transfer, Inc.: SQL Programming; Fall 2014

### Graduate Education:

Master of Science degree, Marine and Atmospheric Science, *Focus: Fisheries*, School of Marine and Atmospheric Sciences, Stony Brook University, 2011  
Thesis title: *Understudied Species in Coastal U.S. Waters: Issues, Solutions, and Implications for Ecosystem-Based Fishery Management*

### Undergraduate Education:

Bachelor of Science Degree, Marine Vertebrate Biology, Stony Brook University, 2007

## WORK EXPERIENCE:

**Environmental Analyst IV**, Massachusetts Division of Marine Fisheries, Gloucester, MA  
February, 2023 – Present

### *Ongoing Responsibilities:*

- Program leader for Division's Fisheries Statistics Program managing up to seven employees.
- Oversee and provide support for harvester and dealer data collection, entry, quality control, and compliance, quota monitoring of various species, all special projects including the swipe card dealer reporting system and implementation of a VMS program, and data dissemination to internal personnel, other partner agencies, and the public.
- Collaborate with other Division projects, state and federal partners, and ACCSP on various applications of fishery-dependent data that support fishery management.
- Act as the business project manager for internal permitting front-end applications and a liaison between end users and developers.
- Manage and oversee development and enhancements to the statistics Oracle databases.
- Apply for new and manage ongoing federal grants as the principal investigator.
- Present information compiled by the project to the general public via public meeting forums.
- Chair of the Commercial Technical Committee, Past Chair and current member of the Information Systems Committee, and Chair of the SAFIS Outreach Committee at the ACCSP.
- Division IT liaison to the Department and EOEEA to support technological advances within the Division. Act as Division project manager for ongoing technical projects. Provide IT support, within limits, to Division staff.

**Environmental Analyst III**, Massachusetts Division of Marine Fisheries, Gloucester, MA  
November, 2015 – February, 2023; Supervisor: Story Reed

- Project leader for Division's Fisheries Statistics Project managing up to seven employees.
- Oversee and provide support for harvester and dealer data collection, entry, quality control, and compliance, quota monitoring of various species, all special projects including the swipe card dealer reporting system, and data dissemination to internal personnel, other partner agencies, and the public.
- Collaborate with other Division projects, state and federal partners, and ACCSP on various applications of fishery-dependent data that support fishery management.
- Manage internal permitting and statistics Oracle databases and application development.

- Apply for new and manage ongoing federal grants as the principal investigator.
- Vice Chair of the Commercial Technical Committee, Past Chair and current member of the Information Systems Committee, and Chair of the SAFIS Outreach Committee at the ACCSP.
- Act as a Division IT liaison to the Department and EOEEA and support technological advances within the Division.

**Program Coordinator I, Massachusetts Division of Marine Fisheries, Gloucester, MA**

April, 2014 – November, 2015

- Oversee the harvester data collection, entry, quality control, and compliance for Massachusetts
- Instituted the online video tutorial series for harvesters using SAFIS and a newsletter focusing on electronic reporting for dealers and harvesters.
- Participate in the swipe card dealer application project with ACCSP and Maine Department of Marine Resources.
- Member of the Commercial Technical Committee, Vice Chair of the Information Systems Committee, and Chair of the SAFIS Outreach Committee at ACCSP.

**ACCSP Fishery Specialist (Coordinator), Rhode Island Division of Fish and Wildlife-Marine Fisheries Section, Jamestown, RI**

April, 2012 – April, 2014

- Oversee SAFIS data entry and compliance by dealers, harvesters, and staff.
- Participate on the quota monitoring team to make decisions regarding seasonal closures and possession limit changes for summer flounder, black sea bass, tautog, bluefish, striped bass, scup, menhaden, and monkfish.
- Manage the research-set-aside program in Rhode Island.
- Write and submit progress and final reports for ACCSP grants.
- Provide data to staff and external users while monitoring confidentiality issues.
- Member of the Commercial Technical Committee, Vice Chair of the Information Systems Committee at ACCSP, Chair of the Data Warehouse Outreach Committee.

**Seasonal Field Technician, New York State Department of Environmental Conservation, East Setauket, NY**

June, 2011 – April, 2012

- Conduct seining surveys of juvenile striped bass in Western Long Island bays.
- Assisted with the monitoring of 35 fish pots in a Long Island Sound fishery-independent survey of tautog and a trawl survey of Peconic Bay, NY targeting juvenile finfish species.
- Participated in onboard sampling and measurement of recreational charter boat catch including local species such as summer flounder, black sea bass, and scup.
- Monitor and collect commercial striped bass fishery samples from local fish markets
- Press and age striped bass scales.

**SPECIAL SKILLS:**

- Relational database management including MS Access and Oracle based databases
- Data mining large datasets for repeating errors
- Proficient in SQL in Oracle and SQL Server, Microsoft Office Suite - expert in Microsoft Excel
- Experience with R, GIS, HTML, Visual Basic

**AWARDS:**

- 2022 Performance Recognition Individual Citation Recipient, Department of Fish and Game
- 2020 Manuel Carballo Governor's Award for Excellence in Public Service recipient as part of the CARES team

## **Robert Atwood**

225 Main Street · Durham, NH 03820  
robert.atwood@wildlife.nh.gov · (603) 868-1095

### **EDUCATION:**

#### **Graduate Education:**

Master of Science Degree, Zoology, Department of Biological Science, University of New Hampshire, 2016

Thesis: Oyster (*Crassostrea virginica*) Recruitment Studies in the Great Bay Estuary, New Hampshire

#### **Undergraduate Education:**

Bachelor of Science Degree, Natural Resources – Fish and Wildlife, Northland College, Ashland, Wisconsin, 2004

### **WORK EXPERIENCE:**

**Biologist II**, NH Fish & Game Department, Marine Division, Durham, NH  
August 2022 – Present

#### **Ongoing Responsibilities:**

- Commercial Fisheries Unit leader. Oversee commercial fisheries projects in New Hampshire.
- Oversee the harvester data collection, entry, quality control, and compliance for New Hampshire.
- Member of the ASMFC Habitat Committee, Atlantic Herring Technical Committee, Atlantic Herring PRT, Northern shrimp PDT and American Eel PDT
- Member of Atlantic Coastal Fish Habitat Partnership Steering Committee.

**Biologist I**, NH Fish & Game Department, Marine Division, Durham, NH  
February 2010 – August 2022

- Oversee marine aquaculture activity in New Hampshire, which involves issuing licenses, conducting biological SCUBA site surveys, grant writing, and coordinating with multiple state and federal agencies.
- Plan and coordinate estuarine and marine fisheries projects including Rainbow smelt fyke net survey, Young-of-year American eel survey, and Northern Shrimp Research.
- Member of ASMFC Northern Shrimp Technical Committee, American Eel Technical Committee, Chair of ASMFC Northern Shrimp Technical Committee from 2016-2018.
- Member of ACCSP Information Systems and Commercial Technical Committee from 2010-2014.

**Biological Aide**, NH Fish & Game Department, Marine Division, Durham, NH  
April 2008 – February 2010

- Assist biologists with marine fisheries projects. Duties included creel surveys, fieldwork with anadromous and juvenile fish, and aging rainbow smelt scales.

**Everglades Field Technician**, University of West Florida Pensacola

February 2006 – August 2006

- Manage and collect field samples for project on the predation of apple snails (*Pomacea paludosa*) in the Everglades and Central Florida lakes. Supervise part-time field assistants. Operate and maintain airboats and vehicles.

**Wetland Technician**, Voyageurs National Park, International Falls, MN

June 2005 – September 2005 & June 2004 – December 2004

- Conduct wetland vegetation field projects. Map density of *Typha* and *Phragmites*. Locate peatlands using satellite imagery and identify plants.

**Desert Biological Monitor**, Bureau of Land Management, El Centro, CA

February 2005 – May 2005

- Collect plant and reptile species data in the Imperial Sand Dunes. Hike approximately 8 hours a day in extreme weather conditions. Reside in a remote base camp for three months.

**Hatchery Intern**, Red Cliff Tribal Fish Hatchery, Red Cliff, WI

October 2003 - April 2004 & August 2001 - December 2001

- Work with Brook Trout, Walleye, and Lake Sturgeon. Maintain raceways and other parts of hatchery. Fin-clip and floy-tag Brook Trout. Identify common fish diseases and treated fungus on fish. Identify the contents of Lake Trout stomach samples.

**Fisheries Biological Aide**, Idaho Fish and Game Department, Lewiston, ID

June 2003 – August 2003

- Assist with implanting and tracking Bull Trout using radio telemetry. Collect stomach and blood samples from Bull Trout.

**CERTIFICATIONS AND TRAINING:**

- Intermediate Stock Assessment training series, ASMFC, 2016-2017
- Principles and Practices of Group Facilitation, ASMFC, March 2016
- Introduction to Stock Assessment training series, ASMFC, 2015
- Foundations of Supervision, NH Bureau of Education and Training, August 2015
- PADI Open Water Scuba Certification

**PUBLICATIONS:**

Atwood, R.L. and R.E. Grizzle. 2020. Eastern Oyster Recruitment Patterns on and Near Natural Reefs: Implications for the Design of Oyster Reef Restoration Projects, *Journal of Shellfish Research* 39(2), 283-289.

Grizzle, R., K. Ward, R. Konisky, J. Greene, H. Abeels, and R. Atwood. 2021. Oyster Reef Restoration in New Hampshire, USA: Lessons Learned During Two Decades of Practice. *Ecological Restoration*. 39. 260-273.

# NATHAN WILLSE

(781) 660 2425 ◊ Nathan.Willse@Maine.Gov

## EDUCATION

---

<b>University of Massachusetts, Dartmouth</b> Bachelors of Science in Biology, Minor in Sustainability Studies	2008 - 2012
<b>National Taiwan University: Chinese Language Division</b> Study of Chinese Language and Traditional Chinese Characters	2016 - 2017
<b>PhD Candidate in Marine Science</b> University of Maine: School of Marine Sciences Stony Brook University: School of Marine and Atmospheric Sciences	2018 - Anticipated Graduation: 2024 2018 - 2020 2020 - 2024

## TECHNICAL STRENGTHS

---

<b>Languages</b>	English (native), Chinese (working knowledge)
<b>Software &amp; Tools</b>	R Programming Studio, ArcGIS, L <sup>A</sup> T <sub>E</sub> X, NOAA Stock Assessment Toolbox.
<b>Awards</b>	Sea Grant Scholar, Pikitch Research Excellence Fellow, Eagle Scout

## EXPERIENCE

---

**Maine Department of Marine Resources: Fisheries Scientist** November 2023 - Present  
*Fisheries Data Analyst*

- Managing the Maine federal lobster fleet vessel tracking program end user data outputs. Supervise program staff to ensure data quality, interpreting fishery behaviour, leading data analyses, leading publications in line with fishery spatial management goals.
- Working with the DMR Marine Mammal division on data analyses, and interpreting vessel tracking data to advise entanglement risk reduction goals.
- Collaborating with state and federal agencies to apply Maine-specific VMS and landings data to stock and marine mammal take assessments.

**Research Assistant** September 2018 - Present  
*Graduate Student*

- Fisher outreach to engage and equip volunteers for research projects. Modernize historic data and spearhead fisher surveys to fill systemic data gaps, develop and maintain database of confidential fisher data.
- Develop and publish novel quantitative analytical metrics for diverse data, specializing in cleaning and compiling historical and unconventional sources of data, synthesis of management metrics across data-deficient international fisheries, overlapping spatial and habitat distribution models, while identifying priorities for management.
- Lead international webinar series addressing current issues in crustacean fisheries stock assessment and management, identifying focal topics, curating speakers, organizing and moderating the event with NGO partners Environmental Defence Fund (EDF) and Lenfest.

**International Pacific Halibut Commission** May 2014 - September 2018  
*Lead Sea Sampler*

- Direct international fisheries research and scientific vessel operations on commercial fishing craft to ensure all biological and oceanographic sampling objectives are completed.
- Field marine mammal-seabird monitoring and reporting. Vessel safety reporting.

**National Marine Fisheries Service** May 2012 - 2014 May  
*North Pacific Groundfish Observer*

- Working in extreme environments with fisheries industry, designing sampling protocol across multiple fisheries, sampling a wide range of biological data on a variety of species.

## PUBLICATIONS

---

Hodgdon, C., M.D. Mazur, K.D. Friedland, **N. Willse**, Y. Chen (2021). Consequences of model assumptions when projecting habitat suitability: A caution of forecasting under uncertainties. *ICES Journal of Marine Science*, 78(6), pp. 2092–2108.

**Willse, N.**, E. Summers, Y. Chen (2022) Vertical Line Requirements and North Atlantic Right Whale Entanglement Risk Reduction for the Gulf of Maine American Lobster Fishery. *Marine and Coastal Fisheries*, 14(2), pp. 1-14. *Marine and Coastal Fisheries Best Manuscript of 2022 Winner*

**Willse, N.** *et al.* (2023). Linking crustacean life history to fishery management controls and reference points. *Fisheries Management and Ecology*, 00, e12691.

Hodgdon, C., **N. Willse**, N. Hunt, J. Kim, K.D. Friedland, Y. Chen (2023) Comparing Habitat Suitability Forecasts for Gulf of Maine and Southern New England American Lobster Stocks. *Journal of Shellfish Research*. 42.

**Willse, N.**, K. Staples E. Summers, Y. Chen (2024) Integrating and evaluating non-traditional gear technologies to reduce the risk to whales from fixed-gear fisheries - In Prep

**Willse, N.**, K. Staples E. Summers, Y. Chen (2024) Modernizing historic fishery effort distribution data to advise risk reduction for the North Atlantic right whale - In Prep

**Willse, N.** (2024) Filling critical data gaps in crustacean fisheries with a mixed approach, using stakeholder engaged research, regional expert testimony, and historic data to resolve data deficiencies. PhD Thesis - In Prep

## REPORTS

---

ICES Stock Assessment Review Reports - Review Lead (2019,2020,2022,2023)

Finding the lowest-hanging fruits to improve crustacean fisheries with limited data and capacity (EDF, Lenfest 2023)

Indonesian Crustacean Fishery Resources Report (EDF, Lenfest 2023)

Greenland Marine Mammal and Fishery Climate Susceptibility Report (University of Maine 2022)

## CONFERENCES PRESENTED

---

Vertical Line Use in Gulf of Maine Region Fixed Gear Fisheries. **Willse, N.**, E. Summers, Y. Chen: Maine Fisherman's Forum (2018,2019), American Fisheries Society (2019,2021), Gulf of Maine 2050 (2019), North Atlantic Right Whale Consortium (2019), University of Maine Graduate Symposium (2019,2020), RARGOM (2020,2021), ICES (2021), World Fisheries Congress (2021)

Consequences of model assumptions when projecting habitat suitability. Hodgdon, C., M.D. Mazur, K.D. Friedland, **N. Willse**, Y. Chen: American Fisheries Society (2021), ICES (2021), RARGOM (2021)

An Analysis of Biological Reference Points and Harvest Control Rules for Crustacean Fisheries Management. **Willse, N.** et al: American Fisheries Society (2022), ICES (2022)

Integrating and evaluating non-traditional gear technologies to reduce the risk to whales from fixed-gear fisheries. **Willse, N.**, et al: ICES (2023), SCAS (2023), NARW Consortium Annual Meeting (2023)



# Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201  
703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

**TO:** ACCSP Operations and Advisors Committee Members

**FROM:** Julie DeFilippi Simpson, ACCSP Deputy Director

**DATE:** June 17, 2024

**SUBJECT:** ACCSP Staff Workload for Proposed Project

---

**Project Title:** Vessel Tracking Data and Program Management Improvements: Expansion of Vessel Tracking Data Access Controls and Upgrading the SAFIS Vessel Tracking Application

**Project Type:** New Project

**Principal Investigators:** Rich Balouskus (RIDMF), Anna Webb (MADMF), Robert Atwood (NHFGD), Nathan Willse (MEDMR)

**ACCSP Staff Workload Comments: \***

The overall objective of this project is to develop enhancements to the administrative tool to view tracks in real time and provide a platform for advanced post-hoc analysis of spatial data. These enhancements are based on the lessons learned since the original development of the Vessel Tracking Application (VTA), which has been actively been collecting data and being used by partners for a year.

The technical work for project will be split between a contractor and the ACCSP Software staff. Partner agency staff have already proved to be willing and able to share ideas, codes, and approaches as possible to achieve efficiency through collaboration. ACCSP staff will be addressing the “Administrators have a more seamless experience managing compliance within a framework” and “API collects additional optionally sent information about devices” project objectives through the following tasks:

- Match column names to other SAFIS reports and applications (Trip.ID vs Trip.Id, End time was already changed).
- Add device voltage and vessel voltage to the SAFIS location API and make visible in the VTA.
- See VTR serial number in the trip viewer and compliance reports.
- Display all start/end times as local military time

ACCSP Software Team staff time required would be low and need to remain as such in order not to impact other scheduled projects such as the eDR redesign. Additional staff time would need to be dedicated to this project to manage the contract. While the total staff time is not insignificant, it is the opinion of the ACCSP leadership that this project is feasible.

\* Comments and opinions are based on evaluation of this project individually as opposed to all proposed projects as all projects have yet to be submitted.

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*



# Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201  
703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

Geoff White, Director  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22201

June 16, 2024

Dear Mr. White,

The Atlantic Coastal Cooperative Statistics Program (ACCSP) Recreational Technical Committee is pleased to submit the proposal titled, 'Pilot test of recreational released catch cards into the sampling design of the MRIP APAIS' for your review. This proposal offers a novel approach to both validate existing released catch from the MRIP APAIS and to also increase the numbers of lengths from released fishes from a variety of recreational fishing modes.

Please let me know if you have any questions or require further assistance with this request.

Sincerely,

Dawn Franco  
Marine Biologist 2  
Georgia Department of Natural Resources  
Coastal Resources Division  
1 Conservation Way  
Brunswick, GA 31520  
[Dawn.Franco@dnr.ga.gov](mailto:Dawn.Franco@dnr.ga.gov)  
(912) 266-4156

Angela Giuliano  
Research Statistician IV  
Maryland Department of Natural Resources  
Fishing and Boating Services  
580 Taylor Avenue, B-2  
Annapolis, MD 21401  
[angela.giuliano@maryland.gov](mailto:angela.giuliano@maryland.gov)  
(410) 260-8284



Proposal for FY2025 ACCSP Funding

**Applicant Name:** ACCSP Recreational Technical Committee

**Project Title:** Pilot test of recreational released catch cards into the sampling design of the MRIP APAIS

**Project Type:** New

**ACCSP Program Priorities:** Catch and Effort

**Principal Investigator:** Dawn Franco, [dawn.franco@dnr.ga.gov](mailto:dawn.franco@dnr.ga.gov)  
Angela Giuliano, [angela.giuliano@maryland.gov](mailto:angela.giuliano@maryland.gov)

**Project Staff:** Dave Martins, [dave.martins@mass.gov](mailto:dave.martins@mass.gov)  
John Lake, [john.lake@dem.ri.gov](mailto:john.lake@dem.ri.gov)  
Greg Wojcik, [gregory.wojcik@ct.gov](mailto:gregory.wojcik@ct.gov)  
Rachel Sysak, [rachel.sysak@dec.ny.gov](mailto:rachel.sysak@dec.ny.gov)  
Jeff More, [jeffrey.n.moore@deq.nc.gov](mailto:jeffrey.n.moore@deq.nc.gov)  
Brad Floyd, [floydb@dnr.sc.gov](mailto:floydb@dnr.sc.gov)  
Alex DiJohnson, [alex.dijohnson@accsp.org](mailto:alex.dijohnson@accsp.org)  
Trevor Scheffel, [trevor.scheffel@accsp.org](mailto:trevor.scheffel@accsp.org)  
Full-time, part-time, and seasonal staff

**Requested Award Amount:** \$202,486.83

**Requested Award Period:** May 1 – December 31, 2025

**Submission Date:** June 16, 2024  
Resubmitted as of 8/19/2024

Highlighted text indicates changes from the first submission  
Underlined text identifies key details that meet ranking criteria

## Objectives

This proposal will be a pilot project for calendar year 2025 offering use of a catch card as a supplementary sampling design to enhance the understanding of discard information in recreational fisheries along the Atlantic Coast. Private/rental boat mode will be the main focus but collection from multiple modes will be possible at the discretion of participating state partners. This proposal will pilot a modified sampling design to the Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS) to collect information from randomly selected anglers about their discarded fish during a recreational fishing trip. The specific objectives include:

- Requesting prior to the start of a fishing trip that anglers record traditional discard information that is currently collected through the APAIS (e.g., species, count, hours fished, fishing area).
- Collecting additional fields relevant to discard mortality (e.g., depth and lengths of discarded fish). This would be beneficial for the private/rental boat mode which comprises the majority of recreational discards for several key species (Figure 1).
- Using the same stratified random sample design, or probability-based sampling, as the APAIS will allow comparison to existing APAIS discard data collection and explore if bias exists.
- Compare data collected via catch cards to existing headboat and dockside sampling or other data sources.
- Educate the recreational fishing community on the importance of accurate discard information in fisheries management and stock assessment.
- Educate the recreational fishing community on discard mortality, barotrauma and safe fish handling techniques.

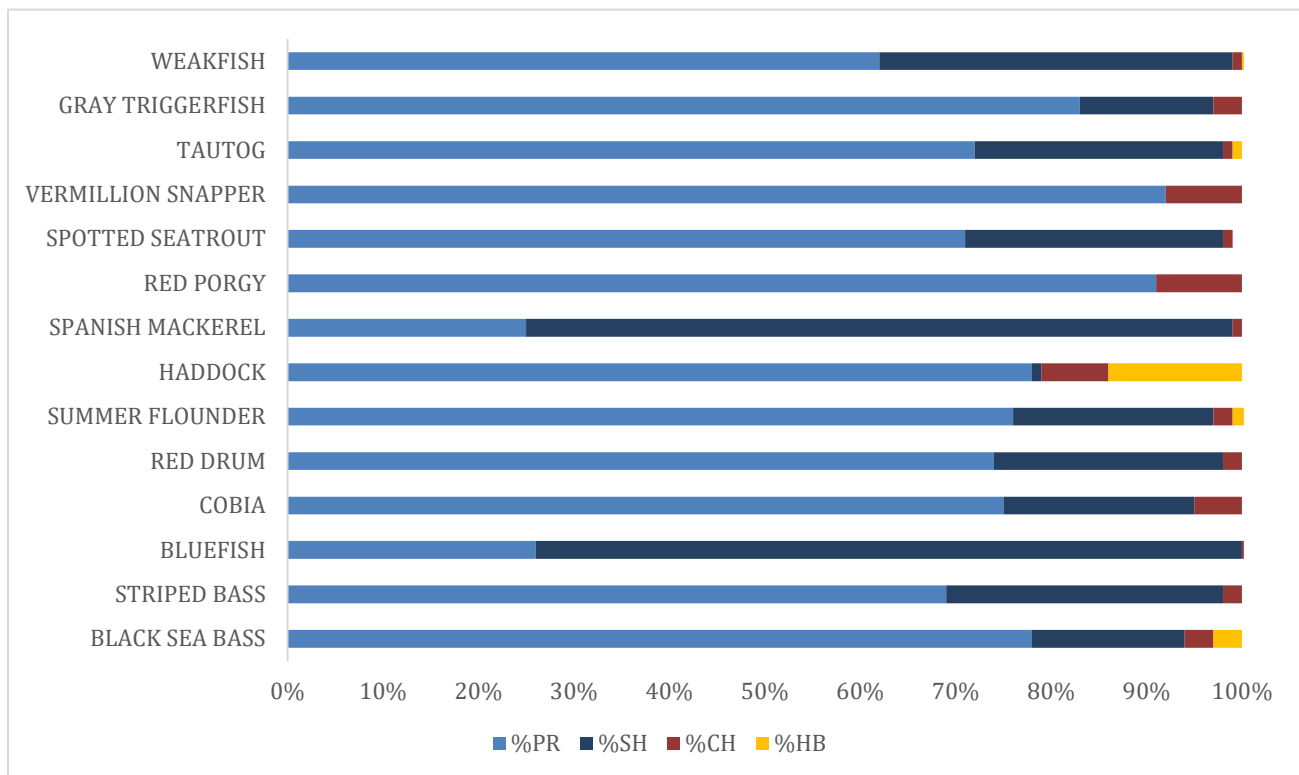


Figure 1. Percent discards of select species from ME to FL by mode, averaged for 2013 - 2022.

## Need

In recent years, recreational fishing practices have shifted towards releasing a larger proportion of the estimated catch, rather than harvesting it. This shift is due to several reasons including but not limited to increasingly stringent regulations, such as shorter seasons, higher size limits, and smaller bag limits, as well as the growing popularity of catch and release angling. For example, on the Atlantic Coast from Maine through Florida, a significant number of striped bass are caught and released by recreational anglers compared to those that are harvested (Figure 2). Approximately 84% to 95% of the striped bass catch are released alive. Similar patterns are seen in other recreationally important fish species such as black sea bass and summer flounder (Figures 3 and 4). From 2000 through 2022, approximately 90% of black sea bass and summer flounder were released alive, compared to less than 40% at the beginning of the time series. In recent years (2000-2022), an average of approximately 85% of all striped bass, black sea bass, and summer flounder were released alive (Figure 5).

According to MRIP, the total number of live black sea bass discards along the Atlantic coast from Maine to Florida was 45.1 million fish in 2022 (Figure 3). Considering a 15% hook and release mortality rate, an estimated 6.8 million fish were lost due to recreational discard mortality in 2022. In the same year, black sea bass harvest was 4.9 million fish, which means discard mortality alone accounted for 58% of the total recreational removals (harvest plus dead discards).

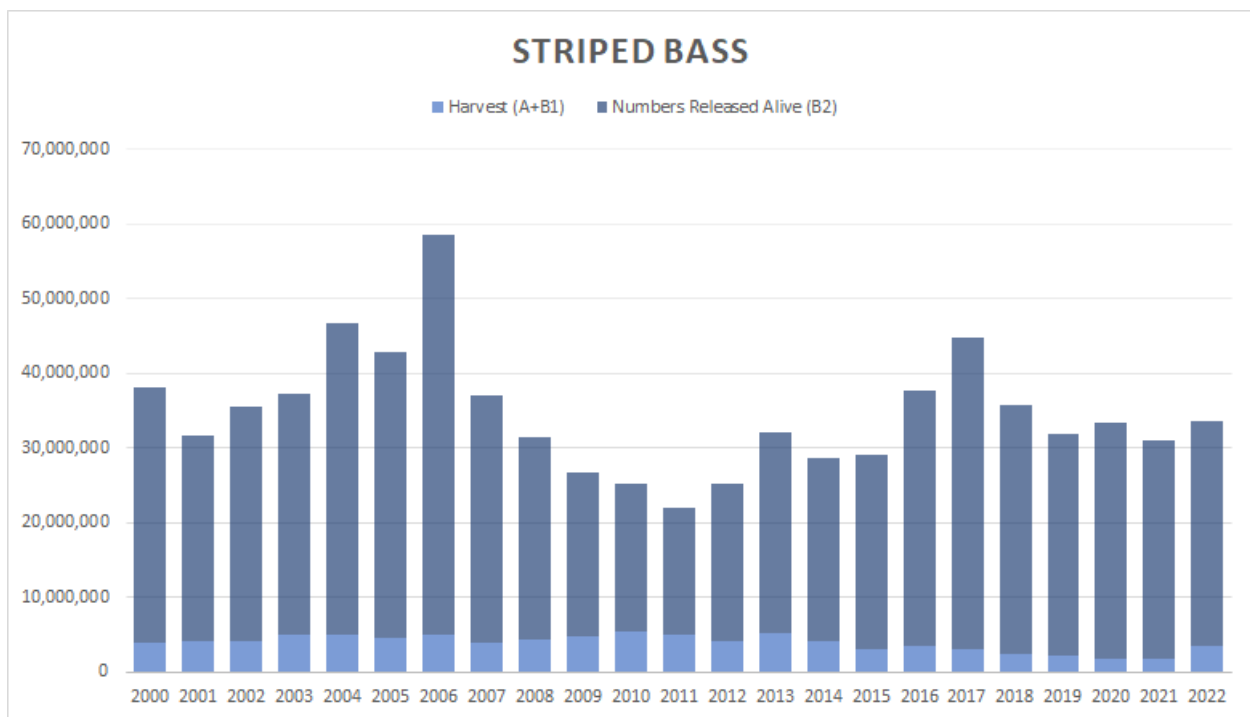


Figure 2. Catch trends in number of Striped Bass released from ME to FL, compared with harvest, illustrating released fish make up a majority of Striped Bass catch.

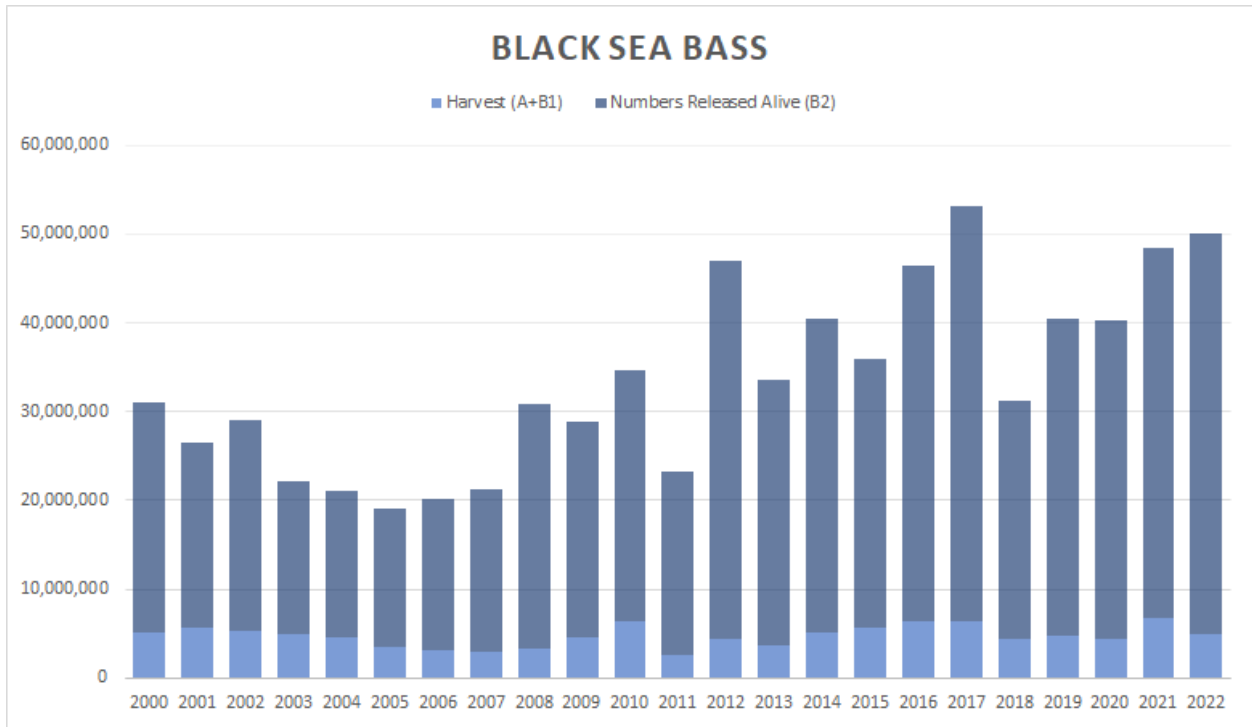


Figure 3. Catch trends in number of Black Sea Bass released from ME to FL, compared with harvest, illustrating released fish make up a majority of Black Sea Bass catch.

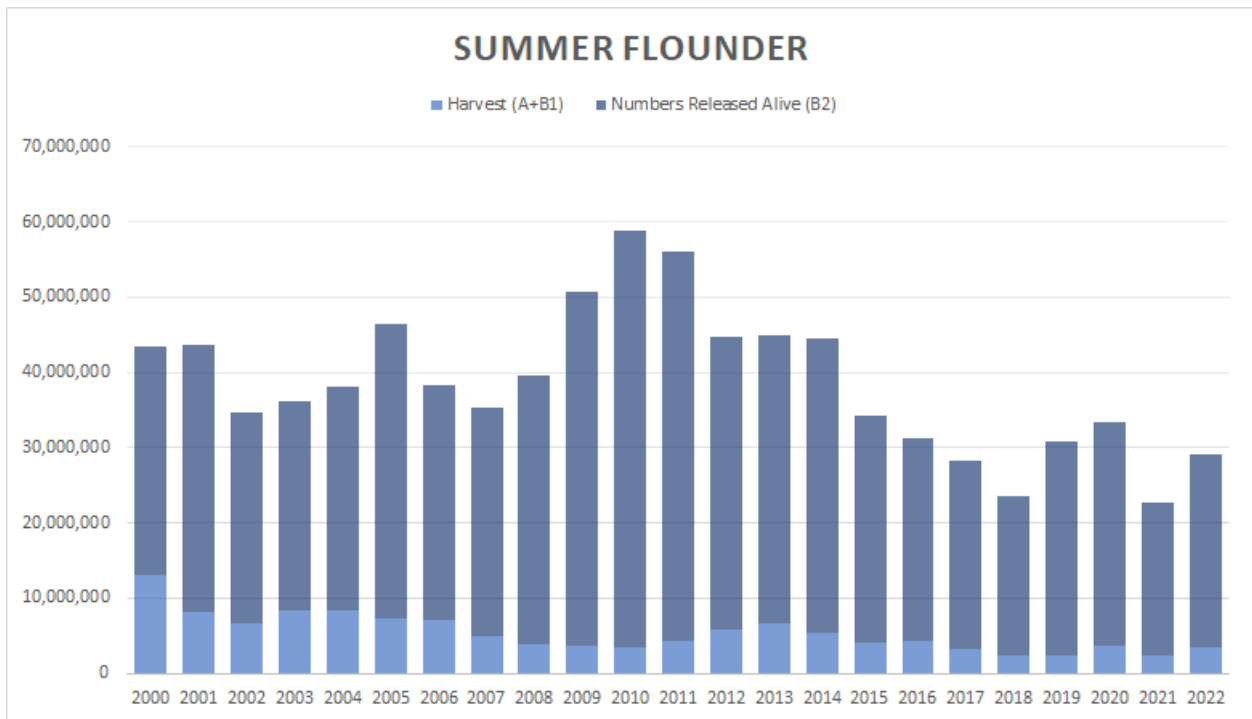


Figure 4. Catch trends in number of summer flounder released from ME to FL, compared with harvest, illustrating released fish make up a majority of summer flounder catch.

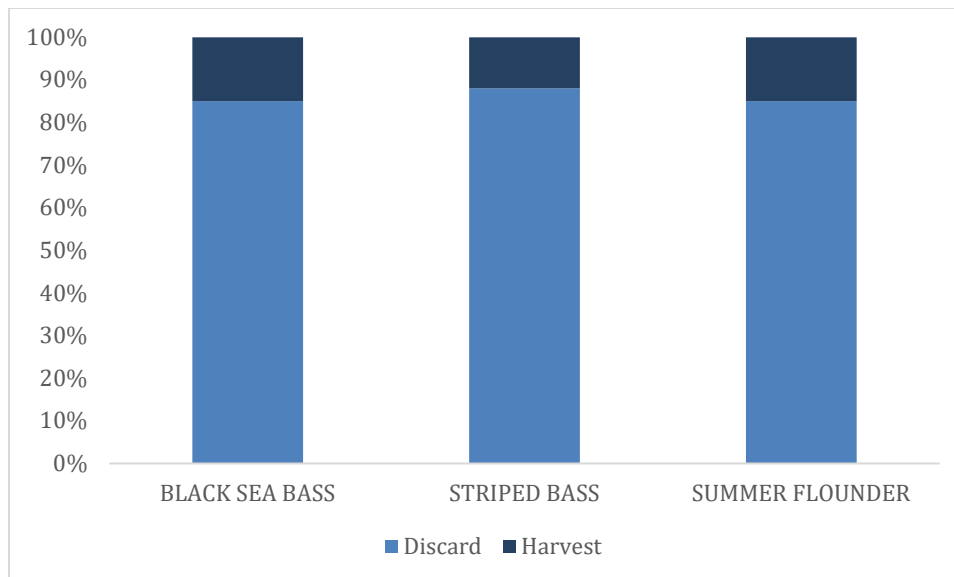


Figure 5. Percent of fish released, compared with harvest, averaged from 2000 to 2022 from ME to FL.

MRIP acknowledges that the accuracy and precision of information on released fish could be improved, especially since discarded fish represent an increasingly larger proportion of total removals from many fish populations.

The need for improved discard information in recreational fishing arises from several factors:

- **Regulatory requirements:** Recreational fishing regulations have become more stringent, with shorter seasons, higher size limits, and smaller bag limits. These regulations aim to protect fish populations and promote sustainable fishing practices. As a result, there is an increased number of fish being released.
- **Catch and release angling:** Catch and release has gained popularity among recreational anglers. Many anglers now prefer to release fish rather than harvest them. This shift in fishing practices is driven by a desire to conserve fish populations and promote their long-term sustainability.
- **High release rates:** A significant proportion of the estimated catch in recreational fishing may be released back into the water. For example, species like striped bass, black sea bass, and summer flounder have high rates of live releases, ranging from 84% to 95% of the catch. This indicates that a large number of fish are being released, and it is important to ensure accuracy of these data.
- **Discard mortality:** When fish are released after being caught, there is a risk of mortality. Factors such as handling stress, injuries from hooks or fishing gear, and post-release predation can contribute to the mortality of released fish. It is crucial that discard estimates are accurate so that the mortality associated with discards reflects the impact of catch and release practices on fish populations.
- **Data gaps:** The current monitoring and data collection systems for discards in recreational fishing are limited. The validated discard monitoring primarily focuses on the headboat fishery, while other fishing modes such as shore, private/rental, or charter boats have limited or no length data for discards. Using headboat data as a proxy for other fishing modes may not provide accurate length characterization due to differences in fishing methods. To improve discard estimates and mortality assessments, there is a need for mode-specific data collection.

Currently, the only source of **discard** length data for the recreational fleet, available coastwide in the Atlantic and used in stock assessments, is limited to the headboat fishery. Trained APAIS observers ride along on headboats to observe and record information on all fish caught by a limited number of anglers, including the species caught, lengths, quantity, and disposition of released fish. This information is extremely valuable in stock assessment models to evaluate discard mortality and total removals from a fishery, as well as the sizes of fish released in size- or age-based statistical models.

There is a lack of directly observed discard quantity and length information for other fishing modes such as shore, private/rental, or charter boats. In the absence of such data, headboat data is sometimes used as a proxy. However, applying headboat discard rates and size composition to other recreational fishery modes may not be entirely accurate due to differences in areas fished (offshore vs. inshore), depths fished (shallow vs. deep), and angler behavior (fishing method, hook type, bait type). The size composition of the fish population can vary between offshore and inshore areas. To obtain accurate characterization of each mode and estimate discard mortality, it is essential to use mode-specific data. Although some size information is available from external programs, such as state volunteer angler logbook or fish tagging programs, not all states have these programs and none currently have a statistically rigorous, peer-reviewed methodology. This study will test a method for collecting quality discard information for states that do not have a logbook or tagging program using a standardized, random sampling design.

To address these needs, our proposed solution is to pilot test an updated sampling design that increases focus on discards and expands discard length data collection to other fishing modes besides headboat mode. This can be achieved through the use of catch cards to collect release information. By obtaining more accurate discard estimates and mortality data, fisheries managers can make informed decisions to ensure the sustainable management of fish populations in recreational fishing and provide valuable data that is currently unavailable to stock assessments.

## **Results and Benefits**

Recent management actions for several recreationally important species have resulted in reduced seasons, changing size limits, and reduced bag limits, highlighting the increasing numbers of fish being discarded and management's need for more information on this sector of the fishery. Stock assessment and management advice are likely to improve if better data can be collected about released fish. By handing out catch cards before the trip begins, anglers would be notified ahead of time that they will be asked about their discards, offering them the opportunity to record discarded catch numbers and lengths while fishing. We can compare these data to the existing APAIS, hopefully helping to provide more accurate discard numbers (i.e., less rounding) and reporting of all species discarded (i.e., including all species rather than just managed species).

One of the largest uncertainties in stock assessments is the size composition of discards, particularly from the private boat fleet which contributes the largest proportion of the catch for many important recreational species. As noted previously, data on discard lengths from this fishing sector have been difficult to observe and assessments often use data from various logbook or volunteer angler surveys to fill this data gap or sometimes must use data from other sources, such as various tagging datasets or the MRIP headboat observations. While these data represent the best data currently available, there are questions on how representative they are of the private recreational fleet. This project presents an opportunity to collect important discard length data. Data collected in a randomized, statistically valid manner is considered one of the best ways to obtain a more representative sample of discard lengths from the private/rental boat sector. In addition, getting the data directly from mode specific anglers will ensure that the data most representative of their recreational fishing fleet is being used to describe their fishing activities.

Anglers will be asked to record the lengths of discarded fish for up to fourteen regionally important recreational species (Table 1). These important recreational species were selected in consultation with state partners, Atlantic States Marine Fisheries Commission, and Councils based on the importance of length data in stock assessment processes and having a high discard to harvest ratio.

Table 1. Select list of managed species which will have length information requested on catch cards.

Black Sea Bass	Gray Triggerfish	Red Porgy	Striped Bass	Vermilion Snapper
Bluefish	Haddock	Spanish Mackerel	Summer Flounder	Weakfish
Cobia	Red Drum	Spotted Sea Trout	Tautog	

The catch card program would be voluntary and design aspects would focus on methods to reduce potential biases. These catch cards would be handed out to anglers at sites selected using the random survey design of the APAIS. It is anticipated that this method will result in a more representative sample of discard catch length information than may be obtained from a purely opt-in volunteer angler survey. Data will be collected at the individual fishing trip level so that these data can be better aligned with how data are collected in the APAIS.

The catch cards will also provide an opportunity to collect data needed for stock assessments that are not usually collected in the APAIS but are needed to improve estimates of discard mortality such as the depth fished. Improved data on this field would provide more accurate estimates of the number of fish that die after being released, improving estimated fishing mortality rates, an important metric used to manage fish stocks sustainably.

### Data Delivery Plan

Waterproof cards will be provided a unique identification number to prevent fraudulent submissions. Additionally, field interviewers will indicate on every card when (e.g., date/time) and where (e.g., MRIP site number) it was distributed. Data from catch cards will be processed and manually keyed into a section on the ACCSP ATA. ACCSP will create standardized data tables formatted across all fields to ensure that state staff along the coast are entering the data the same way. Unique fields for each card will be checked for quality assurance (QA) during the data entry process to the ATA and quality control (QC) checks will be run periodically to review data issues, including outliers, after each submission via automated processes.

While electronic data submission options were discussed, physical catch cards were chosen as the preferred submission method. Previous MRIP studies for the Fishing Effort Survey (FES) have shown that having more than one data submission method (i.e., paper- vs. electronic-based) tends to produce lower overall response rates than having a single submission method. These studies have also found that anglers exhibited higher response rates through the mail rather than the web-based surveys. Additionally, electronic data collection could result in anglers who were not randomly encountered at the sites during the specific sample times being able to submit data. While anglers could still pass the paper form to someone else or collect data from a trip not within the sampling time frame, the use of physical cards with unique identification fields will reduce this issue. Appendix B summarizes the data processing.

After anglers complete their trips and record their discarded catch data on the distributed paper catch cards, anglers can submit their catch card to the associated state partner by:

- Mail using pre-paid postcards,
- Return directly to the APAIS interviewer if still on site when the angler completes their trip.

Anglers who return from their trip and hand in their catch card to an APAIS interviewer will be asked to complete an APAIS interview and the unavailable catch question will be asked. That is, the catch card will not replace the APAIS interview as this will help with the eventual comparison between current APAIS methodology and that of the catch card. Completing interviews on site with anglers, whether given the card or not, will provide opportunity to use data from

these overdrawn assignments for MRIP estimates, pending evaluation with the help of NOAA Fisheries MRIP staff. Completed interviews as part of overdrawn assignments will be uploaded to the ACCSP Assignment Tracking Application (ATA) using the same procedure as standard APAIS assignments. The total number of catch cards provided to anglers will be recorded to determine how many cards were returned for each assignment. This data will be used to assess non-response to gauge the rate of angler participation.

## Approach

Assignments will be created using the same draw process as the APAIS to ensure a probability-based sampling design but will be treated as a separate draw of private/rental boat sites. These assignments will be labeled as ‘Overdrawn’ assignments. In coordination with NOAA Fisheries MRIP staff, this pilot proposes to conduct overdrawn APAIS assignments as if the assignment is an actual APAIS assignment in order to standardize approaches for eventual data analyses. Overdrawn assignments will not initially be a part of the existing MRIP estimation process in order to ensure that the project doesn’t affect current interviewer productivity and ongoing efforts to improve PSEs along the Atlantic Coast. However, MRIP has indicated that overdrawn assignments could potentially be used in estimates, pending analyses after the sampling season if there are no significant biases between the catch card and regular APAIS assignments.

The number of overdrawn assignments will be predetermined in advance of the draw and will be state specific. The number of assignments per region was selected based on the average number of anglers that may be given a card each day (5.24), return rate of catch cards (25%) from a different pilot project in Connecticut together with APAIS results from 2022 (e.g., number of 0-interview assignments, private/rental anglers sampled with released catch), using a list of managed species by region on the Atlantic (see Appendix C). The total assignment goal (485) by region/state is as follows with sampling months described in Table 2:

- North Atlantic: 205 assignments total, 60 in MA, 70 in RI, and 75 in CT
- Mid-Atlantic: 130 assignments total, 65 in NY and 65 in MD
- South Atlantic: 150 assignments total, 50 in NC, 50 in SC, and 50 in GA

Table 2. Months of sampling overdrawn APAIS assignments for pilot project.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Massachusetts</b>					X	X	X	X	X	X		
<b>Rhode Island</b>					X	X	X	X	X	X		
<b>Connecticut</b>					X	X	X	X	X	X		
<b>New York</b>					X	X	X	X	X	X		
<b>Maryland</b>					X	X	X	X	X	X		
<b>North Carolina</b>					X	X	X	X	X	X	X	
<b>South Carolina</b>					X	X	X	X	X	X	X	
<b>Georgia</b>					X	X	X	X	X	X	X	

Catch cards will be printed and distributed to anglers by APAIS field interviewers. Catch cards will be handed out mainly to private/rental boat anglers but interviewers could hand out cards to shore anglers, as encountered. In 2022, the majority (78%) of anglers interviewed started their fishing trip between the hours of 6am and noon (see Table 1 in Appendix C). Therefore, assignments will have a buffer time before the 6-hour APAIS where catch cards will be handed out for two common APAIS intervals: 0800-1400 and 1100-1700 to maximize potential of encountering anglers before



they begin their trip. This will default to a 1-hour buffer time but could potentially be extended to 2- or 3-hour buffers depending on staff availability and assignment specifics. During this buffer time, interviews cannot be conducted as the purpose of the buffer is specifically for distributing catch cards to anglers beginning their fishing trips. During the APAIS assignment interval, field interviewers will hand out catch cards to anglers departing on their trips as well as complete intercepts with anglers finishing their trips with angler intercepts taking precedence during the assignment interval.

Anglers will be given cards as they are departing the access point to begin their fishing trip, along with a brief explanation from field staff on how to fill out the card and why the information is important. A small (golf) pencil will be provided as well as a tape measure. The unit of measurement on the tape measure will include inches since that is the unit of measure most anglers are familiar with.

### Data Collection

Catch cards will include data fields for the following basic fisheries information:

- Date
- Fishing mode
- Target species
- Hours fished
- Area fished (ocean  $\leq 3$  miles, ocean  $> 3$  miles, or inland)
- Depth fished
- Trip end time

Catch information questions will include:

- Number of fish released per species
- Disposition (thrown back alive, thrown back dead)
- Discard lengths for fourteen regionally important/managed species (see Table 1)

Note: There are two examples provided for catch cards. Focus groups or field testing will be planned in mid- to late-2024 to gauge how easily the catch card can be understood and filled in by anglers.

### Measuring Procedures

Anglers will be asked to measure up to 15 individual released fish, if included in the list of 14 species, on the catch card in the order in which each fish is caught. That is, the fish are not to be measured based on size or every 'n<sup>th</sup>' individual. The recommendation for 15 is to limit angler burden or fatigue and anglers can record more than 15 individuals if desired.

Anglers would be asked to measure the total length (TL) of each fish rounded up to the nearest quarter-inch to reduce error. This measurement was selected because 0.25 inches is equal to .635 cm, which is at least  $\pm 1$  cm consistent with lengths reported in scientific fisheries literature. Cards will be returned to the participating state that distributed the card, either by mail or to the field interviewer if they're still at the site. Field interviewers will fill in the location and date the card was given to the angler and track the total number of cards distributed each day to determine response rate.

There is limited space on the card for instructions so each card will include a link (via QR code) to provide outreach and education materials plus more complete instructions such as:

*“We are conducting a study to collect information about any fish you may catch and release on your fishing trip today. Please fill out this card in its entirety, and only for fish that you specifically caught and released. Do not include any other angler’s information in your party on this card. Please tell us more information about your trip in “Trip Information”. We would like to know what fish were you targeting, what depth most of your fishing occurred, number of hours you were fishing, if you were fishing from a boat or the shore, how far from shore you were fishing, and time your trip ended. In “Angler’s released Catch for total trip”, track all species released by writing in each species name and record the total number of each species released using tally marks. You can overwrite the box with the example if you need the extra space. For the length section, only record lengths for priority species (see list below). If you release a priority species, write in the name of the species on the top line and record one total length (rounded up to the nearest quarter inch) in each box under the applicable species name. You can have multiple columns for a single species if you need more space for lengths (e.g., 2 columns for Spanish mackerel). If you did not release any fish on your trip, please check the box “I did not release any fish today”.*

*Coastwide list of priority species for lengths:*

*Black Sea Bass, Bluefish, Cobia, Gray Triggerfish, Haddock, Red Drum, Red Porgy, Spanish Mackerel, Spotted Seatrout, Striped Bass, Summer Flounder, Tautog, Vermilion Snapper, and Weakfish.”*

In addition to the QR code, half-sheets of paper will be printed and available to hand out to anglers or for use by field interviewers at the state’s discretion.

#### Potential Analysis Approaches and Future Validation

Direct validation of angler reported discards through observation or video recording is not practical due to the number and size of private and rental recreational fishing vessels. There are, however, various approaches to compare data collected through this catch card pilot project to other data sources. A validation component would highlight potential biases in the data collected by various methods and elucidate whether the discard lengths collected are accurate and reasonable.

Additionally, an examination of differences in the number of discarded species reported between APAIS intercepts and catch cards tests the hypothesis that anglers are more likely to report greater species diversity via catch card including less valued (infrequently targeted) species, compared with the APAIS. Data can also be analyzed to evaluate if there are fewer instances of rounding in catch card data.

One of the most important aspects of this catch card pilot project is the ability to collect length information on released fish to better describe the size composition of discarded catch. The composition of discard length frequencies from the catch cards can be compared with data sources external to APAIS such as volunteer angler logbook programs or fish tag and release data sets, or with the headboat discard data currently collected through APAIS to evaluate if differences exist.

In the future, a separate proposal could be developed to determine the efficacy of a catch card approach by directly observing shore or headboat anglers who simultaneously self-report their discards on the card as an alternative way to validate catch card data, Hawthorne effect notwithstanding. It would be interesting and important to examine whether catch card discard length data align with data from other programs as comparing the various data streams may tell us something about potential biases between the different data types (randomly distributed cards, opt-in data collection, fish tagging data sets, and APAIS headboat sampling).

## Funding Transition Plan

This pilot project is intended to test several hypotheses in the initial year of conduct, including the methods of increasing discard information. If the results of the first year indicate major benefits for another year's pilot testing, additional funding would be requested. However, if this pilot proves to be successful and does not require additional testing, funding to continue or merge this methodology with the APAIS would instead be covered under the MRIP general survey's cooperative agreement on the Atlantic.

## **Outreach and Education**

Educational outreach materials will be created to standardize data collection and explain the needs and benefits of the project. Primary program outreach will occur during initial contact a field interviewer has with an angler prior to the start of any fishing activity. At this stage, field interviewers will provide potential participating anglers with a brief overview of the project, the survey card, a measuring tape, and a pencil.

Materials created for anglers will provide card instructions, general information, and a region-specific section. Instructions will include detailed information on how to fill out the survey card, how to measure fish of varying body types, and how anglers can submit their data. The general information section will contain broad information about the purpose of the project, the importance of recreational discard information in fisheries management, and best practices for releasing fish (e.g., safe handling, circle hooks, descending devices). There is a wealth of knowledge online regarding best fish handling practices and barotrauma and educational videos and links for these will be provided on the website as angler resources. The region-specific section will include information about species frequently encountered in the region in which the fishing trip is occurring as well as information to help anglers accurately identify species that are commonly mis-identified. As a secondary form of outreach, the materials will provide links to direct anglers to more program-specific information, to websites of participating agencies, and to other sources related to recreational anglers and recreational fishing data collection.

Outreach materials will also emphasize that the release cards are meant to compliment MRIP data, not replace it, and will highlight the importance of continued participation in the MRIP APAIS surveys. The survey card, pencil, and measuring tape will ensure that anglers have the appropriate tools needed to collect the discard data, while the additional materials will describe the importance of discard information in the fishery management process and how collected data can be beneficial. Informing anglers of the importance of the data they collect prior to beginning their fishing activity has potential to 1) motivate them to participate in the program through increased awareness, and 2) increase an angler's focus on discard information during that fishing trip, in turn encouraging more accurate data.

Small items such as towels, hooks, measuring tapes, etc. can be handed out with the card to incentivize and thank anglers for their participation. The incentives are not a required part of the project but can be used at the discretion of the participating state.

## **Geographic Location**

Broadly, this project will cover the Atlantic coast from Maine through Georgia. During the first year of the pilot project, regional coverage will be accomplished by Massachusetts, Rhode Island, and Connecticut in the North, New York and Maryland in the Mid, and North Carolina, South Carolina, and Georgia in the South.

## Milestone Schedule

Date	Event
Jun 17, 2024	Proposal Submitted to ACCSP RFP
Aug 8, 2024	Pilot Partner Meeting
Aug 19, 2024	Revisions to Proposal Due
Sep-Nov, 2024	Pilot Partner Meetings
Dec 5, 2024	Full RTC Meeting - Virtual
Jan, 2025	Finalize Catch Card, arrange for printing
Jan, 2025 - Mar, 2025	Pilot Partner Meetings
Mar, 2025	Overdrawn Assignment Allocation request to MRIP
Mar-Apr, 2025	Training sessions for Pilot states, order supplies, ship to states
May, 2025	Pilot Project Conduct begins (Table 2)
Jun 15, 2025	Deadline for card data entry and data review for May
Jun, 2025	Pilot Partner Meeting – check in on process
Jul 15, 2025	Deadline for card data entry and data review for Jun
Jul, 2025	Pilot Partner Meeting – Wave review (May-Jun)
Aug 15, 2025	Deadline for card data entry and data review for Jul
Aug, 2025	Pilot Partner Meeting – Mid Season review (May to July)
Sep 15, 2025	Deadline for card data entry and data review for Aug
Sep, 2025	Pilot Partner Meeting – Wave review (Jul-Aug)
Oct 15, 2025	Deadline for card data entry and data review for Sep
Nov 15, 2025	Deadline for card data entry and data review for Oct
Nov, 2025	Pilot Partner Meeting – Wave review (Sep-Oct)
Dec 15, 2025	Deadline for card data entry and data review for Nov
Dec 31, 2025	Deadline for final data review for May-Nov
Jan 1, 2026	Data available for analysis

## Project Accomplishments Measurement

Project Goals	Metrics
Discard length data collection	- 60 length measurements for each priority species by relevant spatial (e.g., state, region) and temporal (e.g., month, wave, year) category for use in stock assessments
Discard rate analyses	- Better understanding of potential recall/measurement bias to APAIS released catch by moving request for discards from after-trip to before-trip. Field staff will track and report how many cards are distributed. Interviewers could potentially distribute up to 15,000 catch cards.

**Cost Summary (Budget)**

Description	Calculation	Cost	In-kind
<b>MASSACHUSETTS</b>			
<b>Personnel (a)</b>			
Interviewers (seasonal)	60 (9 hours) @ \$22.00 per hour	\$ 11,880.00	\$ -
Data entry clerk (seasonal)	60 * .5 Hours/Assign * \$22/Hour	\$ 660.00	\$ -
Program Staff time (2 hrs per week)	30 weeks (2hrs per week)	\$ -	\$ 2,709.60
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.0162 * personnel (a)	\$ 192.46	\$ -
Data entry clerk (seasonal)	Fringe = 0.0162 * personnel (a)	\$ 10.69	\$ -
Program Staff time	Fringe = 0.4505 * personnel (a)	\$ -	\$ 1,220.67
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (60 assignments @ 70 miles average roundtrip)	\$ 2,814.00	\$ -
Other expenses	Parking, tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (60 assignments w/ avg anglers per assignment: \$1.00/sheet of write-in-rain paper, \$0.50/pencil, \$1.00/measuring tape)	\$ 4,500.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (60 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,440.00	\$ -
	Handout materials / reward	\$ 1,200.00	\$ -
<b>Totals (c+d+e)</b>		<b>\$ 7,844.00</b>	<b>\$ -</b>
<b>Total direct charges</b>			
Indirect charges (f)	Indirect (25.59% of Salary)	\$ 4,057.04	\$ 693.39
<b>Sum of direct and indirect</b>		<b>\$ 27,254.19</b>	<b>\$ 4,623.66</b>

Description	Calculation	Cost	In-kind
<b><u>RHODE ISLAND</u></b>			
<b>Personnel (a)</b>			
Interviewers	Staff Hours @ 7 Hours w/ 2hr travel @ \$22.00	\$ 13,860.00	\$ -
Date entry	Staff Hours @ 0.1 Hours @ \$22.00 @ 15 Intercepts/Assignments	\$ 2,310.00	\$ -
Supervisor	Supervisor Salary	\$ -	\$ 2,391.00
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.10 * personnel (a)	\$ 1,386.00	\$ -
Data entry clerk (seasonal)	Fringe = 0.10 * personnel (a)	\$ 231.00	\$ -
Program Staff time	Fringe = 0.10 * personnel (a)	\$ -	\$ 239.10
<b>Travel (c)</b>			
Vehicle Mileage	60 mile per assignment .67/miles	\$ 2,814.00	\$ -
Other expenses	Parking, Tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (70 assignments w/ avg anglers per assignment), pencils (\$0.50), and measuring tapes (\$1.00)	\$ 5,250.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (70 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,680.00	\$ -
<b>Totals (c+d+e)</b>		<b>\$ 7,199.00</b>	<b>\$ -</b>
<b>Total direct charges</b>			
Indirect charges (f)	Indirect (22.32% of TDC)	\$ 4,348.83	\$ 533.67
<b>Sum of direct and indirect</b>		<b>\$ 32,379.83</b>	<b>\$ 3,163.77</b>

Description	Calculation	Cost	In-kind
<b><u>CONNECTICUT</u></b>			
<b>Personnel (a)</b>			
Interviewers	Staff hours (75 assignments total: 85% w/ 1-hour buffer, 15% w/o buffer) w/ 2 hours of travel time per assignment @ \$16/hour)	\$ 10,620.00	\$ -
Data entry clerk	Staff hours (75 assignments total, 0.5 hours per assignment for review/entry * \$20/hour)	\$ 750.00	\$ -
Supervisor	37.5 hours over 30 weeks including fringe		\$ 4,454.20
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.6722 * personnel (a)	\$ 7,138.76	\$ -
Data entry clerk (FTE)	Fringe = 0.9047 * personnel (a)	\$ 678.53	\$ -
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (75 assignments @ 50 miles average roundtrip)	\$ 2,512.50	\$ -
Other expenses	Parking, tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (75 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 5,625.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (75 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,800.00	\$ -
	Handout materials / reward	\$ 1,200.00	
<b>Totals (c+d+e)</b>		\$ 8,375.00	\$ -
<b>Total direct charges</b>			
<b>Indirect charges (f)</b>	Indirect (36.93% of personnel (a))	\$ 4,198.94	\$ 1,644.94
<b>Sum of direct and indirect</b>		\$ 35,023.73	\$ 6,099.14

Description	Calculation	Cost	In-kind
<b><u>NEW YORK</u></b>			
<b>Personnel (a)</b>			
Interviewers	Staff hours (65 assignments total: 85% w/ 1-hour buffer, 15% w/o buffer) w/ 3 hours of travel time per assignment @ \$21.664/hour)	\$ 13,870.38	\$ -
Data entry clerk	Staff hours (65 assignments total, 0.5 hours per assignment for review/entry * \$21.664/hour)	\$ 704.08	\$ -
Supervisor		\$ -	\$ 1,200.00
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.10 * personnel (a)	\$ 1,387.04	\$ -
Data entry clerk (seasonal)	Fringe = 0.35 * personnel (a)	\$ 246.43	\$ -
		\$ -	\$ 420.00
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (65 assignments @ 75 miles average roundtrip)	\$ 3,266.25	\$ -
Other expenses	Parking, tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (65 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 4,875.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (65 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,560.00	\$ -
Totals (c+d+e)		\$ 7,373.75	\$ -
Total direct charges			
Indirect charges (f)	Indirect (0.00% of TDC)	\$ -	\$ -
Sum of direct and indirect		\$ 26,409.17	\$ 1,620.00



Description	Calculation	Cost	In-kind
<b>MARYLAND</b>			
<b>Personnel (a)</b>			
Interviewers	Staff hours (65 assignments total: 85% w/ 1-hour buffer, 15% w/o buffer) w/ 2 hours of travel time per assignment @ \$17.66/hour)	\$ 10,158.92	\$ -
Data entry clerk	Staff hours (65 assignments total, 0.5 hours per assignment for review/entry * \$19.26/hour)	\$ 625.95	\$ -
Project Manager	Scheduling/printing/data entry/etc. (1/2 month)	\$ -	\$ 2,500.00
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.10 * personnel (a)	\$ 1,015.89	\$ -
Data entry clerk (seasonal)	Fringe = 0.35 * personnel (a)	\$ 219.08	\$ -
		\$ -	\$ 875.00
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (65 assignments @ 50 miles average roundtrip)	\$ 2,177.50	\$ -
Other expenses	Parking, tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (65 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 4,875.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (65 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,560.00	\$ -
Totals (c+d+e)		\$ 6,285.00	\$ -
Total direct charges			
Indirect charges (f)	Indirect (10.00% of TDC)	\$ 1,881.74	\$ 250.00
Sum of direct and indirect		\$ 23,014.08	\$ 3,625.00

Description	Calculation	Cost	In-kind
<b><u>NORTH CAROLINA</u></b>			
<b>Personnel (a)</b>			
Interviewers	Staff hours (50 assignments total: 85% w/ 1-hour buffer, 15% w/o buffer) w/ 2 hours of travel time per assignment @ \$18/hour)	\$ 7,965.00	\$ -
Data entry clerk	Staff hours (50 assignments total, 0.5 hours per assignment for review/entry * \$18/hour)	\$ 450.00	\$ -
Supervisor	General staff management for 37 weeks	\$ -	\$ 2,000.00
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.10 * personnel (a)	\$ 796.50	\$ -
Data entry clerk (FTE)	Fringe = 0.53 * personnel (a)	\$ 238.50	\$ -
Supervisor	Fringe = 0.53 * personnel (a)	\$ -	\$ 1,060.00
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (50 assignments @ 50 miles average roundtrip)	\$ 2,010.00	\$ -
Other expenses	Parking, tolls, etc.	\$ 100.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (50 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 4,375.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (50 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,400.00	\$ -
	Incentives	\$ 600.00	
<b>Totals (c+d+e)</b>		<b>\$ 5,935.00</b>	<b>\$ -</b>
Total direct charges			
Indirect charges (f)		\$ 1,785.00	\$ 518.00
Sum of direct and indirect		<b>\$ 19,720.00</b>	<b>\$ 3,578.00</b>

Description	Calculation	Cost	In-kind
<b><u>SOUTH CAROLINA</u></b>			
<b>Personnel (a)</b>			
Interviewers	50 assignments, 100% w/ 1-hour buffer, 2 hours of travel time per assignment = 2 months of FI	\$ 7,603.43	\$ -
Supervisor	scheduling/printing/data entry/etc. (1 month salary *.46 fringe)	\$ -	\$ 5,690.42
<b>Fringe (b)</b>			
Interviewer (seasonal)	Fringe = 0.46* personnel (a)	\$ 3,497.58	\$ -
Supervisor	Fringe = 0.46* personnel (a)	\$ -	\$ 2,617.59
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (50 assignments @ 50 miles average roundtrip)	\$ 1,675.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (50 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 3,750.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (50 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,200.00	\$ -
<b>Totals (c+d+e)</b>		<b>\$ 4,450.00</b>	<b>\$ -</b>
<b>Total direct charges</b>			
<b>Indirect charges (f)</b>	<b>Indirect (10.00% of TDC)</b>	<b>\$ 1,110.10</b>	<b>\$ 830.80</b>
<b>Sum of direct and indirect</b>		<b>\$ 18,836.11</b>	<b>\$ 9,138.81</b>

Description	Calculation	Cost	In-kind
<b>GEORGIA</b>			
<b>Personnel (a)</b>			
Interviewers (PTE)	Staff hours (30 assignments total : 8h (inc 1-2 hr buffer) plus 2 hours of travel time per assignment)	\$ 4,500.00	\$ -
Interviewers (FTE)	Staff hours (20 assignments total: 8h (inc 1-2 hr buffer) plus 2 hours of travel time per assignment)	\$ 3,960.00	\$ -
Data entry clerk	Staff hours (50 assignments total, 0.5 hours per assignment for review/entry)	\$ 495.00	\$ -
Manager	Staff hours (16 hours)	\$ -	\$ 430.90
<b>Fringe (b)</b>			
Interviewers (PTE)	Fringe = 0.0145* personnel (a)	\$ 65.25	\$ -
Interviewers (FTE)	Fringe = 0.68114* personnel (a)	\$ 3,034.48	\$ -
		\$ -	\$ 293.50
<b>Travel (c)</b>			
Vehicle Mileage	\$0.67/mile (50 assignments @ 70 miles average roundtrip)	\$ 2,345.00	\$ -
Other expenses	Parking, tolls, etc.	\$ 500.00	\$ -
<b>Supplies (d)</b>			
Printing + Angler supplies	Printing paper (50 assignments w/ avg anglers per assignment: \$1.00 per sheet of write-in-rain paper, \$0.50 per pencil, \$1.00 per measuring tape)	\$ 3,750.00	\$ -
<b>Other (e)</b>			
Other	Pre-paid mailing for catch cards (50 assignments w/ avg anglers per assignment: \$0.80 per pre-paid expense)	\$ 1,200.00	\$ -
<b>Totals (c+d+e)</b>		\$ 5,620.00	\$ -
Total direct charges			
Indirect charges (f)		\$ -	\$ -
Sum of direct and indirect		\$ 19,849.73	\$ 724.40

Description	Calculation	Cost	In-kind
<b>ASMFC</b>			
<b>Personnel (a)</b>			
Data coordinator(s)	In-kind staff hours (520 assignments coastal total: 0.25 hours per assignment for review)	\$ -	\$ 6,500.00
<b>Fringe (b)</b>			
Interviewers (PTE)	Fringe = 0.35* personnel (a)	\$ -	\$ 2,275.00
<b>Travel (c)</b>			
-	-	\$ -	\$ -
<b>Supplies (d)</b>			
Printing	Printing paper catch cards (525 assignment w/ avg anglers per assignment) - Does not include postage cost	\$ -	\$ 5,000.00
<b>Other (e)</b>			
Other	In-kind staff hours (DIA, database, APEX programming) for Catch-Card APAIS assignments	\$ -	\$ 15,000.00
<b>Totals (c+d+e)</b>		\$ -	\$ 20,000.00
<b>Total direct charges</b>			
Indirect charges (f)	Indirect (8.00% of personnel (a))	\$ -	\$ 520.00
<b>Sum of direct and indirect</b>		\$ -	\$ 29,295.00
<i>*DIA Updates will require contractor development time and centralized printing of catch cards, covered under the existing MRIP budget.</i>			
<b>Grand Total:</b>		<b>Cost</b>	<b>In-kind</b>
		\$ 202,486.83	\$ 61,867.79

## Budget Narrative

- a. **Personnel (\$90,412.75 Requested; \$27,876.12 In-Kind):** Part-time, full-time, and sometimes as combination of employee types will be utilized to cover assignment completion. For the most part, full-time staff will be used to convert catch cards into electronic data via the ATA. Both assignment completion and data entry are estimates based on the number of assignments and therefore number of interviews/catch cards. In-kind contributions cover supervisor time to cover project logistics (e.g., scheduling, QC and data review, etc.).
- b. **Fringe (\$20,138.18 Requested; \$9,000.87 In-Kind):** Fringe for part-time and full-time staff are associated with personnel funds. Requested funds are to cover assignment completion and data entry while in-kind funds are associated with supervisor time.
- c. **Travel (\$22,714.25 Requested; \$0 In-Kind):** Coast-wide mileage cost of \$0.67/mile for the individual state number of assignments. Most states also an estimated amount to cover parking and tolls.
- d. **Supplies (\$37,000.00 Requested; \$5,000.00 In-Kind):** Paper for catch cards (either by page or by box of write-in-rain paper), pencils and measuring tapes to collect released catch information and lengths. Estimates were based on the average number of anglers expected to encounter per assignment. The ASMFC portion of in-kind contribution is for the centralized printing of coastal catch cards.
- e. **Other (\$14,840.00 Requested; \$15,000.00 In-Kind):** Pre-paid postage per estimates number of catch cards makes up the majority of requested funds. Some states are also considering outreach materials. In-kind funds cover development of database structures and updates to the existing dockside application via Harbor Light Software, used to conduct the APAIS to link catch cards to the APAIS. The latter was an estimate based on the hours required to develop, QC, and distribute application updates, both for ACCSP and Harbor Light Software staff.
- f. **Indirect (\$17,381.65 Requested; \$4,990.80 In-Kind):** Indirect rates range from 0 to ~37% for state partners and ASMFC/ACCSP. Percentages are mostly applied to only personnel and fringe but sometimes also to the travel, supplies, and other expenses – this is dependent on state policies.

## Summary of Proposal for Ranking

**Proposal Type:** New

### Primary Program Priority:

#### **Catch and Effort (100%)**

- Proposal will provide data to investigate differences in angler responses using pre-trip recreational catch card versus current APAIS data collected after a fishing trip is completed. Data can be used to analyze if there are differences in species diversity or number of fish reported (i.e., rounding bias) when using a pre-trip catch card.
- New data source for discard lengths and average depth fished, using stratified random probability-based sampling design, that would be informative for calculating discard mortality for private boat fleet or shore anglers.

#### **Data Delivery Plan**

- Completed catch cards will be manually keyed into a section on the ACCSP ATA on weekly basis. Completed interviews conducted as part of overdrawn assignments will be submitted and checked for errors using same timeline as APAIS assignment data. Data will be available for NOAA Fisheries to evaluate potential use in MRIP estimates no later than January 2026.

### Project Quality Factors:

#### **Partners**

- **Multi-Partner/Regional impact including broad applications** – Catch data will be collected in 2-3 representative states in each of the three subregions on the Atlantic Coast (North, Mid, and South) for the pilot project. There has been broad support for the project from the ACCSP Recreational Technical Committee, including state partners from Maine through Florida, regional Councils, NOAA Fisheries, US Fish and Wildlife Service, and ASMFC members. All species will have released fish numbers and a broad, coastal list of managed species will have released lengths collected.

#### **Funding**

- **Contains funding transition plan** – This proposal contains a transition to funding plan on p.10.
- **In-kind contribution** – 30.6% of this project is funded by the ASMFC, state, and NOAA Fisheries cooperative agreement for the conduct of the MRIP.

#### **Data**

- **Improvement in data quality/quantity/timeliness** – Recreational released catch cards provide a completely unique data stream into an already existing data set, as a part of the MRIP APAIS. Since the catch cards are collected as a part of the APAIS, the overdrawn catch card assignments follow the same timeline of weekly submission to the ACCSP, potential delivery to NOAA Fisheries every month as well. Since the APAIS relies on recall, the pre-trip catch cards offer the ability to work around recall bias, improving overall quality of the APAIS if implemented more broadly.
- **Impact on stock assessment** – The list of 14 species and number of assignments per state/subregion were chosen to help bolster species stock assessments which use recreational length information, with the input from state and

Commission stock assessment scientists. The ability to collect private/rental and shore discard information creates additional data sources for the stock assessment process which has traditionally relied heavily on headboats only. At a minimum, this project will help stock assessments by increasing the overall sample sizes of discard lengths of managed species.



**Appendix A: Catch Card Examples**

**Marine Angler Released Catch Card (MARC)**

Only ONE angler's released fish per card and for this trip only.

Control Number:

**12345**

**Trip Information**

**Fishing Mode**

Boat

Shore

**Targeted Species**

**Average Depth Fished (ft)**

**Distance from Shore**

Inland

3 Miles or less (ocean)

3 Miles or more (ocean)

**Released Catch:** For ALL fish released: Record the species name and track the number released alive or dead using tally marks below.

**Trip End Time (return to shore)**

Species	# Released Alive	# Released Dead
<i>Spot (example)</i>		

**Hours Fished (nearest 1/2 hour)**

**I did not release any fish today**

**Length of Fish Released (Inches)**

*(Total length rounded up to the nearest 1/4 inch)*

Species	Total Length (1/4 Inch)	Species	Total Length (1/4 Inch)

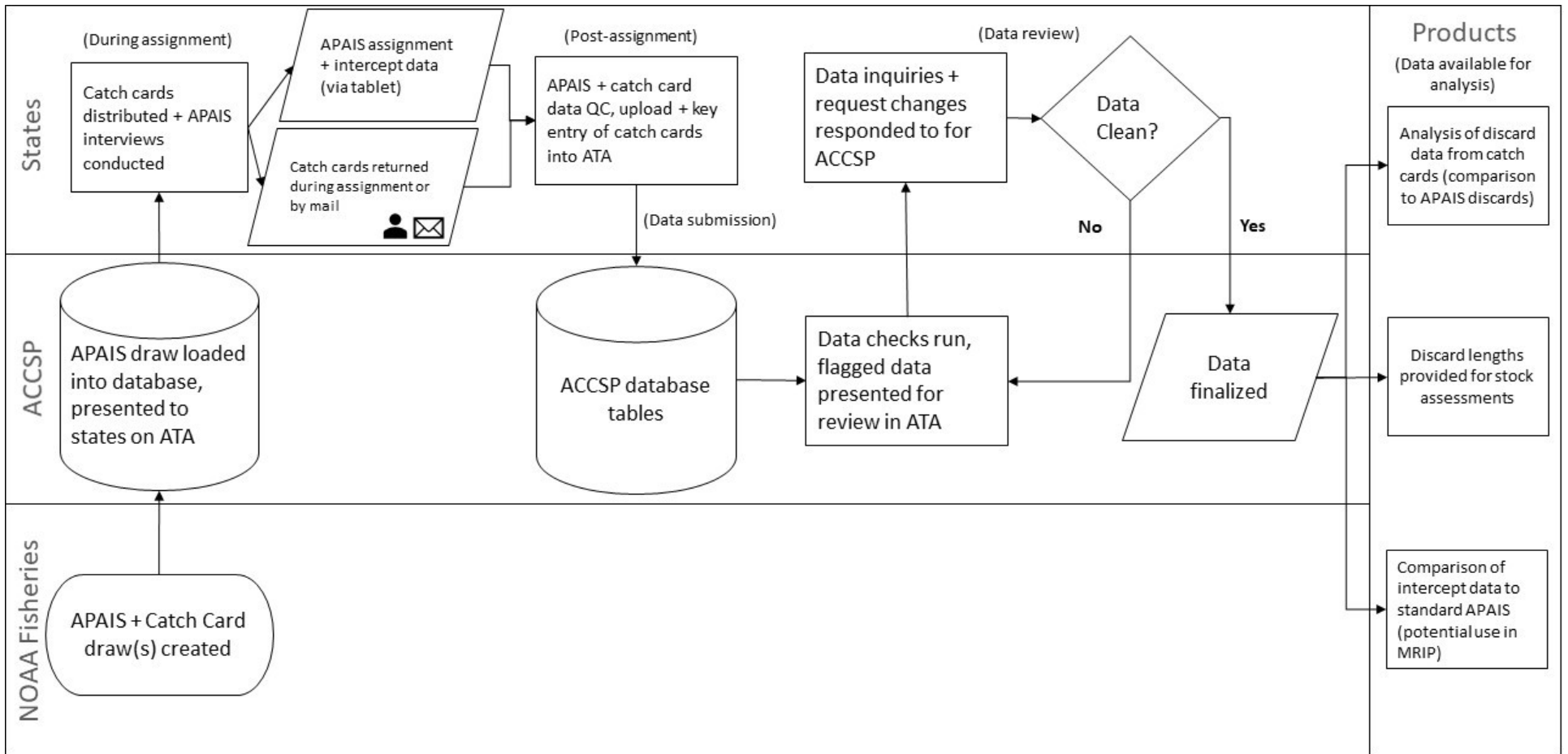
For detailed instructions on how to fill out this card, please scan QR code.



List of priority species for lengths:

- |                  |                 |                   |
|------------------|-----------------|-------------------|
| Black Sea Bass   | Weakfish        | Spotted Seatrout  |
| Bluefish         | Cobia           | Gray Triggerfish  |
| Haddock          | Red Drum        | Red Porgy         |
| Spanish Mackerel | Tautog          | Vermilion Snapper |
| Striped Bass     | Summer Flounder |                   |

**Appendix B: Data Flow Diagram**



## **Appendix C: Determination of the Species of Interest and Calculation of the Number of Sampling Assignments Needed for the Released Catch Card Project**

### Determination of the Species of Interest for the Released Catch Card Project

Given the number of species an angler may encounter on the water and could potentially provide length information on, the Discards Subcommittee felt that it was important to focus on the species that would most benefit from the collection of discard length data. While information on non-managed species may be interesting, the subcommittee wanted to make sure the length data collected would make the most impact on species being managed and assessed by the various entities along the Atlantic coast.

To do this, a Marine Recreational Information Program (MRIP) query was initially done to identify species sampled on the Atlantic coast which had positive harvest values and where live releases (B2s) exceeded harvest (A+B1). Due to the high levels of discards, these species were thought to be ones where additional discard length information would likely be useful. Additional prioritization was chosen for those species with PSEs < 50% as those were assumed to be species that were more frequently encountered by the MRIP surveys. This analysis, however, still resulted in over 40 species being potentially identified as being of management importance.

To further refine this analysis, additional outreach was done to staff with the Atlantic States Marine Fisheries Commission (ASMFC) as well as the New England, Mid-Atlantic, and South Atlantic Fisheries Management Councils. Each was asked about the species they manage, specifically whether the species is primarily a recreationally caught species and whether or not the species is assessed using a length- or age-based assessment which would benefit from additional discard length data. Based on these answers, they were asked to select the ones that should be prioritized for the released catch card project.

The Discards Subcommittee reviewed the list of species provided in the initial analysis as well as submitted by the Commission and Councils. We first selected those that spanned multiple regions along the coast. Additional species were also selected that were regionally important (e.g., haddock in the North Atlantic, red drum in the South Atlantic). The South Atlantic species were further reduced so as not to overlap with those species that are already a focus of the South Atlantic Fishery Management Council's Release app. In total, fourteen species were selected as the focus of this project.

### Calculation of the Number of Sampling Assignments Needed for the Released Catch Card Project

After the species of interest for the project were determined, a couple of members from the ASMFC Assessment Science Committee were consulted on how many discard lengths would be needed for the data to be useful for assessment and management. Based on analysis conducted for the bluefish stock assessment, a sample size of approximately 30 sample lengths was suggested as a minimum. Specific assessment needs will vary by species, depending on the geographic scale of the assessment (e.g., regional vs. coastwide) and the time scale used for the length composition data (seasonal vs. annual), so a goal was set to collect 60 lengths per year to allow for the potential development of biannual length composition data. Within an assessment, the effective sample size, or number of sampling events, is calculated for length data. This is done to account for the individual fish lengths likely not being collected independently of each other, particularly given angler behavior and the possibility of an angler fishing on a single school of fish which are likely similar in size. While this analysis did estimate the number of catch cards we expected to be returned, which would equate to the number of angler trips we would expect to get data back from, the subcommittee decided to focus on the length target, rather than a catch card target, in the pilot as it was more easily achievable to reach the 60-length goal.

Initial number of sampling assignments were set at 50, 100, 150, and 200 assignments. However, from running the Access Point Angler Intercept Survey (APAIS), we know that not all assignments will have anglers when the field interviewers are there. Based on 2022 data from the ACCSP Annual Report to MRIP, we estimated that approximately 36% of our assignments will be 0-intercept assignments coastwide. After accounting for that, we then had to calculate how many catch cards we may be able to hand out during APAIS assignments. While the APAIS design is focused on the time intervals when anglers will be completing their trips, we instead needed to determine when they usually leave on their private/rental boat trips. In the public MRIP trip dataset, there are fields for the time the intercept was collected as well as the number of hours the anglers were away from the dock. Using 2022 trip data from Maine to Florida, private/rental boat mode only, we calculated the one-hour time intervals that people leave for their fishing trips along the Atlantic coast and demonstrated that most trips (78%) leave in the 6 am-12 pm interval (Table 1). However, even sampling in the 8 am-2 pm interval would allow us to still intercept approximately 60% of the trips leaving in a day. These trips start data could also be aggregated to align with the APAIS sampling intervals and used to estimate the average number of eligible anglers we anticipate leaving on their trips per assignment (Table 2). Similar to before, we anticipate that we'll intercept the most anglers leaving for their trips during the 8 am-2 pm interval and the fewest during the 2 pm-8 pm interval (of the daytime intervals). As this project will mainly be conducted during the daytime intervals, an average of 5.24 anglers/assignment was calculated over the three intervals and was assumed to be representative of most assignments that would be conducted for the project.

*Table 1. Frequency of raw APAIS fishing trips beginning within assignment intervals.*

<b>Interval</b>	<b># Anglers Starting trip</b>
00-59	29
100-159	27
200-259	75
300-359	163
400-459	531
500-559	1616
600-659	3448
700-759	4615
800-859	4839
900-959	3950
1000-1059	3280
1100-1159	2337
1200-1259	1688
1300-1359	1019
1400-1459	486
1500-1559	242
1600-1659	157
1700-1759	92
1800-1859	13
1900-1959	6
2000-2059	3
2100-2159	5
2200-2259	0
2300-2359	0

<b>Total</b>	<b>28744</b>
600-1200	22469
600-1200	78%
800-1400	17113
800-1400	60%
1100-1700	5929
1100-1700	21%
1400-2000	996
1400-2000	3.5%

Table 2. Number of raw APAIS fishing trips (interviews + eligible) per APAIS assignment with trips starting within 0800-1400, 1100-1700, and 1400-2000 intervals

<b>800-1400</b>		<b>1100-1700</b>		<b>1400-2000</b>	
AVG	5.11	AVG	3.08	AVG	2.29
MAX	45	MAX	30	MAX	13
SUM	17131	SUM	5931	SUM	996
ALL ELIG	25696.5	ALL ELIG	8896.5	ALL ELIG	1494
EST AVG ALL ELIG	7.67	EST AVG ALL ELIG	4.62	EST AVG ALL ELIG	3.44

Once we had an estimate of the approximate number of catch cards we may hand out to anglers during an assignment, we then had to make an assumption on how many catch cards we may have filled out and returned to us. Based on previous experience by Connecticut with their catch card project, we estimated this to be 25%. Since about 30% of private/rental boat anglers intercepted in 2021 and 2022 didn't report releasing any species to the APAIS field interviewers, that leaves around 45% of anglers who we assume either don't record the data or submit the card.

Since the card asks anglers to tally the total number of releases for all species but only record lengths for the fourteen prioritized species, it's possible that some of the cards returned will only have tally marks and no lengths due to the species caught. To determine how many of the returned cards may have lengths recorded for species of interest, the remaining calculations were done per species for each Atlantic coast subregion, as defined by MRIP. First, the percentage of angler intercepts that said they released the species of interest was calculated (Table 3). This gave us an estimate of the number of cards that may be returned with lengths for that particular species. Second, we calculated the average number of fish released by an individual angler for each prioritized species (Table 4). This gave us an estimate of approximately how many lengths we may collect from an angler who caught and released that species. By multiplying the number of cards, we expected back for each of the fourteen species by the average number of fish released for each species, we were able to estimate how many fish lengths we may be able to receive for each species in each subregion (Tables 5-7). In these tables, green cells indicate assignment totals which we estimate will provide 60 length samples for that region, yellow cells indicate assignment totals where we estimate we will provide 30-60 length samples for that region, and red cells indicate assignment totals where we estimate fewer than 30 length samples for that region. Black cells indicate species we don't expect to collect any sample lengths.

Based on these analyses, the various regions decided on a minimum number of overdrawn sample assignments to complete for their region. It is estimated to take 130-245 overdrawn assignments to reach the 60-length sample

minimum size for the most commonly encountered species in each region. There will be 245 overdrawn catch card assignments in the North, 130 in the Mid, and 250 in the South Atlantic.

*Table 3. The percentage of anglers who release one of the 14 species of interest. Note: Some 0% values are rounded up and represent a very small percentage.*

<b>Species</b>	<b>North Atlantic</b>	<b>Mid-Atlantic</b>	<b>South Atlantic</b>
Black Sea Bass	35%	25%	16%
Bluefish	8%	5%	7%
Haddock	3%	0%	0%
Spanish Mackerel	0%	1%	3%
Striped Bass	38%	17%	2%
Summer Flounder	11%	31%	0%
Tautog	11%	7%	0%
Weakfish	0%	2%	2%
Cobia	0%	1%	1%
Red Drum	0%	2%	19%
Spotted Sea Trout	0%	3%	22%
Gray Triggerfish	0%	0%	0%
Red Porgy	0%	0%	0%
Vermillion Snapper	0%	0%	1%

*Table 4. The average number of releases per trip of the 14 species of interest.*

<b>Species</b>	<b>North Atlantic</b>	<b>Mid-Atlantic</b>	<b>South Atlantic</b>
Black Sea Bass	5.6	6.3	5.2
Bluefish	2.7	3.1	2.9
Haddock	4.8	0.0	0.0
Spanish Mackerel	1.3	2.9	3.2
Striped Bass	4.9	4.6	2.9
Summer Flounder	3.0	4.1	2.0
Tautog	8.8	8.0	1.2
Weakfish	2.7	2.6	5.4
Cobia	0.0	1.7	1.5
Red Drum	0.0	3.2	3.1
Spotted Sea Trout	0.0	6.0	4.5
Gray Triggerfish	1.5	2.7	2.3
Red Porgy	0.0	0.0	4.4
Vermillion Snapper	0.0	0.0	4.2

Table 5. Estimated Number of Lengths Collected by Species of Interest in the North Atlantic region.

Time Slot	Number of Add On Assignments	Black Sea Bass	Bluefish	Haddock	Spanish Mackerel	Striped Bass	Summer Flounder	Tautog	Weakfish	Cobia	Red Drum	Spotted Sea Trout	Gray Triggerfish	Red Porgy	Vermilion Snapper
Avg over All Time Slots	50	82.1	9.2	5.2		77.2	14.1	40.3							
Avg over All Time Slots	100	164.2	18.3	10.4		154.4	28.2	80.6							
Avg over All Time Slots	150	246.3	27.5	15.6		231.6	42.2	120.9							
Avg over All Time Slots	200	328.5	36.7	20.8		308.8	56.3	161.2							
Avg over All Time Slots	300	492.7	55.0	31.2		463.2	84.5	241.8							

Table 6. Estimated Number of Lengths Collected by Species of Interest in the Mid-Atlantic region.

Time Slot	Number of Add On Assignments	Black Sea Bass	Bluefish	Haddock	Spanish Mackerel	Striped Bass	Summer Flounder	Tautog	Weakfish	Cobia	Red Drum	Spotted Sea Trout	Gray Triggerfish	Red Porgy	Vermilion Snapper
Avg over All Time Slots	50	64.8	7.0			32.2	52.3	23.8	2.6		2.5	7.2			
Avg over All Time Slots	100	129.6	14.1		1.5	64.5	104.6	47.7	5.2		5.1	14.5			
Avg over All Time Slots	150	194.3	21.1		2.3	96.7	157.0	71.5	7.8	1.3	7.6	21.7			
Avg over All Time Slots	200	259.1	28.1		3.1	129.0	209.3	95.4	10.4	1.8	10.2	28.9			
Avg over All Time Slots	300	388.7	42.2		4.6	193.5	313.9	143.1	15.6	2.7	15.3	43.4			

Table 7. Estimated Minimum Number of Lengths Collected by Species of Interest in the South Atlantic region.

Time Slot	Number of Add On Assignments	Black Sea Bass	Bluefish	Haddock	Spanish Mackerel	Striped Bass	Summer Flounder	Tautog	Weakfish	Cobia	Red Drum	Spotted Sea Trout	Gray Triggerfish	Red Porgy	Vermilion Snapper
Avg over All Time Slots	50	34.0	8.8		4.3	1.9			4.8		24.0	42.3			1.4
Avg over All Time Slots	100	68.1	17.5		8.5	3.8			9.6		48.0	84.6			2.7
Avg over All Time Slots	150	102.1	26.3		12.8	5.7			14.4	1.2	72.0	126.9			4.1
Avg over All Time Slots	200	136.2	35.0		17.0	7.6			19.2	1.6	96.1	169.2			5.4
Avg over All Time Slots	300	204.2	52.6		25.6	11.4			28.8	2.4	144.1	253.9			8.1

Dawn M. Franco

[dawn.franco@dnr.ga.gov](mailto:dawn.franco@dnr.ga.gov)

(912) 266-4156

177 Brooksdale Rd, Brunswick, GA 31523

---

## Education

Savannah State University  
Master of Science in Marine Sciences

Savannah, GA  
May 2014

Old Dominion University  
Bachelor of Science

Norfolk, VA  
May 2002

## Work experience

Georgia Department of Natural Resources, Coastal Resources Division

Marine Biologist

August 2014 to present

- Coordinate and manage the Access Point Angler Intercept Survey (APAIS) and For Hire Telephone Survey (FHTS) for Georgia within the Marine Recreational Information Program (MRIP)
- Georgia representative on several ASMFC committees including the Recreational Technical Committee, Atlantic Croaker Technical committee, Spot Plan Review Team, Electronic Monitoring Standards Working Group, and NOAA Transition Team
- Coordinate Red Snapper special data collection efforts during open seasons.
- Participation in other fisheries survey activities including otter trawl, eel trap, seine-net, gill-net, trammel-net, long-line, hook and line and habitat restoration
- Provide commercial and recreational data for, and completion of, ASMFC, SAFMC and SFR reports
- Panel member and data provider for Stock Assessment Data and Review (SEDAR) and ASMFC Stock Assessments
- Public liaison presenting fisheries dependent data results to educators, students, or general public
- Certified diver with GADNR CRD Dive Team

Georgia Department of Natural Resources, Coastal Resources Division

Natural Resources Technician II

November 2007-August 2014

- Coordinate and execute Georgia's participation in the Access Point Angler Intercept Survey (APAIS) within the Marine Recreational Information Program (MRIP)
- Participation other fisheries survey activities including Otter trawl, seine-net, gill-net, trammel-net, long-line, hook and line surveys and habitat restoration
- Public liaison for GADNR CRD and therefore knowledgeable of regulatory information that impacts the public
- Data entry and database management
- Presentation of fisheries dependent data to educators
- GADNR representative for Atlantic croaker technical committee (TC) and spot plan review team (PRT)
- Diver in training for GADNR CRD Dive Team
- Collection, processing, and ageing of Atlantic croaker *Micropogonias undulatus*



Georgia Department of Natural Resources, Coastal Resources Division

Marine Technician I

April 2007-November 2007

- Participated in the National Marine Fisheries Service (NMFS) Marine Recreational Fisheries Statistics Survey (MRFSS)
- Participated in fisheries independent research, monitoring, and survey field sampling efforts

## **Technology, Skills and Certifications**

- Proficient use of Microsoft Office (Word, Excel, Outlook, PowerPoint, and Access),
- Familiar with ArcGIS, SQL, Oracle Databases, R, SAS, SPLUS, and SPSS
- Seamanship skills onboard small and large vessels, completed Boat U.S. Boating Safety Course for Georgia
- Identification, collection and processing biological samples of marine organisms commonly found in the South Atlantic Region (e.g., operculum, scales, otoliths, vertebrae, gonads, and fin clips)
- SCUBA, Nitrox, and DAN oxygen provider certified

**Education**

University of Michigan, Ann Arbor, Michigan School of Natural Resources and Environment M.S. Aquatic Sciences: Resource Ecology and Management	2011
St. Mary's College of Maryland, St. Mary's City, Maryland B.A. Biology, <i>Magna cum laude</i> Concentration in Environmental Studies	2005

**Research and Work Experience**

**Research Statistician IV, Analysis and Assessment Program, Fishing and Boating Services, Maryland Department of Natural Resources, February 2020-present**

**Research Statistician III, Analysis and Assessment Program, Fishing and Boating Services, Maryland Department of Natural Resources, January 1, 2016-February 11, 2020**

**Research Statistician II, Analysis and Assessment Program, Fishing and Boating Services, Maryland Department of Natural Resources, April 2014-December 31, 2016**

- Conduct data analysis on various state and coastwide datasets for species managed in Maryland, including those managed through the Atlantic States Marine Fisheries Commission (ASMFC). Data are analyzed using a variety of techniques from simple statistical analyses to more complex models, such as population dynamics models and fish tagging models. Write reports summarizing the results, present the results both internally and externally, and provide state and coastal fisheries management advice for both Maryland and other states through the ASMFC.
- Review new analysis methods based on literature and write new analysis codes as needed.
- Serve as the primary contact regarding recreational fishing surveys and data collection in Maryland tidal waters and serve as Maryland's representation to the ACCSP Recreational Technical Committee (current Chair).
- Serve as a consultant for biologists within the Fishing and Boating Services and periodically organize and lead staff trainings on data analysis.
- Have participated on ASMFC fishery management plan development teams for striped bass and cobia, including the analysis of bag and size limits and season analysis.
- Member of the ASMFC Red Drum Stock Assessment Subcommittee, Striped Bass Tagging Subcommittee, Weakfish Stock Assessment Subcommittee, Cobia Technical Committee (current Chair), and Cobia Plan Review Team. Also, a member of the Maryland Oyster Stock Assessment Committee.

**Natural Resources Biologist II, Striped Bass Program, Fisheries Service, Maryland Department of Natural Resources, September 2008-April 2014**

- Participated in the collection of biological data on striped bass in Maryland including a spawning stock gill net survey, juvenile seine survey, sampling pound net catches, and monitoring of the commercial and recreational fisheries in support of striped bass stock assessments.
- Supervised the trophy creel survey, sampling charter boat catches and interviewing recreational anglers with supervision over one seasonal biologist.
- Participated in the tagging of striped bass, using tagging models such as Program MARK and the Instantaneous Rates Catch and Release (IRCR) model, and serving as a representative from Maryland on the Atlantic States Marine Fisheries Commission (ASMFC) Striped Bass Tagging Subcommittee.
- Provided technical support to the striped bass program, including GIS mapping, statistical analysis of data, evaluation of the gill net selectivity model, and report writing.

**Natural Resources Technician IV, Monitoring and Non-Tidal Assessment, Maryland Department of Natural Resources, February-September 2008**

- Assisted with sampling streams across Maryland as part of the Maryland Biological Stream Survey. Data collected included water chemistry, physical habitat, and fish, macroinvertebrate, and herpetofauna data.
- Other duties included data entry, calibration of water quality sondes, and working with ArcGIS.

**Aquatic Ecologist, CILER Summer Fellowship at NOAA Great Lakes Environmental Research Lab (GLERL),  
May-August 2007**

Worked on a project with Dr. Stuart Ludsin and George Leshkevich to examine the influence of river plumes in the western basin of Lake Erie to the survival of larval yellow perch to recruitment. Duties included: using ArcGIS to determine the area covered by plumes between April and June based on satellite imagery; beginning work to determine the properties of the plumes using satellite and CTD data; processing water samples for water chemistry analysis and analyzing chlorophyll, suspended matter, and phosphorus concentrations; and some field work aboard the R/V Laurentian collecting zooplankton and larval fish as well as preserving stomach contents of predators.

**Research Assistant, Institute for Fisheries Research and the University of Michigan, May-August 2006**

GIS project mapping yellow perch catch in Lake Erie and lake trout in Lake Superior using data from the agencies along the lakes. Data manipulated in Microsoft Excel and Access for use in ArcGIS. Data were mapped to look for spatial patterns in catch by catch method, year, season, and age class and correlated with habitat data.

### **Computer and Statistical Skills**

Microsoft Office Programs (Word, Excel, PowerPoint, Access), ArcGIS, Statistical Package for the Social Sciences (SPSS), R, SAS, AD Model Builder, Program MARK, Stock Synthesis 3, National Fisheries Toolbox programs

### **Awards**

2021 Maryland Department of Natural Resources Fishing and Boating Services Team of the Year (Access Point Angler Intercept Survey Team)

2017 Maryland Department of Natural Resources Fishing and Boating Services Employee of the Year

### **Teaching Experience**

Graduate Student Instructor, NRE 409: Ecology of Fishes, School of Natural Resources and Environment, University of Michigan. Winter 2007.

Graduate Student Instructor, CHEM 125/126: General Chemistry Lab, Chemistry Department, University of Michigan. Fall 2006.

Teaching Assistant for Ecology and Evolution, St. Mary's College of Maryland. Spring 2004, Spring 2005.

Teaching Assistant for Principles of Biology I, St. Mary's College of Maryland. Fall 2002.

### **Presentations**

Giuliano, A.M. Climate Effects on the Timing of Maryland Striped Bass Spawning Runs. 151<sup>st</sup> Annual Meeting of the American Fisheries Society, Baltimore, MD, November 6-10, 2021.

Giuliano, A.M., E.S. Rutherford, C. Riseng, M. Luttenton, and M.J. Wiley. Effects of Zebra Mussels on a Lake Michigan Tributary Fish Community. 137<sup>th</sup> Annual Meeting of the American Fisheries Society, San Francisco, California, September 2-6, 2007.

### **Publications**

Giuliano, A. 2023. Climate effects on the timing of Maryland Striped Bass spawning runs. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science*, 15, e10274. <https://doi.org/10.1002/mcf2.10274>

Brown, S. C., Giuliano, A. M., & Versak, B. A. 2024. Female age at maturity and fecundity in Atlantic Striped Bass. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science*, 16, e10280. <https://doi.org/10.1002/mcf2.10280>



# SOUTH ATLANTIC FISHERY MANAGEMENT COUNCIL

4055 Faber Place Drive, Suite 201, North Charleston SC 29405

Call: (843) 571-4366 | Toll-Free: (866) SAFMC-10 | Fax: (843) 769-4520 | Connect: [www.safmc.net](http://www.safmc.net)

Carolyn N. Belcher, Ph.D., Chair | Trish Murphey, Vice Chair  
John Carmichael, Executive Director

August 19, 2024

Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St. Ste. 200 A-N  
Arlington, VA 22201

We are pleased to submit the proposal titled, "FY25: Enhancing Recruitment & Retention for the *SAFMC Release* Citizen Science Project". The proposal objectives are summarized below:

- Continue data collection through the *SAFMC Release* citizen science project on released shallow-water grouper (Black, Gag, Red, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) and Red Snapper in the South Atlantic
- Use license data from the National Saltwater Angler Registry (NSAR) to recruit private recreational fishermen for the *SAFMC Release* citizen science project
- Continue opportunistic strategies to recruit fishermen for the *SAFMC Release* citizen science project
- Enhance *SAFMC Release*'s participant retention and reactivation within the project

The proposed work will help address key research needs on released shallow water grouper and Red Snapper – characterizing the size of released fish and helping to better understand how many released fish survive. It incorporates use of the NSAR as a recruitment tool - adding a statistical design element to recruit project participants. Data collection is done via the SciFish platform, using ACCSP data standards and making the data more easily accessible for assessment and management.

This proposal is being submitted as a new project. It builds on work from the FY20-FY22 ACCSP funded SciFish projects, but several objectives have changed. Thus, we felt it was more appropriate for submission as a new proposal as opposed to a maintenance proposal.

This proposal has been revised based on the reviewers' feedback. The requested funding amount in the cover sheet is the amount requested from ACCSP. The total proposal cost, which includes in-kind funding, is available in the budget. In this submission, the bold text indicates sections that help with the ranking process and yellow highlighted text indicates changes from our initial submission.

Please let us know if you have any questions or would like any additional information.

Best,

Julia Byrd  
South Atlantic Fishery Management Council  
4055 Faber Place Dr., Suite 201  
North Charleston, SC 20405  
[Julia.byrd@safmc.net](mailto:Julia.byrd@safmc.net)

Andrew Cathey  
NOAA Fisheries – Southeast Fisheries Science Center  
Fisheries Statistics Division  
101 Pivers Island Road  
Beaufort, NC 28516  
[Andrew.Cathey@NOAA.gov](mailto:Andrew.Cathey@NOAA.gov)

Lauren Dolinger-Few  
NOAA Fisheries – Office of Science & Technology  
1315 East-West Highway, 12<sup>th</sup> floor  
Silver Spring, MD 20910  
[Lauren.Dolinger.Few@noaa.gov](mailto:Lauren.Dolinger.Few@noaa.gov)

**Applicant Names:** South Atlantic Fishery Management Council (SAFMC)  
NOAA Fisheries' Southeast Fisheries Science Center (SEFSC)  
NOAA Fisheries' Office of Science & Technology (S & T)

**Project Title:** FY25: Enhancing Recruitment & Retention for the *SAFMC Release*  
Citizen Science Project

**Project Consultants:** South Carolina Department of Natural Resources (SCDNR) &  
Georgia Department of Natural Resources (GADNR)

**Project Type:** New

**Requested Award Amount:** \$137,356

**Requested Reward Period:** One year upon receipt of funds

**Submission Date:** August 19, 2024

## FY25 Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the SAFMC, NOAA SEFSC and NOAA S & T

### OBJECTIVES:

- Continue data collection through the *SAFMC Release* citizen science project on released shallow-water grouper (Black, Gag, Red, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) and Red Snapper in the South Atlantic
- Use license data from the National Saltwater Angler Registry (NSAR) to recruit private recreational fishermen for the *SAFMC Release* citizen science project
- Continue opportunistic strategies to recruit fishermen for the *SAFMC Release* citizen science project
- Enhance *SAFMC Release*'s participant retention and reactivation within the project

### NEED:

**Fishery managers often consider the biology and sustainability of a fish stock in concert with socio-economic values of the resource and fishery when developing fishery management plans. Despite substantial efforts, perennial data gaps still exist. If addressed, new data could be useful in developing improved stock assessment models and associated management considerations.**

Citizen science is growing in the United States and other countries (McKinley et al. 2017) and has been used for research, management, policy, and public engagement (Poisson et al. 2020). **A growing number of publications has shown that diverse citizen science projects can produce data on par with traditional scientific data when properly designed, implemented, and evaluated (McKinley et al. 2017, Kosmala et al. 2016, Freitag et al. 2016). Data that are self-reported by fishermen show increasing promise to address multiple data limitations (Johnston et al. 2021; Oremland et al. 2022).** Indeed, citizen science approaches are currently being investigated to address state and federal management needs including catch at size, shark depredation, biological data, and post release fishing mortality. Examples of this can be seen in recent efforts by the South Atlantic Fishery Management Council's (SAFMC) [SAFMC Release](#) project, North Carolina Division of Marine Fisheries' Catch U Later project, Massachusetts Division of Marine Fisheries' [Striped Bass Citizen Science Project](#), and Florida Atlantic University's [Shark Depredation Grant](#). Additionally, ACCSP **recognized the potential of citizen science to fill data gaps and developed the SciFish platform to support, develop, and administer this type of research.**

**Discard mortality has been an increasing contributor to the total mortality experienced by many stocks and is a major source of mortality for Red Snapper as well as other species in the snapper-grouper complex (SEDAR 73, [SEDAR 2021a](#)).** Importantly, released fish are not available for sampling by typical dockside monitoring programs. In the South Atlantic, observer coverage ranges from limited in commercial and for-hire fisheries to non-existent in private recreational fisheries. As such, there is often no or limited information available to characterize the size and fate of these losses for stock assessment modeling. **Improving information on released fish is commonly highlighted in stock assessment research recommendations and is often a top priority in agency research plans. This project will focus on characterizing the size distribution of shallow-water grouper and Red Snapper releases in the South Atlantic region and gathering information to help understand how**

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

many of these releases survive. In the ACCSP request for 2025 proposals, improved recreational fishery release data as well as biological sampling for recreational fisheries separate from MRIP are the #3 and #5 recreational priorities, respectively. Additionally, Red Snapper, Gag Grouper, and Red Grouper are in the top 25% of the biological priority matrix, and the snapper grouper hook and line fishery is in the top 25% of the bycatch matrix. Discard characterization and information on barotrauma mitigation practices are priorities in the South Atlantic Fishery Management Council’s (SAFMC) Research and Monitoring Plan for 2023-2027 and for the SAFMC’s Citizen Science Program.

The *SAFMC Release* project was developed through the SAFMC’s Citizen Science Program. It provides a streamlined approach for fishermen to provide a photograph of released fish along with details such as length, release location and depth caught, condition, and use of barotrauma mitigation techniques. The project focuses on collecting data on the size of released fish and information that helps characterize how many released fish survive. *SAFMC Release* began as a pilot project in June 2019 partnering with recreational, for-hire, and commercial fishermen to gather information on released Scamp Grouper via the *SAFMC Release* mobile application. In August 2021, *SAFMC Release* transitioned to the ACCSP’s SciFish mobile application/platform and expanded to collect information on all shallow-water grouper species. In April 2022, Red Snapper was added to the project.

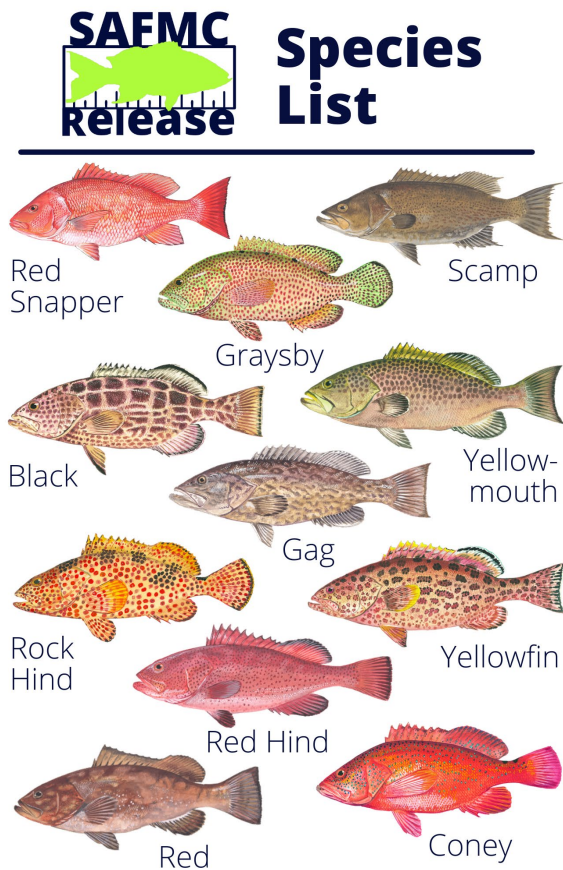
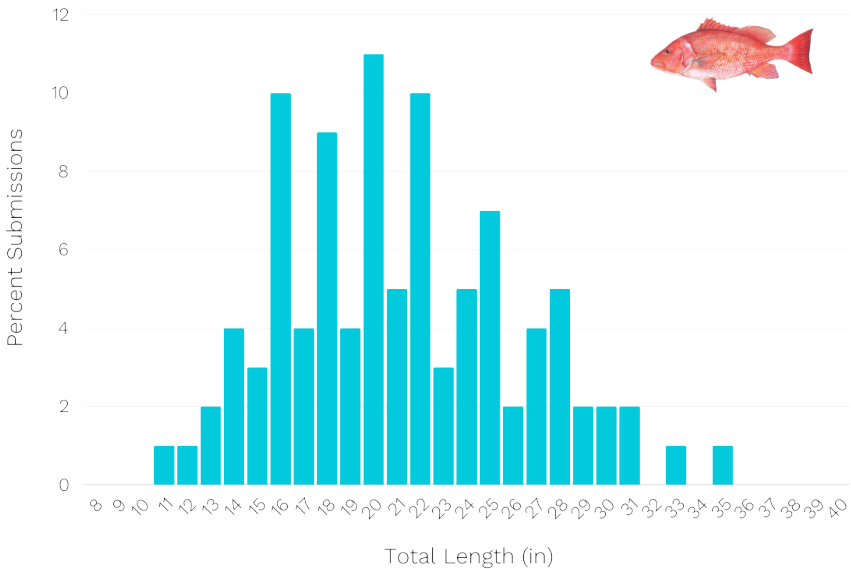


Figure 1. *SAFMC Release* Species List.

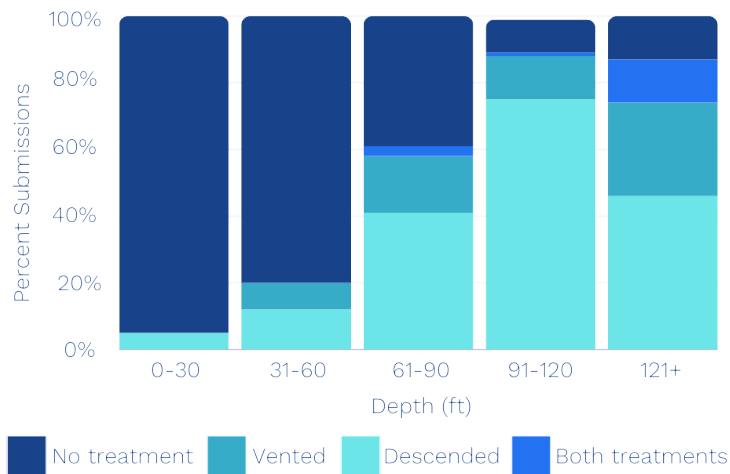
Recruitment for *SAFMC Release* has largely been through opportunistic outreach strategies (e.g., tackle shop visits, fishing seminars and expos, SAFMC-related meetings, online and media, etc.) and has been limited by capacity and resources (e.g., personnel, time, funding). Through collaborations with the SAFMC’s Best Fishing Practices initiative, Sea Grant, state agencies, and other partners, the project has reached broader audiences than Citizen Science **Program** staff could have done alone. In spring 2022, the Council collaborated with the North Carolina Division of Marine Fisheries (NCDMF) to mail information to 10,000 NC recreational fishing license holders to recruit participants to the Catch U Later and *SAFMC Release* projects. In June 2023, the Council collaborated with Florida Fish and Wildlife Commission (**FL FWC**) on an email solicitation to Florida State Reef Fish Designees on the Atlantic Coast to encourage participation in **FL FWC**’s State Reef Fish Survey and recruit fishermen to the *SAFMC Release* project.

**The number of project participants and data submissions within the *SAFMC Release* project have been growing over time. Each year, *SAFMC Release* develops Annual Data Summaries which are initially shared with project participants and then posted to the project webpage.** The 2021, 2022, and 2023 *SAFMC Release* Annual Data Summaries are available at the following links: [SAFMC Release Data Summary 2021](#), [SAFMC Release Data Summary 2022](#), and [SAFMC Release Data Summary 2023](#). Aggregate length composition for Red Snapper and aggregate release treatment by depth figures are provided below as an example of the data collected through the project over time (Figure 2 and Figure 3).



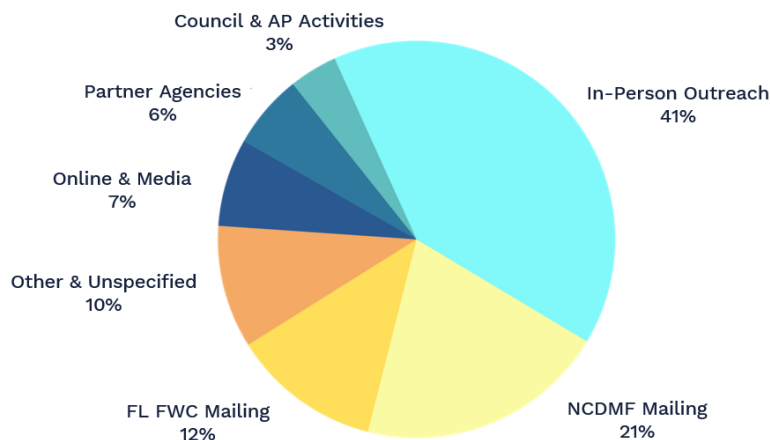
**Figure 2.** Red Snapper release length frequency logged through *SAFMC Release*, April 2022 – July 2024. Red Snapper was added to *SAFMC Release* in April 2022.





**Figure 3.** Release treatment by depth logged through *SAFMC Release*, June 2019 – July 2024.

When new participants sign up for *SAFMC Release*, they are asked to share where they heard about the project via an open-ended question. Based on these data, **in-person outreach (41%) and directed recruitment mailings in collaboration with state partners (NCDMF mailing – 21% and the FL FWC solicitation email -12%)** have been critical recruitment strategies for the project to date (Figure 4).



**Figure 4.** *SAFMC Release* participants by origin (June 2019 – April 2024).

Through *SAFMC Release* outreach efforts, staff have been able to build new and strengthen existing relationships with project participants and other stakeholders within the fishing community. However, participant recruitment and retention remain a challenge for the project. **This proposal will support the continuation of opportunistic outreach strategies to assist with participant recruitment and relationship building within the fishing community, focusing on in-person outreach that has been critical for project participation. Additionally, it will use data from the National Saltwater Angler Registry (NSAR) as a recruitment tool for private recreational fishermen in Georgia**

**(GA) and South Carolina (SC). *SAFMC Release* has not had an opportunity to do recruitment mailings to saltwater recreational fishing license and permit holders in GA and SC, in part due to limitations in license holder confidentiality. Partnering with NOAA Fisheries to use the NSAR data in collaboration with state partners provides an opportunity to increase project participation rates in GA and SC.** Direct mailings to license holders in these states will likely reach a broader group of fishermen, many of whom may not be in the Council’s current network.

To help with participant retention *SAFMC Release* launched a Participant Recognition Program (PRP) in spring 2023. **When volunteers reach identified milestones, they receive participant recognition or awards.** Participant recognition programs are often beneficial to improve volunteer retention within citizen science projects (Robinson et al. 2021). Such programs have been shown to increase the quantity of data submissions and support retention by providing recurring volunteer engagement opportunities (Dickinson et al. 2012; Diekert et al. 2023). Thus, a recognition program is an important element of a retention strategy for the *SAFMC Release* project.

Programs such as Catch a Florida Memory (CAFM), in which anglers submit catch information to the Florida Fish and Wildlife Conservation Commission to earn rewards, have had success in motivating continued participation by providing a variety of incentives for participants to earn (J. Christopherson, personal communication, May 1, 2024). Of CAFM participants surveyed in 2023, 88% reported that earning prizes was ‘somewhat important’ or ‘very important’ motivation for participating in the program and approximately 54% of respondents reported being ‘very satisfied’ with the prize packages they earn (internal CAFM data). Also cited as contributing to program success are goals that re-engage volunteers after reaching all available milestones (J. Christopherson, personal communication, May 1, 2024).

Due to SAFMC funding limitations and stipulations, *SAFMC Release* initially provided only public recognition (e.g. listed in monthly newsletters or annual data summary) to participants who met PRP milestones. In 2024, the Council partnered with Sea Grant to adopt some of the PRP milestones ([2024 PRP milestones](#)). As participants meet these adopted milestones, they earn Sea Grant “recognition packets” and may win best fishing practices gear. However, Sea Grant can only provide best fishing practices-related items. As participants continue to meet milestones and build their repertoire of best fishing practices gear, the motivation to earn these items is likely to wane. **The success demonstrated by programs such as CAFM indicates that incorporating a more substantial recognition program into *SAFMC Release*’s retention strategy can increase the quantity of data collected through the project, improve participant satisfaction, and support the long-term engagement of participants.**

## **RESULTS & BENEFITS:**

**This project will continue to collect data on released fish via *SAFMC Release*, building on the work done through the FY20-FY22 ACCSP-funded SciFish projects.** Observer funding for most fisheries along the Atlantic Coast has never been adequate. Many fisheries, such as the private recreational or the commercial snapper grouper hook and line, are challenging to sample through conventional observer techniques due to their small vessels which could present safety concerns, potential liability issues, and logistical challenges. Although a few specific fisheries are highlighted in this project, **the proportion of catch attributed to releases is increasing in many popular fisheries**

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

along the Atlantic Coast so the insights, tools, and best practices developed through this project may be beneficial to other partners.

***SAFMC Release*** will continue collecting biological information on the component of catch that is released, addressing the ACCSP FY25 Request for Proposal priority 1b and Recreational Technical Committee priority 3. ***SAFMC Release*** will continue to collect biological and fishery data that is independent of APAIS/MRIP, addressing Recreational Technical Committee priority 5.

The specific benefits to each data type and the rank of the target species within priority matrices included in the project are addressed below.

#### **Primary Program Priority: Biological Sampling: 90%**

**Biological information from the commercial, for-hire, and recreational fisheries will continue to be collected on released shallow-water groupers (Black, Gag, Red, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) and Red Snapper. Gag Grouper, Red Grouper, and Red Snapper are in the top 25% of the ACCSP biological sampling priority matrix. *SAFMC Release* data collection includes:**

- Data collected for each trip: trip type (commercial, recreational, headboat, charter), date, user (ACCSP ID);
- Data collected for each fish released: species (user's determination), length (based on ACCSP standards), location (state required, specific latitude/longitude optional), depth, time, fate (dead or alive release), hook type, hook location, use of barotrauma mitigation (descending device, venting, line cut), shark depredation, and photograph (to validate and evaluate species IDs and lengths); and
- Users may also file a 'no fish released' report to share information on harvested fish

#### **Secondary Module as a by-product: Bycatch: 10%**

**The snapper-grouper hook and line fleet is ranked in the top quartile of the ACCSP bycatch priority matrix (ranked 9<sup>th</sup> out of 19 fleets). Information collected through *SAFMC Release* can help provide information on length of released shallow water grouper and Red Snapper and release treatment (e.g., use of barotrauma mitigation devices) to supplement the data available through observer coverage and discard logbooks to help characterize the bycatch within this fleet.**

#### **Stock Assessment and Management Benefits and Impact:**

**By continuing data collection on released fish through the *SAFMC Release* project, the positive impact of this project to stock assessments could be substantial and realized. Stock assessments rely upon accurate information on total catch and removals from the stock and accurately allocating those removals to year classes. For fish that are landed, these requirements can be addressed through straightforward methods such as catch reporting or creel surveys to estimate removals and dockside sampling to collect length measurements and age samples. Surveying and dockside sampling approaches do not work when the fish are released on the water. Using the South Atlantic as an example, very limited information is available to classify the size composition of released fish in the commercial snapper grouper hook and line fleet, the private**

**recreational fleet, or the charter fleet. In some areas, fisheries observers are used to collect information on released fish, but observer coverage is limited due to high cost. Moreover, even if funding were available, logistics and liabilities remain a concern for some fisheries due to the small size of many commercial and private recreational vessels and lack of safety gear requirements on private recreational vessels. Limited observer coverage is available for the headboat fleet and charter fleet (FL only), but changes in fleet size, targeted species, and behavior raise concerns about the validity of such data to characterize removals from other fishery sectors. This lack of information is a major source of stock assessment uncertainty, as assumptions must be made to assign released and discarded fish into length and thus age classes.**

**In years past, the lack of accurate information on discarded fish was not a major assessment concern or source of uncertainty as landed fish generally accounted for the majority of stock removals. However, this is changing as regulations and fishing behavior are leading to increased discarding.** The most recent Red Grouper assessment (SEDAR 53, **SEDAR 2017**) indicated that over fifty percent of the fishing mortality experienced by Red Grouper is due to discard losses. Given that this stock was found to be overfished and overfishing was occurring, these discard removals are significant, and therefore the assumptions made regarding their size and composition are critical. In this instance, the length composition and selectivity for the discard losses was based on observer records from the headboat fishery and it was assumed these data were representative of all fishery sectors. As noted above, there are no data to test this assumption so its impact on assessment uncertainty and bias is unknown. The most recent assessment of South Atlantic Gag Grouper (SEDAR 71, **SEDAR 2021b**) indicated the stock was overfished and overfishing was occurring. Although discards accounted for a small proportion of fishing mortality in the assessment, the restrictive management measures implemented in response to the assessment through SAFMC's Snapper Grouper Amendment 53 will increase the proportion of discards within the fishery. SEDAR 71 relied on limited headboat observer data to characterize the size of discards from the recreational fleet with no data available from the charter and private recreational sectors. Having additional data sources to supplement these data will become increasingly important as the discards in the Gag fishery increase. In SEDAR 73, the most recent South Atlantic Red Snapper assessment, the stock was found to be overfished and undergoing overfishing. In recent years, discards have accounted for over 90% of removals so characterizing their size is critical. Length compositions and selectivity for discards were based on limited commercial, headboat, and charter (Florida only) observer data. Sampling recommendations in the report noted that it remains important to monitor discards year-round and any potential methodological or sampling improvements should be implemented if possible. Having additional information to help characterize the substantial discards could help meet this critical need.

**A similar lack of information exists to classify the depth where fish are captured and released and the use of tools to address barotrauma, such as venting tools and descending devices. Fishing depth is positively correlated with release mortality rates for most species due to impacts of barotrauma. However, it is challenging to estimate release mortality for use in a stock assessment without having information on the depths where fish are caught and when the species is impacted by barotrauma.**

**Small improvements in estimates of discard mortality, based on data rather than assumption, can result in large changes in the estimated removals from a fish stock. Based on the results of**

ACCSP-funded headboat observer studies, as cited in the FY2019 Recreational Technical Committee proposal, the Red Snapper release mortality was reduced from 37% to 28.5% due to the use of circle hooks. Applying this percentage change to the estimated 2018 MRIP discards reduced the discard losses to the population by 274,000 fish. This is quite a difference when compared to the 2018 recreational annual catch limit of 29,656 fish. The ability to accurately characterize discards could substantially improve stock assessments and management decisions.

The SAFMC's Snapper Grouper Regulatory Amendment 29, which requires descending devices on-board vessels fishing for or possessing snapper grouper species, was implemented in July 2020. Federal law requires comparing the No Action alternative (not requiring) with proposed management actions. Having information on usage of descending devices would have benefited the analysis for impacts of requiring a descending device both in the cost to anglers and for estimating changes in the estimate of discard mortality. Luckily, most stakeholders regarded this as a positive management action. But quantitative information on fishing practices that can be collected through a data collection app could be used to make more informed decisions on the impact of management actions. When reviewing the SEDAR 73 (South Atlantic Red Snapper) assessment at their April 2021 meeting, the SAFMC's Science and Statistical Committee raised concerns about the level of descender device usage due to the lack of information on how widespread usage is in the fishery. This is of note since the assumed level does have an impact on recommended catch levels - highlighting the need for this data. The upcoming South Atlantic Red Snapper assessment terms of reference (SEDAR 90) include consideration of the *SAFMC Release* data.

#### **DATA DELIVERY PLAN:**

**The SciFish application for the *SAFMC Release* project will collect and deliver data directly to ACCSP through the SciFish API and will be stored in SAFIS. Data can be entered by fishermen when no internet connection is available and later uploaded to SAFIS when a connection exists.**

#### **APPROACH:**

##### **Task A: *SAFMC Release* Participant Recruitment via National Saltwater Angler Registry**

###### *Overview*

- Recruit new *SAFMC Release* participants from GA and SC using the National Saltwater Angler Registry (NSAR) database via random stratified mailings. Mailings will include a recruitment letter with an individual's license number, quick response (QR) code to NSAR specific *SAFMC Release* account sign up page, and **a** *SAFMC Release* promotional item. State specific recruitment letters can be used to share information on *SAFMC Release* in context with other initiatives being conducted within the state.
- Target to send recruitment mailings to a total of 24,000 NSAR licensees evenly distributed between GA and SC. Mailings will be iterative and consist of an initial mailing during March and a subsequent mailing during May. These mailings will target unique licensed anglers between the ages of 16 and 85 that are coastal county residents of the target state that currently possess an active annual saltwater fishing license or permit. Mailings will coincide with peak activity of the fishery as identified from the NOAA Marine Recreational Information Program (MRIP) dockside survey (May-October).

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

- The proposed stratification scheme for solicitation mailings will include the following strata: state, wave, county of residence, and zip code. The stratification scheme was informed by effort and catch data from the (MRIP) Access Point Intercept Survey (APAIS) (1981-2023). Records were selected that included catch (kept or discarded fish) from any of the constituent *SAFMC Release* species. See Appendix 1 for more details on the proposed stratification methodology.

#### *Roles of Collaborators*

##### NOAA

- NSAR mailing selection draw for all recruitment mailings
- Draft recruitment letter in collaboration with SAFMC and states
- Coordinate with contractor to complete NSAR recruitment mailings

##### SAFMC

- Draft recruitment letter in collaboration with NOAA and states; provide *SAFMC Release* promotional item for mailing
- Set up and monitor *SAFMC Release* project account creation forms
- Create user accounts and onboard new participants (sharing login details, training materials, add to **SAFMC Release** email list & PRP if opt in, troubleshoot SciFish login/app issues)

##### SCDNR & GADNR

- Consult on NSAR recruitment letter and stratification for their states, respectively

### **Task B: Continue and expand current *SAFMC Release* recruitment strategies**

#### *Roles of Collaborators*

##### SAFMC

- Visit tackle shops in South Atlantic states (NC, SC, GA, and FL) to distribute *SAFMC Release* and Best Fishing Practices materials for project promotion and recruitment
- Participate in relevant fishing expos, seminars, collaborations with fishing organizations to promote *SAFMC Release* and best fishing practices and recruit new project participants
- Collaborate with state partners to share information on *SAFMC Release* at events and via other outreach efforts and communication platforms, as appropriate
- Share *SAFMC Release* project information at Council related meetings and via Council communication platforms (e.g., South Atlantic Bite newsletter, social media)
- Set up and monitor *SAFMC Release* project sign up forms
- Create user accounts and onboard new participants (sharing login details, training materials, add to **SAFMC Release email** list & PRP if opt in, troubleshoot SciFish login/app issues)

##### SCDNR & GADNR

- Consult on participant recruitment strategies

## Task C: *SAFMC Release* Participant Retention Strategies

### Overview

- The *SAFMC Release* team will employ a multi-pronged approach to support year-round participant engagement with the project including regular participant communications, development of data summaries, and the expansion of the PRP.
- To support engagement with the *SAFMC Release* project year-round, recognition program milestones will reward participants using multiple strategies. Figure 5 outlines the proposed strategies for milestones, associated rewards, and other forms of recognition.

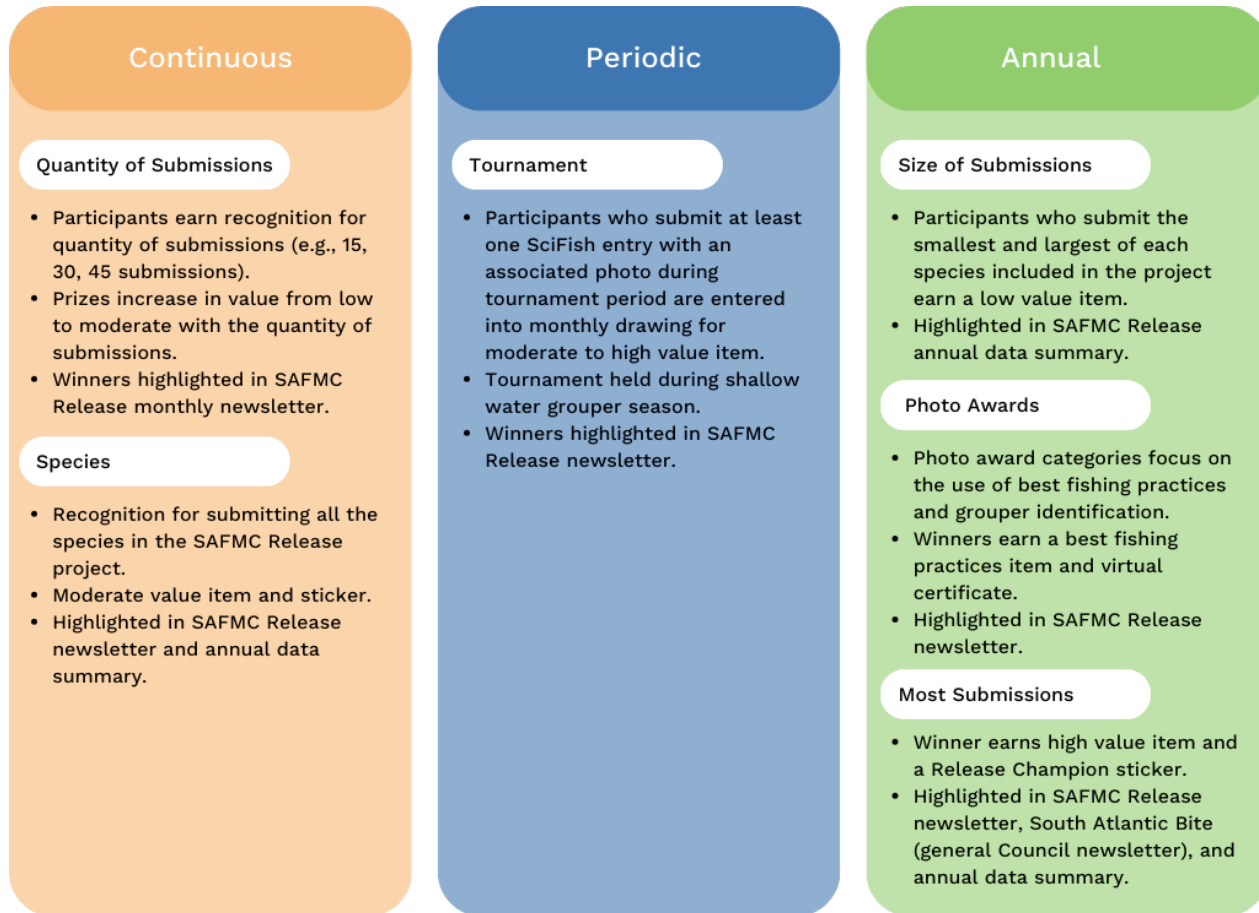


Figure 5. *SAFMC Release* proposed PRP milestones, rewards, and recognitions.

### Roles of Collaborators

#### SAFMC

- Participant Communications
  - Distribute monthly e-newsletters to participants
  - Email and phone communication with participants to thank them for submissions, troubleshoot issues, etc.
- Annual Data Summary
  - Provide annual data summary to participants and post to project webpage
  - Explore additional data summary options for participants
- Participant Recognition Program (PRP)
  - Monitor participant PRP progress

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

- Provide **participant awards** for PRP milestones

#### SCDNR & GADNR

- Consult on participant retention strategies

#### **Task D: Data collection, QA/QC, and analysis**

##### *Roles of Collaborators*

##### SAFMC

- Data successfully submitted via app to SAFIS/Data Warehouse
- SAFMC provide QA/QC for data collected **through project**; edit/correct as necessary
- Share summary data with project partners
- Data made available for assessment and management, as necessary
- Continue to explore long term solutions for addressing QA/QC and validation needs of the data (e.g., photographic and species identification), considering volunteers and citizen science approaches
- Compare data collected via NSAR recruited participants to those collected by participants recruited via other strategies, as appropriate
- Review success of recruitment strategies and make recommendations for future efforts

##### NOAA

- Assist with the development of data management strategies for NSAR vs opportunistically recruited participants
- Assist with data analytics

#### **GEOGRAPHIC LOCATION:**

**The *SAFMC Release* project partners with fishermen to collect data on released fish in South Atlantic waters in North Carolina, South Carolina, Georgia and the east coast of Florida through the Florida Keys. Project partners include SAFMC, NOAA SEFSC, and NOAA Office of Science & Technology. Project consultants include SCDNR and GADNR. Letters of support have been provided by NCDMF, SCDNR, **and FL FWC** (see Appendix 2). Data collected through the project will be available for consideration in South Atlantic stock assessments and management.**

**In addition to contributing data for consideration in stock assessments and management, this project will collect information on the effectiveness of various recruitment and retention strategies for *SAFMC Release*. With the growing interest in using citizen science as a tool to help supplement marine fisheries data collection, the information gained on volunteer recruitment and retention could be informative for other citizen science projects being pursued by partners along the Atlantic coast.**

#### **FUNDING TRANSITION PLAN:**

**Project PI's will be developing additional proposals and exploring other funding opportunities to help support additional years of funding for this project.**

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.



**MILESTONE SCHEDULE:**

Table 1. Milestone Schedule

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
	Finalize NSAR mailing stratification in consultation with states	x	x									
Complete NSAR Mailings in SC & GA				x		x						
<i>SAFMC Release</i> Opportunistic Recruitment Outreach Strategies: Tackle shop outreach, seminars, fishing expos, etc.	x	x	x	x	x	x	x	x	x	x	x	
<i>SAFMC Release</i> Retention Strategies: Regular Communication, Newsletters, PRP coordination & implementation	x	x	x	x	x	x	x	x	x	x	x	
Data Collection, QA/QC & Analysis	x	x	x	x	x	x	x	x	x	x	x	
Semi & Annual Report Writing						x					x	x

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

## PROJECT ACCOMPLISHMENTS MEASUREMENTS:

Table 2. Project Accomplishments Measurements

Project Component	Deliverables
<i>SAFMC Release</i> NSAR Recruitment Mailing	Total of 24,000 <i>SAFMC Release</i> recruitment letters sent to saltwater recreational fishing license holders in SC and GA; new SC and GA participants recruited to <i>SAFMC Release</i> via mailing
<i>SAFMC Release</i> Opportunistic Recruitment Outreach	Continue outreach to promote <i>SAFMC Release</i> in South Atlantic states with a target to visit tackle shops and collaborate on a seminar/outreach event at least once per state; new participants recruited to <i>SAFMC Release</i> via in-person and online outreach
<i>SAFMC Release</i> Retention Strategies	Monthly newsletters and annual data summary distributed to project participants; continuous, periodic, and annual milestones incorporated into Participant Recognition Program (PRP); increase in participants submitting data and meeting PRP milestones
Data Collection, QA/QC & Analysis	Participants continue to submit data on the targeted species using the application; QA/QC completed; data available for management and assessment, as needed
Report Writing	Progress and final reports submitted

## REFERENCES:

Dickinson, J. L., J. Shirk, D. Bonter, R. Bonney, R. L. Crain, J. Martin, T. Phillips, and K. Purcell. 2012. The current state of citizen science as a tool for ecological research and public engagement. *Frontiers in Ecology and the Environment*. 10(6) pp. 291-297. <https://doi.org/10.1890/110236>

Diekert, F., S. Munzinger, G. Schulemann-Maier, and L. Stadler. 2023. Explicit incentives increase citizen science recordings. *Conservation Letters*. 16(5). <https://doi.org/10.1111/conl.12973>.

Freitag, A., R. Meyer, and L. Whiteman. 2016. Strategies employed by citizen science programs to increase credibility of their data. *Citizen Science: Theory and Practice*. 1(1):2 pp.1-11. DOI: <http://dx.doi.org/10.5334/cstp.6>.

Johnston, F.D, S. Simmons, B. van Poorten, and P. Venturelli. 2021. Comparative analyses with conventional surveys reveal the potential for an angler app to contribute to recreational fisheries monitoring. *Canadian Journal of Fisheries and Aquatic Sciences*.79: 31-46.

Kosmala, M., A. Wiggins, A. Swanson, and B. Simmons. 2016. Assessing data quality in citizen science. *Frontiers in Ecology and the Environment*. 14(10): 551-560.

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

McKinley, D.C, A.J. Miller-Rushing, H.L. Ballard, R. Bonney, H. Brown, S.C. Cook-Patton, D.M. Evans, R.A. French, J.K. Parrish, T.B. Phillips, S.F. Ryan, L.A. Shanley, J.L. Shirk, K.F. Stepenuck, J.F. Weltzin, A. Wiggins, O.D. Boyle, R.D. Briggs, S.F. Chapin, D.A. Hewitt, P.W. Preuss, and M.A. Soukup. 2017. Citizen science can improve conservation science, and natural resource management, and environmental protection. *Biological Conservation* 208: 15-28.

Oremland, L., A. Furnish, J. Byrd, and R. Cody. 2022. How fishery managers can harness the power of the crowd: using citizen science and nontraditional data sources in fisheries management. *Fisheries*. 47 (11): 459-462.

Poisson, A. C., McCullough, I. M., Cheruvilil, K. S., Elliott, K. C., Latimore, J. A., Soranno, P. A. 2020. Quantifying the contributions of citizen science to broad-scale ecological databases. *Frontiers in Ecology and the Environments*, 18(1): 19-26.

Robinson, J. A., D. Kocman, O. Speyer, and E. Gerasopoulos. 2021. Meeting volunteer expectations – a review of volunteer motivations in citizen science and best practices for their retention through implementation of functional features in CS tools. *Journal of Environmental Planning and Management*, 64(12) pp. 2089-2113. <https://doi.org/10.1080/09640568.2020.1853507>

SEDAR. **2021a**. SEDAR 73 South Atlantic Red Snapper Stock Assessment Report. SEDAR, North Charleston SC. 194 pp. available online at: <http://sedarweb.org/sedar-73>.

SEDAR. **2021b**. SEDAR 71 South Atlantic Gag Stock Assessment Report. SEDAR, North Charleston SC. 164 pp. available online at: <http://sedarweb.org/sedar-71>

SEDAR. 2017. SEDAR 53 – South Atlantic Red Grouper Assessment Report. SEDAR, North Charleston SC. 159 pp. available online at: <http://sedarweb.org/sedar-53>.

**FY25 COST SUMMARY (BUDGET):**

<b>Item</b>	<b>ACCSP Share</b>	<b>Partner Share</b>	<b>Total</b>
<b>PERSONNEL COSTS</b>			
SAFMC Citizen Science Project Coordinator – 6 months	\$24,024		
<i>SAFMC Release</i> hourly position (part-time)	\$10,400		
SAFMC Personnel Julia Byrd, Citizen Science Program (10%)		\$9,700	
NOAA Personnel Drew Cathey, SEFSC (5%) Lauren Dolinger Few, S & T (~ 1 week)		\$3,950 \$3,400	
<b>FRINGE</b>			
SAFMC Citizen Science Project Coordinator – 6 months	\$14,294		
SAFMC Personnel Julia Byrd, Citizen Science Program (10%)		\$5,772	
<b>CONTRACT</b>			
NSAR recruitment mailing	\$54,363		
<b>SUPPLIES</b>			
Promotional materials	\$4,000		
Participant Recognition Program incentives	\$15,000		
Software packages	\$3,300		
<b>TRAVEL</b>			
Travel to support outreach and promotional	\$4,430		

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

opportunities for <i>SAFMC Release</i>			
Indirect Costs (10% of non-contract costs)	\$7,545		
<b>TOTAL</b>	<b>\$137,356</b>	<b>\$22,822</b>	<b>\$160,187</b>
<b>Percentage</b>	<b>86%</b>	<b>14%</b>	<b>100%</b>

**FY25 BUDGET NARRATIVE:**

**Personnel (\$34,424):** Personnel funds of \$24,024 will support 6 months of the SAFMC Citizen Science Project Coordinator position who leads daily project management for the *SAFMC Release* project. The remaining personnel funds (**\$10,400**) will be used by SAFMC to hire a part-time hourly at \$20/hour for 520 hours for the *SAFMC Release* project to help with account creation, coordination of the Participant Recognition Program, and QA/QC.

**Fringe (\$14,294):** Fringe funds will support 6 months of benefits for the SAFMC Citizen Science Project Coordinator position. Fringe benefits charged at 59.5% of total compensation.

**Contractual (\$54,363):** NOAA Fisheries will contract with Gallup to coordinate and implement the NSAR recruitment mailings to GA and SC. Target is to send 24,000 recruitment letters (12,000 to each state). Costs are estimated at ~\$2.27 per piece for \$54,363.

**Supplies (\$22,300):** Partners will utilize funds to print promotional materials (e.g., wallet cards, rack cards, stickers, etc.) to promote and recruit users for *SAFMC Release*. Cost for promotional materials range from wallet cards (~\$0.05 each) to stickers (~\$1.50 each). Using an average cost of \$0.77 per item, \$4,000 will allow us to print ~5,195 items for distribution. The PRP will include low, medium, and high value items when participants meet identified milestones. Cost for low value items range between \$10-\$20, medium value items range between \$25-\$100, and high value items range between \$200-\$600. Using an average cost of \$15 for low value items - \$13,000 will allow us to distribute ~860 items; an average of \$63 for medium value items - \$500 will allow us to distribute ~8 items; and an average of \$400 for high value items - \$1500 will allow us to distribute ~4 items. Costs for software include an annual subscription to Wufoo (\$330) for online forms for account creation and an upgrade to the shiny application to provide an additional tool for project participants to explore and query their data.

**Travel (\$4,430):** Travel by partners will be used to promote *SAFMC Release* by visiting tackle shops, fishing clubs and expos, and other related venues to allow for distribution of outreach and promotional materials. Funds are requested to support travel for staff members for 4 trips, approximately 3-4 days each. Costs are estimated for a total of 14 hotel nights at \$120/night (\$1,680), 16 days per diem at

\$75/day (\$1,200), ~1200 miles at \$0.625/mile (\$750), and two airplane fares at ~\$400/ticket (\$800). Travel rate estimates are based on federal reimbursement and per diem rates.

**Indirect (\$7,545):** Indirect charges of 10% are applied to the non-contract budget items for a total of \$7,545. The contract with Gallup will be administered through NOAA Fisheries, so was excluded from the indirect calculations.

## SUMMARY OF PROPOSAL FOR RANKINGS:

**Proposal Type: New**

**Primary Program Priority: Biological 90%**

**Biological information from the commercial, for-hire, and recreational fisheries will be collected on released shallow-water groupers (Black, Gag, Red, Scamp, Yellowfin and Yellowmouth Groupers; Red Hind; Rock Hind; Coney and Graysby) and Red Snapper. Gag Grouper, Red Grouper, and Red Snapper are in the top 25% of the ACCSP biological sampling priority matrix. *SAFMC Release* data collection includes:**

- **Data collected for each trip: trip type (commercial, recreational, headboat, charter), date, user (ACCSP ID)**
- **Data collected for each fish released: species (user's determination), length (based on ACCSP standards), location (state required, specific latitude/longitude optional), depth, time, fate (dead or alive release), hook type, hook location, use of barotrauma mitigation (descending device, venting, line cut), shark depredation, and photograph (to validate and evaluate species IDs and lengths)**
- **Users may also file a 'no fish released' report to share information on harvested fish**

**Data Delivery Plan:**

**The SciFish application for the *SAFMC Release* project will collect and deliver data directly to ACCSP through the SciFish API and will be stored in SAFIS. Data can be entered by fishermen when no internet connection is available and later uploaded to SAFIS when a connection exists.**

**Project Quality Factors:**

- **Multi-partner/Regional impact including broad applications:**  
**The *SAFMC Release* project partners with fishermen to collect data on released fish in South Atlantic waters in North Carolina, South Carolina, Georgia and the east coast of Florida through the Florida Keys. Project partners include SAFMC, NOAA SEFSC, and NOAA Office of Science & Technology. Project consultants include SCDNR and GADNR. Letters of support have been provided by NCDMF, SCDNR, and FL FWC. Data collected through the project will be available for consideration in South Atlantic stock assessments and management.**

**In addition to contributing data for consideration in stock assessments and management, this project will collect information on the effectiveness of various recruitment and retention strategies for *SAFMC Release*. With the growing interest in using citizen science as a tool to help supplement marine fisheries data collection, the information gained on volunteer recruitment and retention could be informative for other citizen science projects being pursued by partners along the Atlantic coast.**

- **Contains funding transition plan:**  
Project PI's will be developing additional proposals and exploring other funding opportunities to help support additional years of funding for this project.
- **In-kind contribution: 14%**
- **Improvement in data quality/quantity/timeliness**
  - Provides improvement in data quality and quantity
  - There are currently no data available to assign released shallow water groupers and Red Snapper to length classes other than limited commercial and for-hire observer effort. *SAFMC Release* collects data on length of released shallow water group and Red Snapper for commercial, for-hire, and recreational fishermen.
  - There are limited data available to classify the depth where fish are captured and released and the use of barotrauma reduction techniques which are significantly correlated with release mortality rates. The data collected through *SAFMC Release* provides finer scale information on released fish which can help refine the overall release mortality rate applied for a stock assessment.

**Potential secondary module as a by-product: Bycatch 10%.**

The snapper-grouper hook and line fleet is ranked in the top quartile of the ACCSP bycatch priority matrix (ranked 9<sup>th</sup> out of 19 fleets). Information collected through *SAFMC Release* can help provide information on length of released shallow water grouper and Red Snapper and release treatment (e.g., use of barotrauma mitigation devices) to supplement the data available through observer coverage and discard logbooks to help characterize the bycatch within this fleet.

**Impact on stock assessment:**

Stock assessment impacts are significant. Assessments rely on accurate catch data for individual species, accurate assignments of catches to length and thus age classes, and accurate accounting of total population removals including release mortality. **Limited data are available to classify the size composition of released fish in the commercial snapper grouper hook and line fleet, the private recreational fleet, or the charter fleet.** When the SAFMC's Science and Statistical Committee reviewed recent stock assessments (SEDAR 73 – South Atlantic Red Snapper), they raised concerns about the level of descender device usage due to lack of information on how widespread usage is in the fishery. *SAFMC Release* will provide data to help fill these data gaps which are important to assessments.

**Other Factors:**

- **Innovative**  
Interest in using citizen science to help fill data gaps in marine fisheries has been growing in recent years. This project will support the continuation of the *SAFMC Release* citizen science project which is helping address key research priorities on released fish. In



**addition to using opportunistic recruitment strategies, it uses the NSAR adding a statistical design to recruit citizen scientists. This will allow for comparison of data collected via NSAR recruited participants to those collected by participants recruited via other strategies.**

- **Properly prepared**

**This proposal follows the guidelines under the ACCSP Funding Decision Process Document.**

- **Merit**

**This project supports the continuation of the *SAFMC Release* citizen science project that addresses key research needs on released shallow water grouper and Red Snapper – helping to characterize the size of released fish and helping better understand how many of those released fish survive. It incorporates using the NSAR as a recruitment tool adding a statistical design element to recruit project participants. Data collection is done via the SciFish platform, using ACCSP standards and making the data easily accessible for assessment and management. *SAFMC Release* data will be considered in the upcoming South Atlantic Red Snapper assessment per the SEDAR 90 Terms of Reference. Additionally, this project will collect information on the effectiveness of various recruitment and retention strategies for *SAFMC Release* which could be informative for other citizen science projects along the Atlantic coast.**

## Appendix 1. Proposed stratification scheme for NSAR recruitment mailing for *SAFMC Release*

### **SAFMC RELEASE: ACCSP FY25 RFP**

#### ***Leveraging the National Saltwater Angler Registry to Solicit a Stratified Random Sample of Participants for the SAFMC RELEASE Project***

*Prepared by Andrew Cathey*

Stratified random sampling (SRS) is useful when a population consists of multiple equivalent groups. For these populations, initial stratification can be paired with SRS to select samples from each group (Fricker 2008). Importantly, a stratified approach can reduce cost and logistical difficulties of reaching the target audience. This approach is readily applicable to collect data from specialized recreational fisheries due to the small number of participants relative to the total population of recreational anglers (NCDMF 2023, Chapter 5).

The South Atlantic recreational shallow-water grouper complex fishery is boat-based with catch predominantly originating offshore in the EEZ. As such, it is characteristic of a recreational fishery well suited for applying a stratified random sampling approach. The current methodology uses intercept data from the National Oceanic and Atmospheric Administration (NOAA) Access Point Angler Intercept Survey (APAIS) to identify an appropriate stratification scheme for species included in the current iteration of *SAFMC RELEASE* (Figure 1.). Effort and Catch data from the APAIS (1981-2023) were selected that included catch (kept or discarded fish) from any of the constituent *RELEASE* Species. The proposed stratification scheme includes the following strata ***State/Wave/County of Residence/Zip Code***.

**Figure 1) SAFMC *RELEASE* Species**



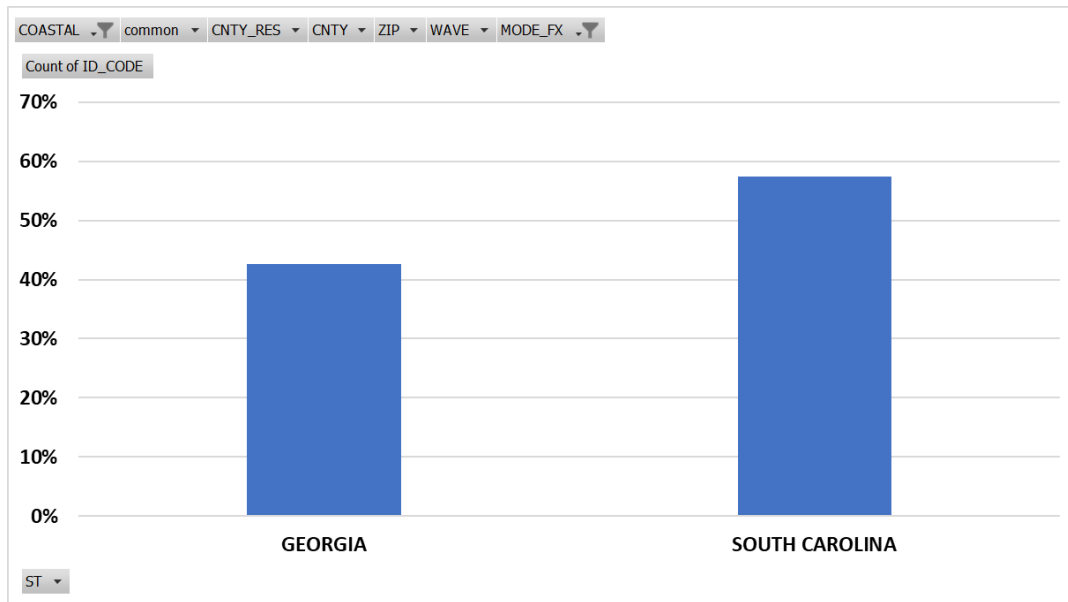
Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

### Strata 1: *State/Wave/County of Residence/Zip Code*

An initial spatial sampling strata will be identified for our area of interest and include South Carolina and Georgia. Figure 2. demonstrates a spatial differential regarding the number of intercepted anglers with observed or reported catch of RELEASE species. These records are from coastal residents intercepted from private boat mode. South Carolina and Georgia contributed 58% and 42% respectively. These results suggest an initial spatial stratification by state that is proportional to state contribution.

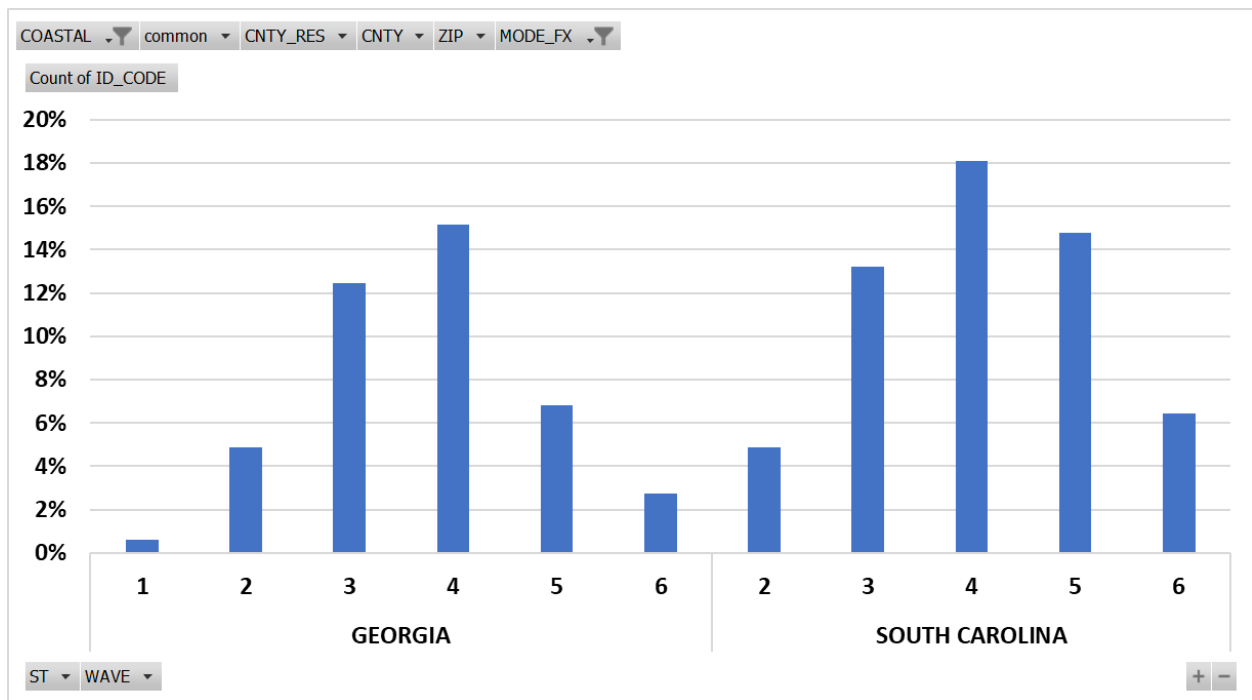
**Figure 2)** Percentage of Intercepts from Private Boat Mode for Coastal Residents with Catch of RELEASE spp. by State.



**Strata 2: State/*Wave*/County of Residence/Zip Code**

A temporal sampling strata will be at the wave level (bi-monthly sampling interval Jan/Feb=Wave1, etc.). Figure 3. demonstrates an interactive effect between state and wave regarding intercepts with observed or reported catch of RELEASE species. These records are from coastal residents intercepted from private boat mode. Both South Carolina and Georgia exhibit a bell-shaped distribution with peak intercepts occurring during waves 3, 4, & 5.

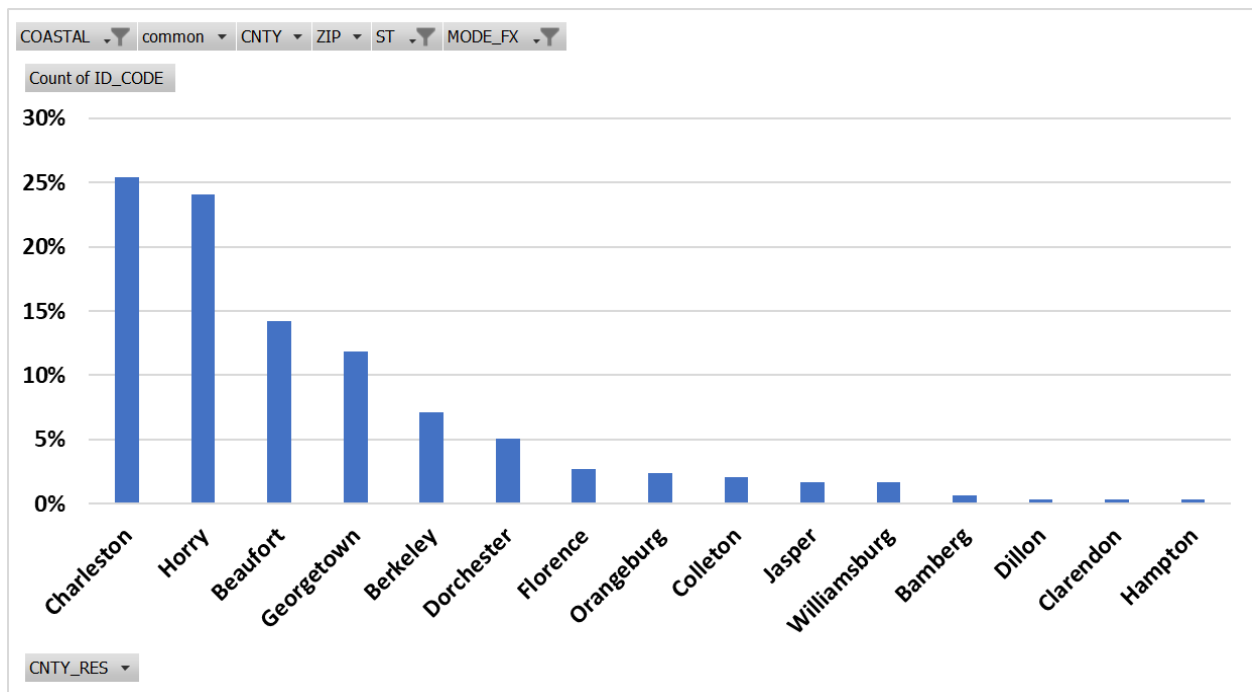
**Figure 3)** Percentage of Intercepts from Private Boat Mode Coastal Residents with Catch of RELEASE spp. by State and Wave (1981-2023).



**Strata 3: State/Wave/County of Residence/Zip Code**

The remaining sampling strata will use South Carolina as a case study. Figure 4. represents the spatial distribution of APAIS intercepts from coastal county residents with observed or reported catch of RELEASE species by South Carolina County of Residence. The top five counties contribute >87% of total intercepts and include Charleston (25.4%), Horry (24.1%), Beaufort (14.2%), Georgetown (11.9%), Berkeley (7.1%) and Dorchester (5.1%).

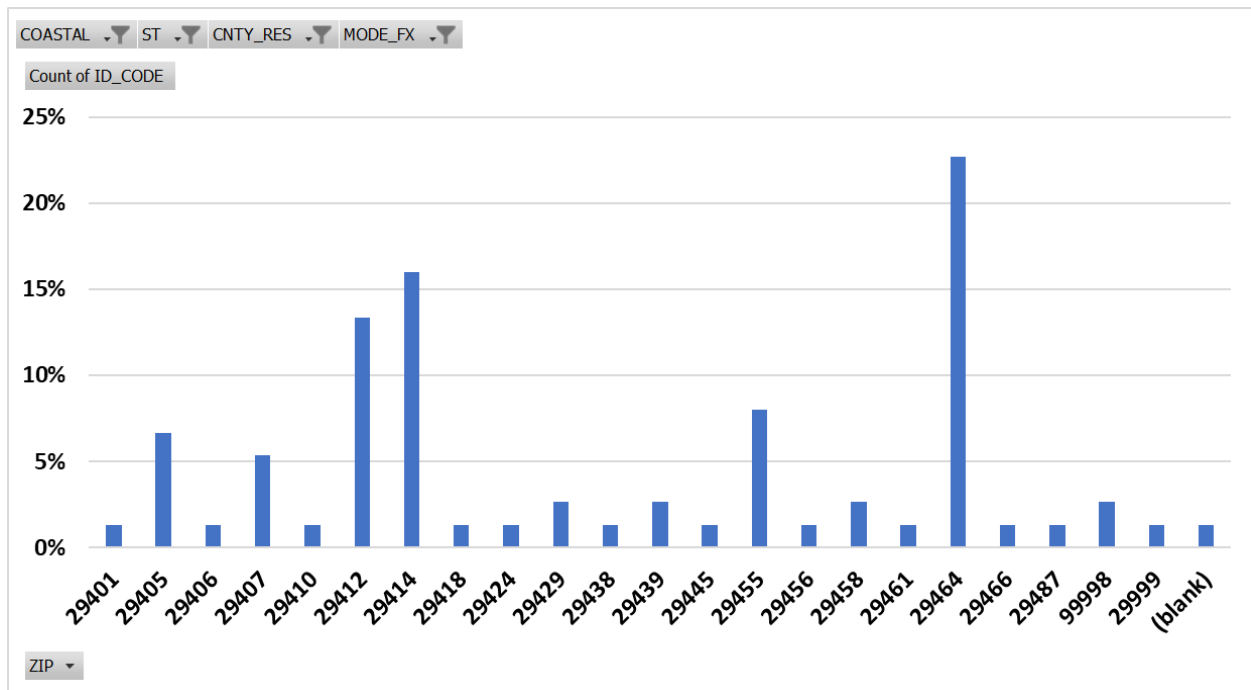
**Figure 4)** Percentage of Intercepts from Private Boat Mode Coastal Residents with Catch of RELEASE spp. by South Carolina County of Residence (1981-2023).



**Strata 4: State/Wave/County of Residence/Zip Code**

Figure 5. represents the spatial distribution of APAIS intercepts with observed or reported catch of RELEASE species by Zip Code for Charleston County South Carolina. These results demonstrate increased spatial resolution within Charleston County. Importantly, similar spatial differentials exist within all coastal counties and states. Within the constituent county of Charleston 4 zip codes (29412, 29414, 29464, 29455) contribute 60% of APAIS intercepts with RELEASE species. Within Charleston County the zip code with the highest level of contribution is 29464 (22.6%) (Figure 6). The application of Zip code as the final sampling strata is the finest spatial resolution available from APAIS intercept data.

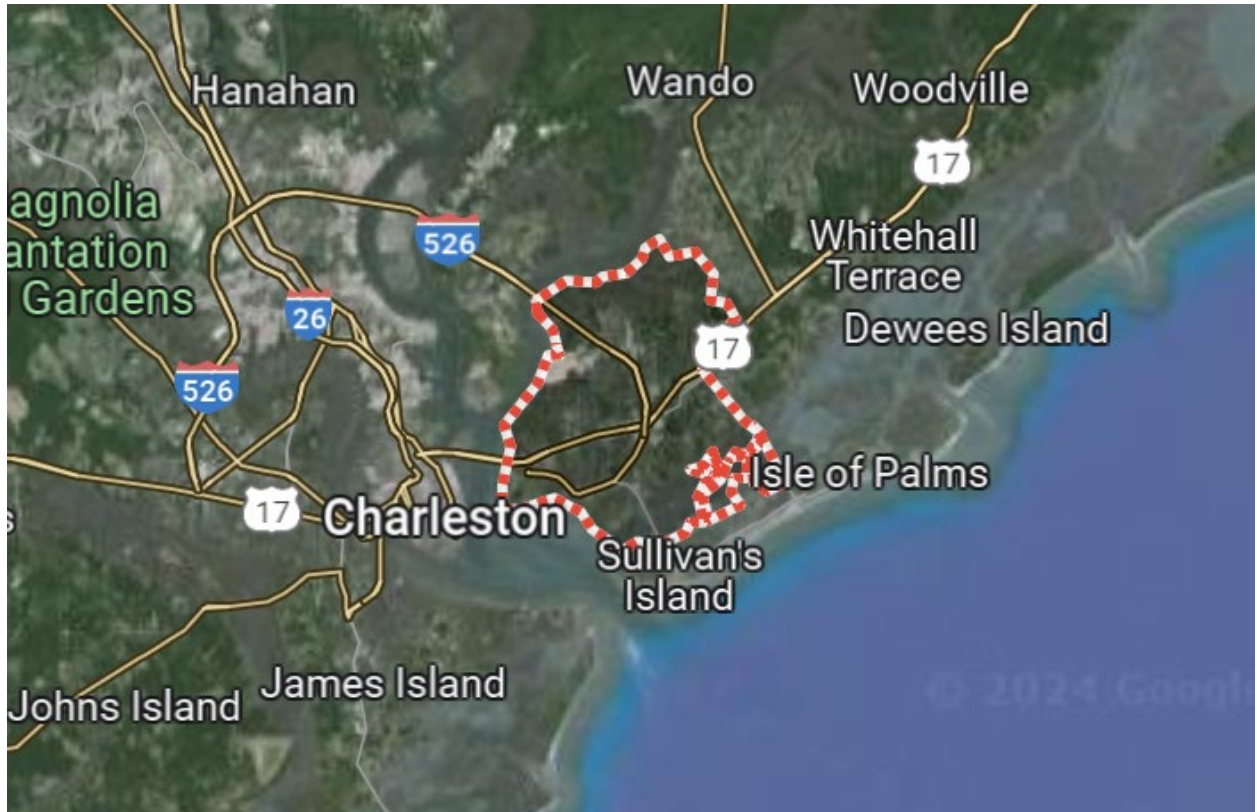
**Figure 5)** Percentage of Intercepts from Private Boat Mode Coastal Residents with Catch of RELEASE spp. by South Carolina Zip Code within Charleston County (1981-2023).



**Figure 6)** Location of Zip Code **29464** within Charleston County South Carolina

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.



### **Literature Cited:**

Fricker, Ronald D. "Sampling methods for web and e-mail surveys." *The SAGE handbook of online research methods*. London: SAGE Publications Ltd (2008).

NCDMF. 2023. North Carolina Division of Marine Fisheries License and Statistics Section Annual Report. North Carolina Department of Environmental Quality, Division of Marine Fisheries, Morehead City, NC.



## South Carolina Department of Natural Resources

Robert H. Boyles, Jr.  
Director

Blalk Keppler  
Deputy Director for Marine Resources

June 5, 2024

Attn: Geoffrey White  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St., Ste 200A-N  
Arlington, VA 22201

Dear Mr. White,

The Atlantic Coastal Cooperative Statistics Program recently issued a Request for Proposals to program partners and committees for FY25 funding. Please find this letter as confirmation that the South Carolina Department of Natural Resources (SCDNR) is in support of the South Atlantic Fishery Management Council (SAFMC), in partnership with the NOAA Fisheries Southeast Fisheries Science Center and the Office of Science & Technology, proposal entitled, "Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project".

The proposal objectives specify a continued and expanded data collection effort for many South Atlantic reef fishes through the SAFMC Release citizen science application, using the National Saltwater Angler Registry (NSAR) license data as a tool to recruit more private recreational fishermen for SAFMC Release. They also plan to develop an incentive program to enhance participant retention and reactivation. SCDNR supports these efforts to encourage voluntary fisheries dependent data submissions from the recreational sector for use in fisheries management decisions.

Once funded, SCDNR will directly assist the project through coordinated information exchange as the project is executed. Actions will include review of the solicitation letter and documentation prior to dissemination to the NSAR South Carolina recreational anglers and collaborate on ideas to gain more participants and improve retention.

If you have any questions, please feel free to contact us at (843) 953-9313.

Sincerely,

Handwritten signature of Amy Dukes in blue ink.

Amy Dukes,  
Regional Fisheries Manager

Handwritten signature of Elizabeth Gooding in blue ink.

Elizabeth Gooding,  
Fisheries Statistics Section Manger

*Live Life Outdoors*

www.dnr.sc.gov • P.O. Box 167 Columbia, S.C. 29202 • 843-953-9300 • Equal Opportunity Agency





ROY COOPER  
*Governor*

ELIZABETH S. BISER  
*Secretary*

KATHY B. RAWLS  
*Director*

June 17, 2024

Dear Sir or Madam:

I am writing to express the North Carolina Division of Marine Fisheries' (NCDMF) support for the proposal titled "Enhancing Recruitment and Retention for the SAFMC Release Citizen Science Project". North Carolina is currently exploring various means of collecting better fisheries data, particularly for the recreational sector, and the Release Citizen Science Project will contribute to that goal. NCDMF has previously demonstrated this commitment through partnering with SAFMC Release Citizen Science Project to distribute approximately 10,000 mail solicitations to NC Coastal Recreational Fishing License holders encouraging them to participate. This partnership ultimately accounted for the recruitment of over 20% of the total number of participants for the first phase of this project, which has already delivered valuable release data.

Improved data collection using smartphone technology for the recreational fishing sector has been a hot topic in recent years, and this proposal will help to further explore this method of data collection. Despite general support from the recreational fishing public to use a smartphone application to submit fishing data, it has been shown that retention of application users tends to decrease over time. This proposal will provide the ability to investigate new ways of revitalizing the Release app with the goal of increasing participation.

The results of this project will better inform NCDMF on new approaches to recruit and retain smartphone application users, which will be extremely beneficial as the Division prepares for new mandatory harvest reporting legislation to take effect December 1, 2024. Again, NCDMF fully supports the "Enhancing Recruitment and Retention for the SAFMC Release Citizen Science Project" proposal and recommends the proposal be funded.

Sincerely,

Kathy Rawls  
NC Division of Marine Fisheries Director  
(252) 515-5520  
[Kathy.Rawls@deq.nc.gov](mailto:Kathy.Rawls@deq.nc.gov)

State of North Carolina | Division of Marine Fisheries  
3441 Arendell Street | P.O. Box 769 | Morehead City, North Carolina 28557  
252-726-7021



**Florida Fish  
and Wildlife  
Conservation  
Commission**

Commissioners  
**Rodney Barreto**  
Chairman  
Coral Gables

**Steven Hudson**  
Vice Chairman  
Fort Lauderdale

**Preston Farnior**  
Tampa

**Gary Lester**  
Oxford

**Albert Maury**  
Coral Gables

**Gary Nicklaus**  
Jupiter

**Sonya Rood**  
St. Augustine

Office of the  
Executive Director  
**Roger A. Young**  
Executive Director

**Charles "Rett" Boyd**  
Assistant Executive Director

**George Warthen**  
Chief Conservation Officer

**Jessica Crawford**  
Chief of Staff

Division of Marine Fisheries  
Management  
**Jessica McCawley**  
Director

850-487-0554

*Managing fish and wildlife  
resources for their long-term  
well-being and the benefit  
of people.*

620 South Meridian Street  
Tallahassee, Florida  
32399-1600  
Voice: 850-488-4676

Hearing/speech-impaired:  
800-955-8771 (T)  
800-955-8770 (V)

MyFWC.com

August 13, 2024

**Geoffrey White**  
Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St., Ste 200A-N  
Arlington, VA 22201

Dear Mr. White,

The Florida Fish and Wildlife Conservation Commission (FWC) is supportive of the South Atlantic Fishery Management Council (SAFMC) research proposal entitled, "Enhancing Recruitment & Retention for the SAFMC Release Citizen Science Project" that has been submitted to the Atlantic Coastal Cooperative Statistics Program for FY25 funding.

This is a collaborative project in partnership with NOAA Fisheries Southeast Fisheries Science Center and the Office of Science & Technology. Specifically, this project will expand recreational data collection for many South Atlantic reef fish species through the SAFMC Release citizen science application by collaborating with the National Saltwater Angler Registry license data to recruit more private recreational fishermen for the SAFMC Release.

Once funded, FWC will assist the project through coordinated information exchange as the project is executed as well as review of materials as needed.

If you have any questions, please feel free to contact me at

Sincerely,

Jessica McCawley

## **Andrew M. Cathey**

National Oceanic and Atmospheric Administration  
Southeast Fisheries Science Center  
Fisheries Statistics Division  
Survey Development, Data Management, and Dissemination Branch  
101 Pivers Island Road  
Beaufort NC 28516  
Mobile:(252)-558-3404  
E-mail: [Andrew.Cathey@NOAA.gov](mailto:Andrew.Cathey@NOAA.gov)

### **Professional Preparation:**

East Carolina University, PhD, Interdisciplinary Biological Sciences, 2013  
Appalachian State University, BS, Ecology and Environmental Biology, 2004

### **Professional Experience:**

Fish Biologist, Southeast Fisheries Science Center, Fisheries Statistics Division, National Oceanic and Atmospheric Administration: Sep 2022-present  
Program Supervisor, Coastal Angling Program, North Carolina Division of Marine Fisheries: Jan 2021-Aug 2022  
Chief Data Analyst, Coastal Angling Program, North Carolina Division of Marine Fisheries: Nov 2017-Dec 2020  
Statistician, Coastal Angling Program, North Carolina Division of Marine Fisheries: Jul 2014-Nov 2017  
PhD Candidate, East Carolina University: Oct 2011-Dec 2013

### **Publications and Technical Reports:**

- Cathey AM**, Byrd J (2021) FY20: SAFIS Expansion of “SAFMC Release” and “NCDMF Catch U Later” Discard Reporting Applications. *Atlantic Coast Cooperative Statistics Program Final Project Report*.
- Cathey AM** (2016). Evaluating an Ongoing Recreational Flounder Giggling Mail Survey using Dockside Intercepts. *North Carolina Division of Marine Fisheries Final Project Report*. Grant Number 2007-F206
- Cathey AM** (2015). Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data. *NOAA Final Project Report*, Task Title: Assessing the Use of Electronic Mobile Devices in Recreational Angling Data, Grant Number EA-133F-12-BA-0034
- Cathey AM**, Miller NR, Kimmel DG (2014). Spatiotemporal Stability of Trace and Minor Elemental Signatures in Early Larval Shell of the Northern Quahog (Hard Clam) *Mercenaria mercenaria*. *Journal of Shellfish Research* 33(1):247-255

**Cathey AM**, Miller NR, Kimmel DG (2012) Microchemistry of Juvenile *Mercenaria mercenaria* shell: Implications for Modeling Larval Dispersal. *Marine Ecology Progress Series* 465:155-168

**Contracts and Grants Awarded:**

\$116,182. Standard Atlantic Fisheries Information System (SAFIS) Expansion of Customizable Fisheries Citizen Science Data Collection Application. National Marine Fisheries Service/Atlantic Coast Cooperative Statistics Program. 07/01/2022 06/30/2023 Co-PI: **Cathey AM**, Co-PI: Julia Byrd

\$118,500. Standard Atlantic Fisheries Information System (SAFIS) Expansion of “SAFMC Release” and “NCDMF Catch U Later” Discard Reporting Applications. National Marine Fisheries Service/Atlantic Coast Cooperative Statistics Program. 10/30/2019 05/20/2021 Co-PI: **Cathey AM**, Co-PI: Julia Byrd

\$199,340. Annual surveys of recreational license holders. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 07/01/2018 06/30/2023. PI: **Cathey AM**

\$72,500. Determination of species-specific size compositions of recreationally discarded finfish species. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 07/01/2018 06/30/2020. PI: **Cathey AM**.

\$142,000. Evaluating an Ongoing Recreational Flounder Giggling Mail Survey using Dockside Intercepts. North Carolina Division of Marine Fisheries Coastal Recreational Fishing License Grant. 01/01/2016 11/30/2016. PI: **Cathey AM**

\$29,042. Assessing Electronic Mobile Devices for the Collection of Recreational Fishing Data. National Marine Fisheries Service. 08/01/2013 12/15/2014. PI: **Cathey AM**

**Select Presentations:**

American Fisheries Society, 151<sup>st</sup> Annual Meeting. Baltimore Maryland, September 6-10, 2021. Oral Presentation: Development of the SciFish Application, a Customizable Citizen Science Project Builder

American Fisheries Society, 151<sup>st</sup> Annual Meeting. Baltimore Maryland, September 6-10, 2021. Oral Presentation: Minimizing Bias in Citizen Science

Cape Hatteras Surf Fishing Heritage Celebration - Cape Hatteras National Seashore (U.S. National Park Service), November 2, 2019. Oral Presentation: Trends in Recreational Surf Fishing on the Northern Outer Banks.

# JULIA ISOBEL BYRD

---

1489 Littlerock Blvd.  
Charleston, SC 29412  
Hometown: Asheville, NC

Work: (843)302-8439  
Cell: (828)215-1414  
Email: [julia.byrd@safmc.net](mailto:julia.byrd@safmc.net)

**EDUCATION:** UNIVERSITY OF CHARLESTON, SC, Charleston, SC  
-**Masters of Environmental Studies**, December 2004

WAKE FOREST UNIVERSITY, Winston-Salem, NC  
-**Bachelor of Science in Biology**, Minor in **Environmental Studies**, May 2000

## **WORK EXPERIENCE:**

**Citizen Science Program Manager, South Atlantic Fishery Management Council (SAFMC)**  
Charleston, SC, March 2019 – present

**Adjunct faculty at the College of Charleston**  
Charleston, SC, 2020 to present

**Southeast Data Assessment and Review (SEDAR) Coordinator, SAFMC**  
Charleston, SC, August 2012 – February 2019

**Wildlife Biologist III, Office of Fisheries Management, South Carolina Department of Natural Resources**  
Charleston, SC, August 2005 – August 2012

**MARMAP hourly, South Carolina Department of Natural Resources**  
Charleston, SC, April 2005 – August 2005

**Intern, In-Water Sea Turtle Abundance Study, South Carolina Department of Natural Resources**  
Charleston, SC, May 2003 – August 2003 and May 2004 – September 2004

**Education Coordinator, Conservation International**  
Washington, DC, January 2002 – July 2002

## **SELECT GRANT PROPOSALS FUNDED as PI or co-PI:**

FY2024. Expansion of the FISHstory Citizen Science Project. Julia Byrd (SAFMC) and Dr. Jie Caio (NC State University). Atlantic Coastal Cooperative Statistics Program. \$123,068.

FY2023. Expansion of the FISHstory Citizen Science Project. Julia Byrd (SAFMC) and Dr. Jie Caio (NC State University). Atlantic Coastal Cooperative Statistics Program. \$121,076.

FY2022. SAFIS Expansion of the SciFish Customizable Fisheries Citizen Science Data Collection Application. Julia Byrd (SAFMC) and Dr. Andrew Cathey (NC Division of Marine Fisheries). Atlantic Coastal Cooperative Statistics Program. \$116,182.

FY2021. SAFIS Expansion of Customizable Fisheries Citizen Science Data Collection Application. Julia Byrd (SAFMC). Atlantic Coastal Cooperative Statistics Program. \$114,792.

FY2020. SAFIS Expansion of “SAFMC Release” and “NC DMF Catch U Later” Discard Reporting Applications. Atlantic Coastal Cooperative Statistics Program. \$118,500.

FY2019. The FISHstory Project - Documenting historical catch and length estimates from historic photos in the for-hire sector using electronic data collection and imagery analysis platforms and crowdsourcing approaches. Julia Byrd (SAFMC) and Amber VonHarten (SAFMC). NOAA-Fisheries Information Systems. \$75,000.

**SELECTED PUBLICATIONS:**

- Byrd, J. W.R. Collier, and A. Iberle. 2022. Designing the FISHstory project to support fisheries management. *Fisheries*: 44 (11): 492-498.
- Oremland, L., A. Furnish, J. Byrd, and R. Cody. 2022. How fishery managers can harness the power of the crowd: Using citizen science and non-traditional data sources in fisheries management. *Fisheries*: 44 (11): 459-462.
- Bonney, R., J. Byrd, J. T. Carmichael, L. Cunningham, L. Oremland, J. Shirk, and A. Von Harten. 2021. Sea Change: Using Citizen Science to Inform Fisheries Management. *BioScience*: 71(5): 519-530.
- Brown, S.K., M. Shivani, R. Koenke, D. Agnew, J. Byrd, M. Cryer, C. Dichmont, D. Die, W. Michaels, J. Rive, H. Sparholt, and J. Weiberg. 2020. Patterns and practices in fisheries assessment peer review systems. *Marine Policy*: 117,103880.
- SEDAR. 2015. SEDAR Procedural Workshop 7: Data Best Practices. SEDAR, North Charleston, SC. 151pp. (editor).

**SELECTED PROFESSIONAL PRESENTATIONS:**

- Byrd, J. and J. Simpson. 2024. SciFish Platform & Policies. NOAA Enterprise Data Management Workshop. (Oral presentation.)
- Byrd, J., C. Collier, and M. Withers. 2023. Supporting Fisheries with Citizen Science: The South Atlantic Fishery Management Council's Approach. NOAA Central Library Seminar Series. (Oral presentation).
- Byrd, J. C. Collier, and A. Iberle. 2022. FISHstory, using citizen science to describe historic catches. SAFMC Seminar Series. (Oral presentation).
- Byrd, J. A. Iberle, C. Collier, D. Cathey, J. Simpson, F. Karp, B. Spain, K. Knowlton, and M. Bucko. 2021. Development of the SciFish Application, a customizable citizen science project builder. American Fisheries Society Annual Meeting. (Oral presentation).
- Byrd, J. C. Collier, and A. Iberle. 2020. The SAFMC's Citizen Science Program: Designing a program to support fisheries science and management decision making. American Fisheries Society Annual Meeting (held virtually). (Oral presentation).
- Byrd, J., J. Carmichael, and J. Neer. 2017. The Importance of Peer Review in SEDAR Stock Assessments. American Fisheries Society Annual Meeting, Tampa, FL. (Oral presentation).
- Carmichael, J., A. VonHarten, and J. Byrd. 2016. Efforts to Develop a South Atlantic Fishery Management Council Citizen Science Program. NOAA Fisheries Quantitative Ecology and Socioeconomics Training Program Webinar Series. (Webinar presentation).
- VonHarten, A. and J. Byrd. 2016. Building a Fishery Citizen Science Program in the U.S. South Atlantic to Improve Management and Policy. 4<sup>th</sup> International Marine Conservation Congress. (Oral presentation and helped facilitate focus group).

**SELECTED HONORS:**

- National Conservation Leadership Institute, Cohort 7 (2012-2013)
- Emerging Wildlife Conservation Leaders, Pilot Class (2005-2007)

**SELECTED TRAININGS:**

- Management Assistance Team (MAT) Leader as Communicator Training
- Smithsonian's Communication & Facilitation Skills for Conservation Managers Course
- Technology of Participation (TOP) Facilitation Methods
- NOAA Coastal Service Center Planning and Facilitating Collaborative Meetings
- Well's National Estuarine Research Reserve Coastal Training Program Collaborative Learning Workshop
- NOAA Coastal Service Center Project Design and Evaluation Workshop
- NOAA Coastal Service Center Public Issues and Conflict Management Workshop
- University of Maryland's Communicating Science Effectively Workshop
- Atlantic States Marine Fisheries Commission Basic Stock Assessment Workshop
- Atlantic States Marine Fisheries Commission Maximum Likelihood Modeling Workshop

**PROFESSIONAL MEMBERSHIPS:**

- Association for Advancing Participatory Sciences
- American Fisheries Society & SC Chapter of the American Fisheries Society
- ACCSP Operations Committee (2015-present) and SciFish Advisory Panel (2024)

Bold text indicates sections that help with the ranking process.

Yellow highlighted text indicates changes made from the initial proposal.

## Contact

lauren.dolinger.few@gmail.com

[www.linkedin.com/in/laurendolingerfew](http://www.linkedin.com/in/laurendolingerfew) (LinkedIn)  
[www.st.nmfs.noaa.gov/st1/recreational/queries/](http://www.st.nmfs.noaa.gov/st1/recreational/queries/) (Other)  
[www.countryfish.noaa.gov/register/home.jsp](http://www.countryfish.noaa.gov/register/home.jsp) (Other)

## Top Skills

Data Policy  
SAS (Programming Language)  
Data Strategies

# Lauren Dolinger Few

Data Manager at NOAA  
Ellicott City, Maryland, United States

## Summary

Specialize in integrating data management into program management. Develop and implement standards for survey methods and data management. Create applications for survey data management and collaborate across regions, agencies and sectors for data management needs. Communicate business requirements from partners, statisticians and other scientists for application development. Provide SAS analytical support to both internal staff and external partners, enhancing data-driven decision-making processes.

---

## Experience

### NOAA Fisheries

Data Management and Program Development Analyst  
June 2003 - Present (21 years 1 month)

Silver Spring, MD

Identify and integrate data management requirements into overall program management.

Develop, implement, and monitor program-specific standards for survey methods and data management practices.

Educate and support scientists, analysts, and data managers on the importance and methodologies of data documentation (metadata).

Create and maintain applications to facilitate survey data management.

Collaborate with various departments and agencies on the development and management of databases for survey frames.

Work with regional partners and clients to ensure streamlined access to decentralized data sources.

Coordinate data management needs across multiple programs and agencies.

Communicate business requirements to the support team for application development.

Provide SAS analytical support to staff and external partners.

PBS&J

#### Senior Scientist

June 2000 - June 2003 (3 years 1 month)

Burtonsville, MD

Developed flexible programs and macros in SAS, Visual Basic and MS Access

Modeled fisheries populations under direction of statisticians

Extracted, transferred, and loaded data between ASCII, Excel, Access and SAS

Generated graphics, reports, and statistics primarily using SAS/Graph and SAS/Stat

Presented data using SAS, and VB graphical interfaces

#### URS Corporation

Senior Environmental Scientist

January 1996 - June 2000 (4 years 6 months)

Blue Bell, PA

Managed fisheries, chemical and environmental databases (Access, Excel)

Supervised data entry staff for fisheries independent program

Performed environmental and wetland investigations

Prepared summary statistics and wrote reports for clients

---

## Education

#### Drexel University

M.S, Bioscience and Biotechnology · (1994 - 1997)

#### Long Island University

B.S, Environmental Biology · (1990 - 1994)



July 18<sup>th</sup>, 2024

Atlantic Coastal Cooperative Statistics Program

1050 N. Highland St. Ste. 200 A-N Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the proposal titled “Port Sampling for the Maine Atlantic Halibut Fishery” for your consideration. This is a New Project proposal that will collect new data streams to better inform halibut stock assessment. We have also included a letter of support from Richard McBride, Chief of the Population Biology Branch at the Northeast Fisheries Science Center.

During the initial pre-proposal review process, we received no questions, though we have clarified on page 2 that the actual requested award amount is \$30,805.00 versus the total project cost of \$68,655.10 including DMR contributions.

For a summary of the proposal for ranking purposes, please see page 13. Please contact William DeVoe at the MEDMR with any questions. Thank you for your consideration of this proposal.

Sincerely,

William DeVoe

Marine Resources Scientist III

[William.DeVoe@maine.gov](mailto:William.DeVoe@maine.gov)

(207) 592-7084

**Proposal for Funding made to:**  
Atlantic Coastal Cooperative Statistics Program  
Operations and Advisory Committees  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

**Port Sampling for the Maine Atlantic Halibut Fishery**

**Submitted By:**  
William DeVoe  
Maine Department of Marine Resources  
PO Box 8  
W. Boothbay Harbor, ME 04575

**Applicant Name:** Maine Department of Marine Resources

**Project Title:** Port Sampling for the Maine Atlantic Halibut Fishery

**Project Type:** New project

**Principal Investigator:** William DeVoe (Maine DMR)

**Requested Award Amount:** \$30,805.00

**Requested Award Period:** For one year, beginning after the receipt of funds

**Date Submitted:** 7/18/2024

**Objective:**

To improve the data on the stock structure and life history of Atlantic halibut by collecting otolith, maturity, genetic and morphometric data from halibut at dealer locations in Maine.

**Need:**

Atlantic halibut is an economically important species to many New England fishing communities but relatively little is known about its life history and stock structure. Atlantic halibut is managed by the United States and Canada as distinct stocks defined largely by the jurisdictional boundaries of each country (Shackell et al 2016). However, tagging data from multiple studies has shown that halibut migrate great distances and occupy waters of both countries. Additionally, recent genetic work has shown that Gulf of Maine, Scotian Shelf, and Grand Banks halibut are genetically homogeneous (Kess et al 2021). Halibut are listed as species of “Species of Concern” under the US Endangered Species Act; however, in Canada the fishery is certified as sustainable by the Marine Stewardship Council. A further cross-border disparity occurs in the legal size of halibut in the US vs Canada; in US waters, only halibut over 41 inches in length can be landed, while in Canada the minimum size limit is 32 inches. This dichotomy between management strategies necessitates further research be conducted to understand the nature of the Northwest Atlantic halibut stock.

Recent electronic tagging work conducted by Maine DMR has shown that halibut utilize multiple spawning areas ranging from the Northeast Channel in the Gulf of Maine to The Gully just south of the Laurentian Channel (where the Saint Lawrence River reaches continental margin). Spawning activity has been indicated by abrupt vertical rises of several hundred meters in archival depth time series during the December-February months. The location of the spawning activity has been determined using geolocation modeling and acoustic detections (Liu et al 2019, internal DMR research). Archival data has indicated that some halibut perform spawning rises for multiple subsequent years, yet others engage in skip spawning. This aligns with recent evidence of skip spawning from gonad histology (McBride et al 2022). Results from acoustic tags have indicated that some halibut migrate as far as The Gully and return to the Maine coast in the spring (internal DMR research). The results of this work have drawn further attention to the transboundary nature of Gulf of Maine halibut and the need for further studies on halibut stock structure.

While economically important, there remain many questions about the biology of halibut. Traditional trawl surveys are not ideal to capture halibut and thus provide limited opportunities to sample the species. As a result, Atlantic halibut are considered a data-poor species and are ranked as a high priority species (upper 25% of matrix) for biological sampling by the ACCSP Biological Review Panel. The current assessment model used for Atlantic halibut is a data-poor approach called the First-Second Derivative model which is unable to produce biological reference points or support an analytical determination of stock status. To improve the assessment capabilities for halibut, research efforts are needed to increase the biological understanding of this data-poor species. Tagging produces estimates of movement patterns

and spawning activity but provides no estimates of stock structure and can only estimate growth rates for adult fish. There is a need for updated age-length keys for halibut as well as maturity indices to inform a better stock assessment. In Maine, recent otolith work occurred as part of Julia Beaty's 2014 Master's thesis (Beaty 2014) and the work done by Richard McBride's team (McBride et al 2022), which also established methods to detect indicators of spawning activity and maturity from gonad histology. The proportion of the stock that is sexually mature over time is an essential component of a stock assessment.

Atlantic halibut occupy a preferred temperature range that may make them vulnerable to climate change as the Gulf of Maine continues to warm; additionally, their spawning areas occur in regions that may experience shifting current conditions due to climate change, such as the Northeast Channel. This could result in changes in the distribution patterns of larvae. The dynamic nature of the Gulf of Maine in the face of climate changes means that there is a constant need for updated data on all marine species, including halibut, to assess if changes in the distribution, range and population structure of the species are occurring.

### **Results and Benefits:**

There are many benefits to collecting more biological samples from halibut. Collecting otolith samples will allow further age estimates of halibut landed in Maine, and will allow for the development of an age-length key for the state halibut fishery. This age data is crucial for estimating population structure, growth rates, and recruitment patterns, which are essential components of a stock assessment. Increasing the number of otolith samples would enhance the accuracy and precision of age determination, providing data needed to for an age based stock assessment, leading to more reliable stock assessments. Otoliths also provide information about the growth rates of individual halibut by measuring the distance between annuli. By sampling a larger number of otoliths, a more representative sample of the population and clearer picture of the species' life history traits will be obtained, which are vital for accurate stock assessment.

Gonad samples provide essential information about the reproductive potential of Atlantic halibut. Examining the size, maturity stage, and spawning indicators present in the gonads will provide insights into the reproductive health and potential of the population. This information is vital for estimating the reproductive output and the capacity of the Atlantic halibut population to sustain itself. Collecting more gonad samples would provide a larger dataset for assessing the reproductive potential, helping to identify any changes in reproductive patterns and potential impacts on population abundance. Specifically, gonad histology can reveal the proportion of landed halibut that are sexually mature and the sizes at maturity. Previous work (McBride et al 2022) has shown that the proportion of sexually mature halibut is increasing as the stock is expanding and aging; further gonad histology samples would allow this proportion to be recalculated over time, to inform stock assessment biologists if the stock is truly expanding. Richard McBride has included a letter of support for this proposal, noting that continual estimates of size at maturity is necessary to utilize the data-poor assessment tool

described in McBride et al 2022; moreover, in a rebuilding fishery, the size at maturity could increase over time and thus requires continual monitoring.

Halibut is currently managed on a Plan B assessment that does not allow for the estimation of reference points; therefore, currently the assessment is index-based only (NOAA 2022). One of the reference points necessary for a full assessment is Spawning Stock Biomass (SSB). However, even if SSB is known, this number is better informed by knowledge of the frequency of skip spawning within the population.

Analyzing the genetic information contained within halibut samples can reveal valuable insights into the population structure of Atlantic halibut. Genetic markers can help identify distinct subpopulations, migration patterns, and levels of gene flow. Understanding the population structure is crucial for an effective stock assessment, as it enables the identification of separate management units and helps estimate population size accurately. Increasing the number of genetic samples would improve the resolution of genetic analysis, leading to a more comprehensive understanding of the population structure of Atlantic halibut on both sides of the US-Canada border. The analysis of these genetic samples is being funded and led by Fisheries and Oceans Canada, and only requires the collection of genetic samples during port sampling. Previous genetic work by Fisheries and Oceans Canada has revealed large scale trends in the genetics of Northwest Atlantic halibut; specifically, only the Gulf of Saint Lawrence halibut were shown to be a genetically distinct stock as compared with the Gulf of Maine, Scotian Shelf, and Grand Banks regions (Kess et al 2021). Further genetic samples will be used to examine close-kin relationships between sampled halibut, which will be valuable for examining geographic connectivity within the population. This information will eventually be useful in the assessment process for determining stock delineation.

Morphology is an understudied aspect of halibut biology. Seasoned halibut fishermen will often note physical differences between halibut captured (“skinny long black ones”, “thick grey ones”) and some claim to be able to determine the sex externally by the morphology. However, only one study of halibut morphometrics occurs in the literature (Haug and Fevolden 1986). Image capture is a quick and effective method to capture multiple measurements from a single fish for morphometric analysis. Dealer locations are ideal for capturing these images, as the fish are deceased and on a stationary platform (vs an open boat). Analysis of halibut morphology may reveal patterns relating to sex, maturity, and origin that could be used to classify halibut from images instead of tissue samples. Recent work by the International Pacific Halibut Commission (IPHC) has discovered that halibut tail patterns can be used to identify individual fish (IPHC 2018); it is likely that other morphological markers relating to less-individualistic features (like sex and maturity) exist.

Halibut has a strong cultural and economic value in Maine, with participation by both commercial and recreational fishers. The fishery occurs at a time of year when lobstering has yet to pick up, and often provides needed income at a lean time of the year for fishing communities. The fishery in past years has produced \$6 million of ex-vessel revenue in Maine. The State’s halibut fishery is also one of the few remaining open-access fisheries in the

Northeast. Continued sampling to monitor the halibut fishery and inform stock assessments is essential to maintaining this culturally and economically important fishery.

There are also regional benefits to improved halibut biological sampling. Halibut is managed by the New England Fisheries Management Council as a part of the Northeast Multispecies Fishery Management Plan. Participation in the federal halibut fishery is tied to a federal groundfish permit and participation spans multiple states, with New Bedford and Gloucester serving as two primary ports. Thus, while the proposed sampling is geographically focused on Maine, there are broader regional benefits that would result from an improved halibut assessment that supports a federal groundfish fishery.

In addition to the better inputs for stock assessments created by the above data streams, there is also the intrinsic value beyond commercial exploitation gained by increasing our understanding of the halibut species. Studying halibut helps us better understand their ecological role and contribution to marine ecosystems. Halibut are a significant predator in their habitats and interact with numerous prey species, and gaining insights into their biology enhances understanding of the broader marine ecosystem.

Data from this program will directly address ACCSP's priorities in the Ranking Guide for "*Biological Sampling*"; additionally, Atlantic halibut is listed on the Biological Review Panel Recommendations Based on Matrix, ranking in the top 5 species among those that are present in Maine.

**Data Delivery Plan:**

Data collected will be entered into DMR's MARVIN Oracle database, which is the standard data store for many DMR projects. Port sampling projects for several other fisheries in Maine already utilize this database.

All data collected as part of this project will be submitted on an annual basis to ACCSP for appropriate use by partner agencies.

**Approach:**

The percentage of project effort devoted to each of the ACCSP Program Priorities is as follows: 100% biological sampling.

DMR staff will sample halibut from dealer locations during Maine's state halibut season. Maine's state halibut fishery represents a unique opportunity to efficiently collect biological information as Maine's season is short in duration (May-June) but has higher participation per day than the federal fishery leading to more fish being present at dealer locations. The primary dealers for halibut landings will be identified using past dealer data; these dealers will be solicited before the state season begins to discuss ideal times for scheduling sampling trips and will also be consulted throughout the season to optimize the sampling schedule. DMR will hire

a halibut port sampling contractor whose primary job duty during the state halibut season will be obtaining halibut samples from dealers. The halibut biologist will also assist in this effort, as well as any other DMR sampling staff who may be available and willing. The port sampling contractor will also be trained on halibut otolith processing, otolith aging, histology, and image analysis.

Port sampling will collect several data elements to support better understanding of halibut biology. Total center line length will be taken for all halibut sampled. Additionally, an image of the fish over a scale grid will be taken for geometric morphometric analysis. Halibut will be examined for intact gonads, which are sometimes removed by harvesters. When available, the gonads will be removed for identification of halibut sex and maturity state; for female fish, a sample will be taken from the gonads for further histological examination. Gonad samples will be grossed, stored in cassettes preserved in formalin, and sent to a commercial lab for histological sectioning and mounting on slides. Otoliths will be removed for aging post-season. Lastly, genetic samples will be taken for a Fisheries and Oceans Canada project examining Atlantic halibut genetics and close kin relationships. DMR currently collects genetic samples for this project opportunistically during electronic tagging trips and the Maine-NH Inshore Trawl Survey, and this project is expecting to continue soliciting samples through 2025. Sex will be determined genetically for samples submitted for genetic analysis; this will be of benefit for samples where gonads were removed prior to the fish reaching the dealer, as no other method of sex determination will be available.

Since the number of gonads reaching dealer locations will be unpredictable, sample bottles will also be given to volunteer halibut fishermen to collect additional samples. Ten halibut fishermen throughout Maine will be solicited to provide gonad samples; if each participant is able to provide ten female samples, the targeted number of gonads (100) will be collected.

After the state season closes, the port sampling contractor and halibut biologist will work to process samples collected. Otolith samples will be sectioned, imaged, and aged in DMR's imagery lab. This proposal includes the purchase of additional equipment to support this effort, including an otolith saw and imaging system. Additionally, all otolith images will be run through the DeepOtolith tool (Politikos et al 2022) and potentially other otolith processing models to examine the accuracy of automated aging models vs human age readers; this could potentially provide more innovative and economically methods for aging halibut otoliths in future projects.

Female gonad samples will be imaged and examined to determine spawning condition following methods described in McBride et al 2022. This proposal includes costs for an external lab performing gonad histology, as well as the cost of a digital microscope for imaging gonad samples. Lastly, images of halibut will be analyzed to obtain morphometric measurements for subsequent analysis.

Results from the initial year of halibut port sampling will be disseminated in a final report to ACCSP. Results will also be shared with the New England Fishery Management Council's

Groundfish Plan Development Team, as well as the halibut stock assessment scientist at the Northeast Fishery Science Center.

**Geographic Location:**

The geographic scope of this project will cover dealers from throughout coastal Maine. These locations represent most of the Atlantic halibut landings in the United States. Between 2018-2022 the top five Maine ports for halibut landings were Portland, Machiasport, Port Clyde, Stonington, and Cutler.

**Milestone Schedule:**

Below is a schedule which outlines the work plan for halibut port sampling. Month 3 corresponds to March, which is the start of the ACCSP fiscal year.

	3	4	5	6	7	8	9	10	11	12	1	2
<b>Prepare sampling data sheets/protocols</b>	X											
<b>Identify/interview primary halibut dealers</b>	X											
<b>Hire port sampling contractor</b>		X										
<b>Collect halibut samples from Maine ports</b>			X	X								
<b>Process samples including aging otoliths</b>					X	X	X					
<b>Semi-annual progress report</b>							X					
<b>Present results at AFS annual meeting</b>							X					
<b>Other exploratory analysis; automated otolith aging and morphometrics</b>						X	X	X				
<b>Final analysis of data from port sampling and draft final report</b>								X	X	X		
<b>Final report for first year of port sampling</b>											X	

**Project Accomplishments Measurement:**

The following table outlines the project goals for the halibut port sampling program.

<b>Project Goal</b>	<b>Measurement of Accomplishment</b>
Collect samples from halibut dealers	Number of halibut sampled
Analyze otoliths to add to halibut age-length keys	Number of halibut otoliths analyzed
Analyze gonads to establish halibut sex and maturity level	Number of halibut gonads analyzed
Analyze images to examine halibut morphology	Number of halibut images analyzed
Communicate results of port sampling to inform management	Submission of final report to ACCSP, NEFSC, and Groundfish PDT



**Budget Narrative:**

*Personnel and Fringe:* The Pls time for 1 month of the year is included as an in-kind contribution. This includes both a 1/12 fraction of annual salary as well as fringe benefits. Benefits include retirement benefits, FICA, health insurance, dental insurance, workers compensation and life insurance.

*Contracts:* Two contracts are included. The first contract is for a 6-month contractor position that will assist in port sampling collection and subsequent processing of otoliths at the DMR lab. The second contract is for histological preparation of up to 100 gonad samples, with the expectation the amount collected may be less. These contracts are included as in-kind contributions.

*Travel:* All travel costs associated with the proposal will be covered by the MEDMR as in-kind contributions. Travel costs include the cost of lodging and per diems during actual port sampling work. Also includes is travel for two DMR staff to attend trainings in halibut otolith aging at MADMF. This will allow DMR staff to effectively age halibut otolith, and will also expand the number of available agers in New England beyond MADMF.

*Capital Equipment:* Included are the purchase of an additional otolith processing setup (saw and camera) as DMR’s current otolith processing saw and camera are in full time use. A microscope for imaging gonad histological samples is also included.

*Supplies:* Includes a saw blade and fixture for the otolith saw, a camera setup for morphometric imaging, and various gonad/otolith sampling supplies like cassettes, formalin, and envelopes.

**Cost Summary:**

		<b>ACCSP</b>	<b>DMR</b>
<b>Personnel:</b>			
	Marine Resource Scientist III Salary 1 month	\$0.00	\$7,079.52
	<i>Subtotal</i>	<i>\$0.00</i>	<i>\$7,079.52</i>
<b>Fringe:</b>			
	Marine Resource Scientist III Benefits 1 month	\$0.00	\$2,106.58
	<i>Subtotal</i>	<i>\$0.00</i>	<i>\$2,106.58</i>
<b>Contracts:</b>			
	Temp Agency: Outdoor/Remote (4000 obj)	\$0.00	\$22,140.00
	Gonad Histology (\$30/sample @ 100 samples max)	\$0.00	\$3,000.00
	<i>Subtotal</i>	<i>\$0.00</i>	<i>\$25,140.00</i>
<b>Travel:</b>			
	Port Sampling - Ferry	\$0.00	\$100.00
	Port Sampling - Lodging (10 overnight trips)	\$0.00	\$1,200.00

	Port Sampling - Per Diem Meals (30 day trips + 10 overnights)	\$0.00	\$1,560.00
	Otolith Aging Training at MADMF - Hotels (2 nights, 2 people)	\$0.00	\$428.00
	Otolith Aging Training at MADMF - Per Diem (2 days, 2 people)	\$0.00	\$236.00
	<i>Subtotal</i>	\$0.00	\$3,524.00
<b>Capital Equipment (&gt;\$5k):</b>			
<b>Indirect Waived</b>	TechCut 4 Precision Low Speed Otolith Saw	\$5,900.00	\$0.00
	Otolith Camera Setup	\$12,000.00	\$0.00
	Leica S9i HD Digital WiFi Microscope on LED Stand	\$5,300.00	\$0.00
	<i>Subtotal</i>	\$23,200.00	\$0.00
<b>Supplies (&lt;\$5k):</b>			
	Saw Bone Fixture	\$250.00	\$0.00
	Saw Blades	\$1,600.00	\$0.00
	Camera/tripod for morphology images	\$2,000.00	\$0.00
	gonad/otolith collection and processing supplies	\$2,000.00	\$0.00
	<i>Subtotal</i>	\$5,850.00	\$0.00
<b>Other:</b>			
	<i>Subtotal</i>	\$0.00	\$0.00
	<b>Total Subtotal</b>	<b>\$29,050.00</b>	<b>\$37,850.10</b>
	<b>Total Subtotal (Indirect Applied To)</b>	<b>\$5,803.00</b>	
	<b>30% Indirect</b>	<b>\$1,755.00</b>	
	<b>Total Costs (including indirect)</b>	<b>\$30,805.00</b>	<b>\$37,850.10</b>
		<b>ACCSP</b>	<b>DMR</b>

**In-kind contributions include:**

Below is a list of in-kind contributions to this proposal from Maine DMR.

<b>Item</b>	<b>In-Kind Contribution</b>
William DeVoe (1 month of staff time)	\$9,186.10
Port Sampling Travel Costs	\$2,860.00
Otolith Aging Training Travel	\$664.00
Sampler and Histology Contracts	\$25,140.00

The total DMR contribution of \$37,850.10 divided by the total project cost of \$68,655.10 equates to an in kind percentage of 55%.

## References:

- Armsworthy, Shelley L., and Steven E. Campana. 2010. "Age Determination, Bomb-Radiocarbon Validation and Growth of Atlantic Halibut (*Hippoglossus Hippoglossus*) from the Northwest Atlantic." *Environmental Biology of Fishes* 89: 279–95. <https://doi.org/10.1007/s10641-010-9696-8>.
- Beaty, Julia M. 2014. "Assessing Growth and Habitat Preferences of Atlantic Halibut Off the Coast of Maine Using Biological Samples and Fishermen's Knowledge." Master's thesis, University of Maine Electronic Theses; Dissertations. 2110. <https://digitalcommons.library.umaine.edu/etd/2110>.
- Haug, T., and S. E. Fevolden. 1986. "Morphology and Biochemical Genetics of Atlantic Halibut, *Hippoglossus Hippoglossus* (L.), From Various Spawning Grounds." *Journal of Fish Biology* 28 (3): 367–78. <https://doi.org/10.1111/j.1095-8649.1986.tb05173.x>.
- Kess, Tony, Anthony L Einfeldt, Brendan Wringe, Sarah J Lehnert, Kara K S Layton, Meghan C McBride, Dominique Robert, et al. 2021. "A Putative Structural Variant and Environmental Variation Associated with Genomic Divergence Across the Northwest Atlantic in Atlantic Halibut." Edited by Lorenz Hauser 78 (7): 2371–84. <https://doi.org/10.1093/icesjms/fsab061>.
- Liu, Chang, Crista Bank, Michael Kersula, Geoffrey W Cowles, Douglas R Zemeckis, Steven X Cadrin, and Christopher McGuire. 2019. "Movements of Atlantic Halibut in the Gulf of Maine Based on Geolocation." *ICES Journal of Marine Science* 76 (7): 2020–32.
- McBride, Richard, and George Maynard, Scott Elzey, Daniel Hennen, Emilee Tholke, Jocelyn Runnebaum, and Christopher McGuire. 2022. "Evaluating Growth Dimorphism, Maturation, and Skip Spawning of Atlantic Halibut in the Gulf of Maine Using a Collaborative Research Approach." *Journal of Northwest Atlantic Fishery Science* 53 (October): 57–77. <https://doi.org/10.2960/j.v53.m736>.
- Atlantic halibut 2022 Management Track Assessment Report. *National Oceanographic and Atmospheric Association, National Marine Fisheries Service*. <https://d23h0vhsm26o6d.cloudfront.net/3D Atlantic halibut Update 2022 12 13 125850 2023-01-17-141555 qflt.pdf>
- Politikos, Dimitris V., Nikolaos Sykiniotis, Georgios Petasis, Pavlos Dedousis, Alba Ordoñez, Rune Vabø, Aikaterini Anastasopoulou, et al. 2022. "DeepOtolith V1.0: An Open-Source AI Platform for Automating Fish Age Reading from Otolith or Scale Images." *Fishes* 7 (3): 121. <https://doi.org/10.3390/fishes7030121>.
- Shackell, Nancy L., Kenneth T. Frank, Janet A. Nye, and Cornelia E. den Heyer. 2016. "A Transboundary Dilemma: Dichotomous Designations of Atlantic Halibut Status in the Northwest Atlantic." *ICES Journal of Marine Science* 73 (7): 1798–1805. <https://doi.org/10.1093/icesjms/fsw042>.

## Summary of Proposal for ACCSP Ranking

**Proposal Type:** New

### **Proposal Primary Program Priority and Percentage of Effort to ACCSP modules:**

*Biological Sampling (8 points):* Halibut port sampling will collect otolith, maturity, genetic and morphometric data from a traditionally data-poor species. These data streams may eventually be used to inform and improve the stock assessment process. Atlantic halibut is a priority species as defined by the Biological Priority Matrix, ranking within the top 10 species in the upper 25% of the matrix.

*Data Delivery Plan (2 Points):* All port sampling data will be submitted to ACCSP.

### **Project Quality Factors:**

*Regional Impact (5 points):* Halibut port sampling will cover the entirety of Maine, which is a significant portion of the stock within the Gulf of Maine. Additionally, all data collected will be made available to ACCSP for partner use. Improved halibut biological sampling supports the broader Northeast multispecies fishery, whose participations span multiple states.

*Contains funding transition plan / Defined end-point (4 points):* This project aims to collect halibut port sampling data for 2025. This project has multiple off roads depending on outcome, including ending the project or funding from other sources.

*In-kind contribution (4 points):* the partner contribution of 55% is listed on page 10, equating to 3 points.

*Improvement in data quality/quantity/timeliness (4 points):* This project will improve the quality and quantity of biological data available on Atlantic halibut by collecting otolith, maturity, genetic and morphometric data.

*Innovative (5 points):* Halibut port sampling will combine tried and true methods of biological sampling such as otolith collection with newer and more innovative methodologies such as morphometrics and genetic samples.

*Impact on stock assessment (3 points):* Halibut port sampling will collect information on age-length, length at first maturity, sex ratio, and skip spawning frequency. All of these are informative to a better stock assessment. Additionally, this project will collect genetic samples which may inform insights into the broader stock structure of halibut across the Northwest Atlantic.

### **Other Factors:**

*Properly Prepared (5 Points):* MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

**William L DeVoe**  
Maine Department of Marine Resources  
194 McKown Point Rd  
Boothbay, Harbor, Maine  
(207) 592-7084  
[William.DeVoe@maine.gov](mailto:William.DeVoe@maine.gov)

### **Education**

**Hartwick College**, Oneonta, NY.  
**B.A. Biology**

### **Work Experience**

**Maine Department of Marine Resources**, West Boothbay Harbor, ME.

**Marine Resource Scientist III: Spatial Scientist, Technology Coordinator, Atlantic Halibut Biologist**, July 2022 – present.

**Marine Resource Scientist II: GIS & Oil Spill Response Coordinator, Atlantic Halibut Biologist**, June 2017 – June 2022.

**Marine Resource Scientist I: Water Quality Scientist**, March 2017 – May 2017.

**Marine Resource Specialist II (AC): Shoreline Survey Project Leader**, October 2017 – March 2017.

**Marine Resource Specialist I: Water Quality Specialist**, May 2016 – September 2016.

**East West Technical Services LLC (EWTS)**, ports out of New England states. May 2010 – Jan 2013  
**At-sea monitor**

**University of Iceland**, Hólar, Iceland. August – September 2009.  
**Lake Ecology Field Technician**

**Garcia and Associates (GANDA)**, San Clemente Island, California. June – July 2009  
**Island Fox Field Technician**

**National Park Service**, Grand Canyon, Arizona. March – June 2009.  
**Mexican Spotted Owl Observer**

**US Fish & Wildlife Service**, Ray Brook, NY. May – August 2006.  
**Biological Technician, Sea Lamprey Control**

## Technical Skills

### Data Science and Programming:

- Proficient in the use of ArcGIS and R to produce maps and process geospatial data.
- Focused experience in R using the tidyverse, sf, and raster packages for geospatial analysis, and the Shiny and Leaflet packages for web application development.
- Experience developing R packages for internal agency use.
- Experience interacting with Oracle and MS SQL Server databases using SQL, as well as higher-level languages like Python and R.
- Basic experience with HTML/CSS/JS.
- Experience programming Arduino-compatible microcontrollers using C++, including base Arduino boards, Adafruit variants, and Particle boards.
- Experience designing and building Arduino-based data loggers and sensors for use in the marine environment.
- Experience using version control for project management and collaboration, including Git and GitHub.

### Field skills:

- Experience in small boat handling and trailering and marine navigation.
- Experience performing surgery on marine fish (Atlantic halibut) to embed archival and acoustic tags.
- Experience deploying acoustic receiver arrays.
- Skilled in conducting field work in backcountry and offshore environments.
- Proficient with carpentry hand and power tools, maintenance of shop power tools, and restoration/sharpening of hand tools.
- Electrofishing (backpack and deepwater), gill-netting, otter trawls, plankton tows, radio tracking/telemetry, PIT tagging, blood drawing, game calling, spotting scopes, remote cameras, and various other wildlife/fisheries associated technologies.



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
**NATIONAL MARINE FISHERIES SERVICE**  
Northeast Fisheries Science Center  
166 Water Street  
Woods Hole, MA 02543-1026

June 5, 2024

To Whom It May Concern,

I am writing in enthusiastic support for William DeVoe's proposal for "Port Sampling for the Maine Atlantic Halibut Fishery." The data-poor status of Atlantic halibut creates uncertainty around evaluating the status and trends of this fishery species. By all accounts, Atlantic halibut is rebuilding and we should be documenting what is likely a success story. His proposal will help with this.

In 2022, I published a synthesis of Atlantic halibut life history information (McBride et al. 2022). Our study demonstrates the capability of working with cooperating fishermen to improve the data availability for assessing this iconic species. Working with industry boosted our sample size tremendously and I am pleased to see Mr. DeVoe take this same approach.

With such large samples we were able to estimate a size at maturity and develop a data-poor assessment tool to track size of retained fish in this bycatch fishery (McBride et al. 2022; Figure 11). This tool suggested steady rebuilding of the population between the period 2009 – 2020. Robust, continued use of this tool, requires re-estimation of the size at maturity, because it would be predicted that size at maturity could increase over time in a rebuilding fishery (f.ex., summer flounder, Terceiro, 2024).

Our study, which was funded by NOAA's Saltonstall-Kennedy grant program, is complete. Thus, Mr. DeVoe offers the fresh opportunity to continue monitoring the life history of Atlantic halibut in the Gulf of Maine that is needed. We continue to sample fish from our Center's surveys, and we will be happy to share what we have, but our sample sizes are typically small (~ a dozen females per year). I know of no other group in this region sampling Atlantic halibut for life history data.

Our methods for maturity determination are spelled out in the supplemental materials of our paper, and I have been in regular contact with Mr. DeVoe over many years





now. I continue to be available for consultation if new samples lead to new questions about best practices or interpretation of gonads.

Sincerely yours,

Richard McBride, Ph.D.  
Supervisory Research Fishery Biologist  
Chief, Population Biology Branch

Citations.

McBride, R. S., Maynard, G. A., Elzey, S. P., Hennen, D. R., Tholke, E. K., Runnebaum, J. M., & McGuire, C. H. (2022a). Evaluating growth dimorphism, maturation, and skip spawning of Atlantic halibut in the Gulf of Maine using a collaborative research approach. *Journal of Northwest Atlantic Fishery Science*, 53, 57-77. doi:10.2960/J.v53.m736

Terceiro, M. (2024). The Summer Flounder Chronicles IV: four decades of population dynamics, 1976-2022. *Northeast Fisheries Science Center Reference Document 24-04*. doi:10.25923/6x52-6728



JANET T. MILLS  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF MARINE RESOURCES  
MARINE RESOURCES LABORATORY  
P.O. BOX 8, 194 MCKOWN POINT RD  
W. BOOTHBAY HARBOR, MAINE  
04575-0008

PATRICK C. KELIHER  
COMMISSIONER

July 25, 2024

Atlantic Coastal Cooperative Statistics Program  
1050 N. Highland St. Ste. 200 A-N  
Arlington, VA 22201

Dear ACCSP:

We are pleased to submit the proposal titled “Expanding the Commercial Fisheries Research Foundation’s Black Sea Bass Research Fleet into the Gulf of Maine” for your consideration. This new project proposal will provide funding to support adding Maine fishing vessels using lobster gear and/or hook and line gear to the Commercial Fisheries Research Foundation’s (CFRF) Black Sea Bass Research Fleet. The data collected from this project will expand the biological sampling for black sea bass into Maine state waters. Black sea bass has been identified as the highest priority species for additional biological sampling according to the ACCSP Biological Review Panel and this project will provide data on the spatial and temporal distribution of black sea bass in Maine as well as provide data on sizes of black sea bass that are being seen in the Gulf of Maine.

The Maine Department of Marine Resources does not currently have the funding to support this type of data collection for black sea bass. Current fishery-independent surveys encounter black sea bass; however, they use gear that may not effectively capture black sea bass and occur at times of the year when black sea bass may not be migrating or in high abundance in the Gulf of Maine. The expansion of CFRF’s research fleet would pilot a fishery-dependent sampling program for black sea bass. CFRF’s research fleet is a proven, efficient, and cost-effective way to collect biological information on black sea bass. This proposal addresses the following 2025 ranking criteria: biological sampling, data delivery plan, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, potential secondary module as by-product in catch and effort, impact on stock assessment, innovative, properly prepared, and merit.

For a summary of the proposal for ranking purposes please see page 14. Thank you for your consideration of this proposal.

Sincerely,

Rebecca Peters  
Marine Resource Scientist IV  
[Rebecca.j.peters@maine.gov](mailto:Rebecca.j.peters@maine.gov)  
(207) 557-5276

**Proposal for Funding made to:**

Atlantic Coastal Cooperative Statistics Program  
Operations and Advisory Committees  
1050 N. Highland Street, Suite 200 A-N  
Arlington, VA 22204

**Expanding the Commercial Fisheries Research Foundation's Black Sea Bass Research  
Fleet into the Gulf of Maine**

**Submitted By:**

Rebecca Peters  
Maine Department of Marine Resources  
PO Box 8  
W. Boothbay Harbor, ME 04575

Hannah Verkamp  
Commercial Fisheries Research Foundation  
P.O. Box 278  
Saunderstown, RI 02874

**Applicant Name:** Maine Department of Marine Resources, Bureau of Marine Science and the Commercial Fisheries Research Foundation

**Project Title:** Expanding the Commercial Fisheries Research Foundation's Black Sea Bass Research Fleet into the Gulf of Maine

**Project Type:** New Project

**Requested Award Amount:** \$61,275.50

**Requested Award Period:** March 1, 2025 – February 28, 2026

**Primary Program Priority:** Biological Sampling

**Date Submitted:** 7/25/2024

**Principal Investigators:** Rebecca Peters, Marine Resource Scientist IV, Maine Department of Marine Resources

Jesica Waller, Marine Resource Scientist IV, Maine Department of Marine Resources

Corrin Flora, Marine Resource Management Coordinator, Maine Department of Marine Resources

Hannah Verkamp, Senior Research Associate, Commercial Fisheries Research Foundation

N. David Bethoney, Executive Director, Commercial Fisheries Research Foundation

## Objective:

The goal of this proposed project is to pilot the expansion of the Commercial Fisheries Research Foundation's (CFRF) Black Sea Bass Research Fleet into the Gulf of Maine by adding five vessels from the lobster fleet and hook and line industry in Maine State waters through a partnership with Maine Department of Marine Resources (ME DMR). This project aims to cover the biological (100%) module.

The species distribution of black sea bass has expanded northward; however, little is known about the leading edge of this black sea bass biomass in the Gulf of Maine. To enhance biological data collection in an under-sampled region and support sustainable management of the stock, ME DMR requests funds to support a pilot project in which Gulf of Maine vessels are added to the CFRF Black Sea Bass Research Fleet. Sampling through CFRF is possible year-round; however, ME DMR anticipates the greatest sampling effort will take place in the summer, corresponding to when fishermen are participating in other fisheries.

Specific objectives of the project include:

- Expand the CFRF Black Sea Bass Research Fleet into the Gulf of Maine, an under-sampled area, with the addition of five vessels.
- **Improve the quantity of biological data collected on black sea bass in the Gulf of Maine, thereby supporting the stock assessment and sustainable management of the stock.**
- Better characterize the black sea bass biomass off Maine's coast, including understanding the northern extent of black sea bass, their size distribution, and seasonal patterns.
- **Establish a fishery-dependent sampling program that will lay the foundation for improved management of black sea bass in Maine as the species biomass is expected to increase.**
- **Transmit black sea bass biological data to ACCSP and communicate results with partners.**

## Need:

Black sea bass is a species that has become synonymous with the impacts of environmental change on spatial distribution. The 2023 Research Track Assessment for black sea bass found that the range of black sea bass has shifted poleward, with relative increases in biomass in the northern region and stable biomass levels in the southern region<sup>1</sup>. Further, spatiotemporal modeling of trawl survey data found that the effective area occupied by black sea bass in the northern region has increased, indicating black sea bass have experienced "a general northeastward shift in center of gravity with a range expansion in the Gulf of Maine"<sup>2</sup>. Given the expanding black sea biomass in the northern region; the shift to higher landings by states such as New York, Rhode Island, and Massachusetts over the last 15 years<sup>3</sup>; and the fact that

---

<sup>1</sup> Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group. 2023. Page 12.

<sup>2</sup> Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group. 2023. Page 39.

<sup>3</sup> Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group. 2023. Page 57.

New Hampshire recently declared an interest in black sea bass via the Atlantic States Marine Fisheries Commission, it is highly likely that black sea bass are off of Maine's coast and will be increasing in biomass.

**Black sea bass have been identified as the highest priority species for additional biological sampling according to the ACCSP Biological Review Panel.** This is in part driven by the limited data on black sea bass at their northern extent. ME DMR has very little information on the black sea bass resources in its waters, including how far east black sea bass can be found in the Gulf of Maine, the size distribution of black sea bass off Maine's coast, and their seasonality. This type of information will be critical to effectively manage a fishery in the future. The Research Track Assessment made significant advancements to incorporate spatial patterns into the assessment model, including developing regionally specific age-length keys. However, the Assessment Report noted that while there were efforts to determine whether growth in the Gulf of Maine differed from the broader northern region, there was insufficient age and length data from the Gulf of Maine to support this analysis.<sup>4</sup>

As the range of black sea bass expands, sampling efforts must be initiated at the leading edge of the range. Existing fishery-independent trawl surveys can serve as a starting point; however, the timing of these surveys in the spring and fall are often mis-aligned with the presence of black sea bass in the Gulf of Maine, which are thought to be most prominent in the summer. Ventless trap surveys are another source of potential data and were recently explored in the Research Track Assessment; however, it was determined that a longer time-series is needed before this data can be incorporated as indices of abundance.

Fishery-dependent data represents another avenue to collect data on the leading end of a species' range expansion. While Maine has no substantial directed fishery for black sea bass, there is significant commercial fishing effort throughout state waters. The extensive footprint of Maine's fisheries in both time and space provides a unique opportunity to broadly conduct sampling. Some lobstermen, such as those in Maine's western lobster zones, anecdotally report black sea bass bycatch in their traps, indicating that the species is present in portions of the state.

**This proposal seeks to pilot a fishery-dependent sampling program for black sea bass by expanding the CFRF Black Sea Bass Research Fleet into the Gulf of Maine. The CFRF Research Fleet approach is a proven, efficient, and cost-effective way to collect biological information. It leverages fishermen participation to effectively collect information on landings and discards. Data collected through the CFRF Research Fleet was considered in the recent Research Track Assessment, and size information on discarded fish as well as age-length data were incorporated to support expanded discard-at-lengths and the development of age-length keys.** There is currently no participation from the Gulf of Maine in the CFRF Black Sea Bass Research Fleet. As a result, this proposal would support enhanced sampling of black sea bass in an under-sampled region, while also collecting baseline data that will be essential to support future management in Maine. **Further, the proposal will directly address a high priority research recommendation in the Research Track Assessment to**

---

<sup>4</sup> Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group. 2023. Page 28.

enhance sampling to support estimation of fishery length and age compositions, with an emphasis on spatial coverage.<sup>5</sup>

### Results and Benefits:

The results of this proposed project are:

- Improved quantity of biological data for black sea bass in the Gulf of Maine.
- Expanded data collection via a proven method that allows for sampling outside of the spring and fall trawl surveys.
- Increased biological data being sent to ACCSP via an established process for data transmission with CFRF.

The benefits of this proposed project are:

- **Address ACCSP's highest priority species for biological sampling, black sea bass, to support assessment and management efforts.**
- Fill data gaps on the leading edge of the black sea bass spatial distribution.
- Involve fishermen in the collection of biological data and support strong partnerships between fishermen, scientists, and managers.
- **Support partner collaboration between ME DMR and CFRF by expanding regional extent of an existing fishery-dependent data fleet to which many jurisdictions contribute.**
- **Support future improvements to the black sea bass stock assessment model by collecting biological data from an under sampled region.**
- Support sustainable management of black sea bass at various levels, including ME DMR and via the interstate fishery management plan at ASMFC and MAFMC.

### Data Delivery Plan:

This project includes a data delivery plan through which CFRF will regularly share data with ACCSP, ME DMR, fishing industry participants, stock assessment scientists, and managers. CFRF already has an established data sharing process for data collected via the Black Sea Bass Research Fleet and this pilot project will follow the same process.

Vessels participating in the pilot Gulf of Maine Black Sea Bass Research Fleet will utilize the CFRF's custom fishery dependent data collection application On Deck Data. Data collected via the application will be uploaded and integrated into the existing CFRF SQL database like all existing Research Fleet participants. CFRF staff will audit data regularly and perform quality control checks. Project staff from ME DMR will be granted database credentials to view and export data collected by the five Gulf of Maine vessels supported by this project. **CFRF will include the data collected by this project in their ongoing biannual data submissions to ACCSP, which occur in January and July.** A vessel ID system will be used to maintain the confidentiality of participant fishing vessels. The CFRF will maintain open communication with the ACCSP data coordinator and will remain available to provide any necessary metadata along with data submissions. The data submission format and process were established in consultation with ACCSP staff, and all data collected by the existing Black Sea Bass Research Fleet has been

---

<sup>5</sup> Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group. 2023. Page 120.

successfully transmitted and accepted into the ACCSP bio samples database. In addition, fishing industry participants will retain joint ownership of the data they collect. CFRF will send participants quarterly data reports in the same manner as existing Research Fleet participants receive. The quarterly reports contain summaries of the data collected by each participant, and participants can request all of the raw data they have collected at any time. Finally, **data collected via this pilot program will be made available to fishery scientists at the NEFSC in support of future stock assessment work.**

### **Approach:**

The proposed project seeks to collect, communicate, and analyze critically needed biological, catch, and bycatch data on northern Atlantic black sea bass. Project components include: 1) Leveraging the project approach established by the CFRF Black Sea Bass Research Fleet 2) Collection of fishery-dependent biological (sex and length) black sea bass data and fishery characteristics for up to 12 months in the Gulf of Maine region; 3) Internal data analysis to address research questions about spatiotemporal patterns in the black sea bass population and fishery; 4) Compilation and communication of project data and results to ACCSP, stock assessment scientists, and fisheries managers; and 5) Outreach and education activities to share findings. Methodological details are outlined below.

### *Participant Selection:*

Project staff will distribute a call for applications to participate in this pilot project from commercial fishing vessels in their networks. For the purposes of this one-year pilot project, applications will be solicited only from fishermen who operate in Maine state waters, ranging from the New Hampshire border to the western end of Penobscot Bay, and utilize lobster pots (lobster fishery) or hook and line gear. Interested fishermen will submit an application (developed by the CFRF) that will be reviewed by the project PIs. This initial pilot project will select five vessels to participate in data collection based on areas fished, months fished, familiarity with the species of focus, and experience with biological data collection and collaborative research, with final approval by project PIs. We are aiming to start with five vessels for data collection to pilot this project in year one with hopes of adding more vessels to the Research Fleet in following years. We are starting with only a small number of vessels to provide initial data on black sea bass and hope this initial start will then also recruit interested fishermen in the future to participate if data shows that fishery-dependent sampling in Maine provides data on black sea bass catch and distribution.

### *Participant Training*

To ensure project participants have access to local project staff for support, CFRF project staff will initially train ME DMR project staff on Research Fleet sampling protocols and data collection using the CFRF's custom data collection application, One Deck Data. CFRF will also provide ME DMR with all necessary sampling supplies for participants. ME DMR will then be primarily responsible for the day-to-day tasks associated with training and supporting Research Fleet participants. Prior to data collection, ME DMR staff will meet with selected participants in person for a training session, which will include an overview of the project, use of the tablet and data collection application, sampling requirements, and invoicing procedures, and to provide them with sampling supplies. Participants will be compensated with a one-time training stipend upon completion of training. This stipend will serve as an incentive to attend the training and



will provide funds to the vessels in the instance that no black sea bass are caught during fishing efforts in the pilot year.

*Data Collection*

Project staff will apply for a Special License from ME DMR to allow participant vessels to sample black sea bass from Maine state waters. Once participants have received training, they can sample black sea bass during commercial fishing activities on an opportunistic basis. The black sea bass data collection application, On Deck Data, was developed in the first year of the CFRF’s Black Sea Bass Research Fleet project to enable participants to collect standardized black sea bass data. On Deck Data will be leveraged by this pilot project to streamline and standardize data collection within the existing database. Participating fishermen will use Samsung Galaxy tablets pre-programmed with the On Deck Data application to efficiently and accurately record and transmit data. As such, the proposed project will also continue to advance the use of electronic technology in at-sea biological data collection, management, and analysis efforts.

When participants choose to sample black sea bass from their catch, they will initialize On Deck Data and begin a sampling session, which is defined as one fishing gear haul in one location. The sampling date, time, and location will be automatically recorded by the internal tablet GPS and calendar. The app will then prompt participant fishermen to record the NOAA statistical area, depth, habitat type, target species, gear type, effort deployed (Table 1), and the total number/pounds of black sea bass retained and discarded. Participants will then record the length, sex, and disposition (kept or discarded) of individual black sea bass. Standardized fish measuring boards will be used to ensure a consistent measure of fish total length to the nearest centimeter. Upon completion of the sampling session, the data will be stored in the tablet’s internal storage. Once connected to WI-FI, participants will then wirelessly upload the data to a MySQL database owned and managed by CFRF. Data uploads will be continually monitored by the project team. This data communication, review, management, and storage process was established and vetted during the first year of the CFRF’s Black Sea Bass Research Fleet.

*Table 1. Summary of fishing effort data collected by the Black Sea Bass Research Fleet.*

<b>Commercial Hook &amp; Line</b>	<b>Lobster/ Crab Traps</b>
Time Spent Fishing (hours)	Soak Time (days)
Number of Rods Fished	Number of Traps
Humber of Hooks Used	Escape Vent Size (inches)
	Escape Vent Shape

The goal for current Black Sea Bass Research Fleet participants in Southern New England and the Mid-Atlantic region is to conduct three at-sea sampling sessions per month, with a target of 50 individual black sea bass sampled per sampling session (resulting in a target of 150 black sea bass sampled per month). The realized sampling frequency, however, varies widely as it depends on a variety of factors, including weather, seasonal black sea bass distribution and catch, and fishery status. For this pilot project, we will maintain this sampling target for the Gulf of Maine

vessels. At the conclusion of the pilot year, PIs will evaluate if this goal is feasible based on project results and participant feedback. Participants will be compensated with a sampling stipend each month they catch and sample black sea bass. Stipend amounts will remain the same as current Black Sea Bass Research Fleet stipends. Participants will receive \$600 each month they sample at least half of the targeted number of black sea bass (75 fish). Stipends will be prorated to \$300 if the number of sampled fish is at least one but less than 75 fish. Participants will submit invoices to CFRF each month they sample, and CFRF will distribute stipends directly to participants.

#### *Internal Data Analysis:*

The data collected during this pilot project will be used to better characterize the biology, catch, bycatch, and fishery characteristics of black sea bass in the GOM region. After the pilot year of the project, PIs will conduct exploratory analyses on the gear-specific and spatiotemporal patterns in catch composition and determine which further analyses may be warranted. As described in the Data Delivery Plan, data will also be regularly shared with ACCSP, participant fishermen, stock assessment scientists, and fisheries managers for further analysis and application.

#### *Outreach:*

Education, outreach, and ongoing communication are an integral part of the overall work plan for the proposed project. These components support the goal of fostering collaborative working partnerships among scientists, managers, and members of the fishing industry through all phases of research, as well as the goal of ensuring the project is as impactful as possible.

As described previously, project staff will share project information and data with a variety of interest groups, including the commercial fishing industry, stock assessment scientists, fisheries managers, state and federal agencies, and outside researchers who are interested in using the Research Fleet data or learning more about its methods. To ensure the project is widely accessible and impactful, the CFRF will integrate information about this pilot project on their existing Black Sea Bass Research Fleet webpage (<https://www.cfrfoundation.org/black-sea-bass-fleet>), which contains an overview of the project's background, objectives, and outcomes. Additionally, the CFRF will prepare a project summary document to be displayed online, at the Commercial Fisheries Center of Rhode Island, and at industry events attended by the CFRF or ME DMR. Project updates will be shared across the CFRF's social media platforms, which have a combined audience of over 2,300, as well as in at least two posts in the CFRF's monthly newsletter, which is sent to over 1,800 subscribers. Further, the project methods and results may be shared at a relevant scientific or management conference. Finally, project staff will host a meeting with members of the research, management, and fishing industries upon completion of the pilot project to share project results, discuss participant experiences, and highlight priorities for moving forward.

**This pilot project is within the following program priority module: Biological sampling.**

#### **Geographic Location:**

This proposed project would take place in Maine state waters, ranging from the New Hampshire border to the western end of Penobscot Bay. The focus of sampling in the western half of Maine

reflects where ME DMR believes black sea bass are more likely within the State and is informed by anecdotal information from fishermen. Should the pilot project indicate the presence of sea bass throughout the study region, future work could include sampling in the eastern half of the State.

**Milestone Schedule:**

Month	1	2	3	4	5	6	7	8	9	10	11	12
Submit permit to MEDMR	x											
Purchase supplies, recruit, and train industry members for GOM BSB fleet sampling	x	x	x									
BSB fleet data collection			x	x	x	x	x	x				
Data QA/QC and analysis			x	x	x	x	x	x	x	x		
Write and submit progress report							x					
Submit data to ACCSP					x						x	
Report writing										x	x	x

**Project Accomplishments Measurement Metrics:**

Project Goal	Metrics
Expand CFRF Black Sea Bass Research Fleet into the Gulf of Maine	<ul style="list-style-type: none"> <li>• Number of vessels engaged in research fleet</li> <li>• Number of months data is collected</li> </ul>
Improve quantity of black sea bass biological data collected in the Gulf of Maine in support of future stock assessments	<ul style="list-style-type: none"> <li>• Numbers of biological data collected (e.g. length, sex)</li> </ul>
Better characterize black sea bass biomass off Maine’s coast	<ul style="list-style-type: none"> <li>• Assess spatial and seasonal extent of black sea bass sampled in Maine research fleet</li> <li>• Assess size distribution of black sea bass sampled by Maine research fleet</li> <li>• Compare catches and lengths from CFRF’s research fleet to MEDMR fishery independent surveys</li> </ul>
Transmit black sea bass biological data to ACCSP	<ul style="list-style-type: none"> <li>• Successful transmission of biological data from CFRF to ACCSP</li> </ul>

**Cost Summary (Budget and Budget Narrative):**

		ACCSP	DMR-In kind
<b>Personnel:</b>			
	Marine Resource Scientist I - TBD		\$12,551.00
	Marine Resource Scientist IV – Rebecca Peters		\$4,732.00
	Marine Resource Scientist IV – Jessica Waller		\$5,719.00
	<i>Subtotal</i>		<i>\$23,002.00</i>
<b>Fringe:</b>			
	Marine Resource Scientist I - TBD		\$8,357.00
	Marine Resource Scientist IV – Rebecca Peters		\$3,678.00
	Marine Resource Scientist IV – Jessica Waller		\$3,310.86
	<i>Subtotal</i>		<i>\$15,345.86</i>
<b>Contracts:</b>			
	subaward/contract to CFRF	\$45,835	
	<i>Subtotal</i>	<i>\$45,835</i>	
<b>Travel:</b>			
	Training travel	\$1300	
	<i>Subtotal</i>	<i>\$1300</i>	
	<i>Total Subtotal</i>	<i>\$47,135.00</i>	<i>\$38,347.86</i>
	<i>30% Indirect</i>	<i>\$14,140.50</i>	
	<i>Total Costs (including indirect)</i>	<i>\$61,275.50</i>	

The budget justification for the proposed budget is below:

- A. Personnel and fringe: \$38,347.86 In-kind (MEDMR). ME DMR staff will play an advisory and support role in the proposed project by recruiting and training the vessels for the project. Staff will be trained by CFRF staff on data sampling procedures and will in turn train the vessel captains and crew on sampling protocols for the survey. They will also coordinate and set up each volunteer vessel with sampling equipment and be available to answer questions. ME DMR staff (Marine Resource Scientist I) will analyze the data produced from this project to evaluate spatial and seasonal trends in the black sea bass catch and will present this data to industry and appropriate management and technical working groups. Fourteen days a year of time will be spent by the Marine

Resource Scientist IVs overseeing and supporting this project by assisting in coordinating training and supervising the Marine Resource Scientist I with data analysis. The Marine Resource Scientist I will spend a week of their time a month within the year analyzing data and writing reports, coordinating and assisting with trainings for the vessels that are sampling, and coordinating with CFRF staff for data sharing.

- B. Contracts: \$45,835.00 ME DMR will provide a subaward to the Commercial Fisheries Research Foundation for this project so they can provide ME DMR the training, supplies, and support necessary for this sampling. Data collected from this project is automatically uploaded to CFRF's database and staff will also assist in sharing the data back to ME DMR for additional analysis. CFRF staff will also be responsible for submitting data to ACCSP following their current protocol for data submission with their Black Sea Bass Research Fleet.
- C. Travel - \$1,300.00 Travel to CFRF offices for an incoming Marine Resource Scientist I and a supervisor from ME DMR for two days of training on the sampling protocols, data collection application, database structure, and related considerations.
- D. Indirect: \$14,140.50 The Department of Marine Resources has an indirect cost rate of 34.3%; however, our Commissioner has authorized this proposal to use the lower rate of 30% (see attachment 1). These indirect funds are a necessity to help defray and offset the administrative costs associated with this project and the associated contracts.

**Attachment 1: Negotiated Indirect Cost Agreement**



**Department of Marine Resources**

**INTEROFFICE MEMORANDUM**

**TO:** FILE  
**FROM:** PATRICK KELIHER, COMMISSIONER  
**SUBJECT:** RATE USED FOR COST ALLOCATION  
**DATE:** 6/6/2024

In accordance with OMB Circular A-87, the Department of Marine Resources has submitted to the U.S. Department of Commerce a departmental cost allocation plan for use during state fiscal year 2024 ending June 30, 2024. The indirect cost rate proposal is 33.70%. I am authorizing the use of the lesser rate of **30%** to be used during this period.

ACCSP Annual RFP  
"Expanding the Commercial Fisheries Research Foundation's Black Sea Bass Research Fleet into the Gulf of Maine"  
(March 1, 2025 – February 28, 2026)

   
Patrick C. Keliher Date  
Commissioner

The budget and justification for the contract/subaward with CFRF is below:

Object Class Category	Proposal Cost
a Personnel	
- Executive Director (1% of time)	\$ 1,600
- Research Scientists (15% of time)	\$ 10,635
- Business Manager (1% of time)	\$ 604
Total CFRF Personnel Costs	\$ 12,839
b Fringe Benefits Proposed at 10% of Personnel Costs	\$ 1,284
c Travel	\$ 1,500
d Equipment	\$ -
e Supplies	
- Research Supplies Tablets, waterproof cases, stylus, fish measuring boards (5 sets @\$500 each)	\$ 2,500
- Office Supplies Database storage, meeting expenses, etc.	\$ 250
Total Supplies	\$ 2,750
f Contractual	
- Programmer for On-Deck Data database	\$ 500
Total Contractual	\$ 500
g Construction	\$ -
h Fishing Vessels -5 vessels in fleet for 12 months	
- Monthly sampling stipends - \$600/month @50% sampling rate	\$ 18,000
- Training stipends - \$250/vessel one time	\$ 1,250
Total F/V Stipends	\$ 19,250
i Total Direct Charges	\$ 38,123
j Indirect Charges Proposed at 20.23% of CFRF Direct Charges	\$ 7,712
k Total Proposal Costs	\$ 45,835

CFRF subaward budget justification:

The total proposed budget requested by the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$45,835 for 12 months. The proposed timeframe is March 1, 2025 to February 28, 2026. The proposed budget justification for all cost items includes the following:

- a. Personnel: \$12,839. This includes the wages for the following CFRF personnel for time spent working directly on the project:
  1. Executive Director – \$1,600. D. Bethoney, CFRF Executive Director, will oversee the project's administration, team communication/coordination, field research, and

outreach aspects. He will also directly assist with reports, outreach material development, and communication of project progress and results to the team and fishing industry.

Proposed at 1.0% of time =  $\$160,000 \times 1\% = \$1,600$

2. Research Scientists – \$10,635. The CFRF Research Scientists will be the primary individuals responsible for the fleet organization, maintenance, and support, as well as data management, communication, and analysis. They will also support the Executive Director in project oversight tasks.  
Proposed at 15% of time =  $\$70,900 \times 15\% = \$10,635$ .
  3. Business Manager – \$604. T. Winneg, CFRF Business Manager, will carry out all the finance-related aspects of the project, including research budget tracking, invoice processing, administrative support tasks, and purchasing supplies.  
Proposed at 1.0% of time =  $\$60,400 \times 1.0\% = \$604$
- b. Fringe Benefits: \$1,284. This includes a percentage of Personnel Costs for payroll taxes and worker’s compensation insurance prorated in accordance with the percentage of salary paid from the program. Benefits are proposed at 10% of personnel costs based on 2023 benefits and historical analysis.
  - c. Travel: \$1,500. Travel costs for two project staff to travel to Boothbay Harbor, Maine, to train and share results with industry and other project participants as needed. Costs include mileage (265 miles  $\times$   $\$0.67 \times 2 = \$355$ ), lodging ( $\$325/\text{night} \times 2 = \$650$ ), per diem ( $\$59 \times 2 \text{ days} \times 2 = \$236$ ) and incidentals (\$259).
  - d. Equipment: \$0.
  - e. Supplies: \$2,750. This includes costs for project materials for field work, fleets, project meetings, outreach events, and other miscellaneous supplies.
    1. Project Office Supplies \$250. Costs to cover supplies for meetings and outreach materials, including mailings, binders, and posters. Proposed at \$250.
    2. Research Supplies \$2,500. Costs of at-sea research supplies, including tablets, tablet cases, and fish measuring boards. Proposed total of 5 sets at \$500 per set.
  - f. Contractual: \$500. This includes the following costs:
    1. Don Coxe Consulting \$500. Costs to maintain or modify the On-Deck Data App.
  - g. Construction. \$0. Not applicable.
  - h. Other Costs: \$19,250. This includes the following costs:
    1. Fishing Vessel Stipends \$18,000. A fleet of 5 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 50% due to fluctuations in vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution. The costs are proposed for 5 vessels for 12 months at \$600 per month at a sampling rate of 50%. ( $5 \text{ vessels} \times 12 \text{ months} \times \$600 \times 50\% = \$18,000$ )
    2. Fishing Vessel Training Stipends \$1,250. Each vessel will receive a training stipend of \$250.



- i. Total Direct Charges: \$38,123. This is the total direct charges for cost items a-h.
- j. Indirect Charges: \$7,712. Indirect general and administrative costs are calculated as 20.23% of the requested Total Direct Charges. Indirect general and administrative costs are used to cover costs associated with the general operations of the CFRF, including accounting services, legal services, maintenance of office space, liability insurance, payroll fees, phone/fax lines, internet service, board member participation, etc. The CFRF Indirect Cost Rate Agreement for FY2025 is 20.23% dated 5/6/24 based on FY2023 actuals.
- k. Total Proposal Costs: \$45,835.

**Funding Transition Plan:**

This proposal is for a one-year pilot study to pilot the commercial fishing industry-based Black Sea Bass Research Fleet approach to collect biological and fishery data on black sea bass in the Gulf of Maine. If successful, the project team will apply for additional funding to continue and expand data collection beyond the first year (pilot phase). Project staff from the Commercial Fisheries Research Foundation have previously been successful at piloting the Black Sea Bass Research Fleet in Southern New England and the Mid-Atlantic through ACCSP and securing maintenance funding through ACCSP to continue Black Sea Bass Research Fleet data collection for an additional six years (the maximum allowed through ACCSP). Since then, project staff have secured Congressionally Directed Spending funding to maintain the Black Sea Bass Research Fleet's data collection in Southern New England and the Mid-Atlantic for an additional five years.

## Summary of Proposal For Ranking Purposes

***Project Type:*** New

***Primary Program Priority (10 pts):*** Biological Sampling

*Data delivery plan (2 pts):* This project includes a data delivery plan through which CFRF will regularly share data with ACCSP, ME DMR, fishing industry participants, stock assessment scientists, and managers.

### **Project Quality Factors**

***Multi-Partner/Regional Impact (3 pts):***

This proposal includes a partnership between the Maine Department of Marine Resources, the Rhode Island based Commercial Fisheries Research Foundation, and the Gulf of Maine pot/trap and hook and line fisheries. The results of the proposed project have regional impacts and broad applications, as black sea bass are expanding to inhabit and potentially be harvested from the majority of the US east coast. This project will test the benefit of expanding CFRF's Black Sea Bass Research Fleet to the Gulf of Maine as a way to gain a better understanding in the distributional shift in black sea bass populations. Current fishery-independent surveys that occur in Maine state waters have encountered black sea bass in low numbers, potentially due to the fact these surveys do not cover the habitats black sea bass prefer an/or do not overlap with the timing black sea bass are in coastal Maine waters. Furthermore, the social and economic implications of this work could be extensive, as project data will contribute to the improvement of the northern Atlantic black sea bass stock assessment and management.

***Contains Funding Transition Plan (4 pts):***

This proposal contains a funding transition plan to evaluate the success of the pilot project and, if deemed appropriate, apply for long-term funding to continue data collection.

***In-Kind Contribution (2 pts):***

This proposal includes 38% in kind contribution which equates to points.

***Improvement in Data Quality/Quantity/Timeliness (4 pts):***

This project will fill data gaps for black sea bass, which are ranked as a high-priority species with inadequate biological sampling by ACCSP. The project will increase fishery-dependent data for the northern stock of black sea bass as a whole as well as specifically increase data in the Gulf of Maine which is currently under sampled for black sea bass. Data will be available for stock assessment and management efforts in near real-time.

***Potential Secondary Module as a By-Product (3 pts):***

**Catch and Effort:** This project will start collecting black sea bass catch data in the Gulf of Maine by two industries: lobster pot and hook-and-line. This project will provide insight into the potential availability and catch of legal sized black sea bass by these industries.

*Impact on Stock Assessment (3 pts):*

Biological data from the Commercial Fisheries Research Foundation's Black Sea Bass Research Fleet was included in the 2023 Research Track Stock Assessment and is currently being included in the 2024 Management Track Stock Assessment for northern black sea bass (NEFSC 2023). The data is used in the assessment model to inform discards-at-length and catch-at-age estimates. As the Research Fleet is now a vetted input for the stock assessment, all biological data collected in this pilot project will be shared with stock assessment scientists moving forward to be directly included in the stock assessment. Research Fleet data is also being evaluated to contribute to a fishery-dependent index of abundance for northern black sea bass, which could be included in future assessments.

**Other factors**

*Innovative (3 pts):*

This project will utilize the innovative fishing-industry based Research Fleet approach, which is a demonstrated cost and time-efficient method to collect large amounts of fishery-dependent data for under sampled species and species undergoing rapid changes, such as black sea bass (Heimann *et al.*, 2023). The data from this project will help determine if current fishery-independent surveys are accurately representative of the presence of black sea bass in the Gulf of Maine through comparison of catches from this project to the current surveys ongoing in Maine.

*Properly Prepared (1 pt):*

This proposal follows the guidelines provided in the ACCSP Funding Decision Document.

*Merit (3 pts):* The pilot project we propose here would fill a high priority data gap using the already established CFRF Black Sea Bass Research Fleet. This collaboration between CFRF and ME DMR would promote sustainable management of this key indicator species and provide baseline data and framework for potential expansion of this program. ME DMR is always looking to efficiently fill data gaps in support of robust fisheries management.

## References

Heimann, T., Verkamp, H., McNamee, J. and Bethoney, N.D. 2023. Mobilizing the fishing industry to address data gaps created by shifting species distribution. *Frontiers in Marine Science*, 10, p.1043676.

Northeast Fisheries Science Center (NEFSC). 2023. Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group.  
<https://apps-nefsc.fisheries.noaa.gov/saw/sasi.php>

**Rebecca Peters**  
Maine Department of Marine Resources  
rebecca.j.peters@maine.gov

### **Related Experience**

#### **Marine Resource Scientist IV**

October 2023

Maine Department of Marine Resources, West Boothbay Harbor, ME

- Director for the Division of Ecology and the Environment within the Bureau of Marine Science that oversees research programs surrounding offshore wind, highly migratory species, the ME-NH Inshore Trawl Survey, Maine Coastal Mapping Initiative, halibut, and technology advancements for programs within DMR.

#### **Marine Resource Scientist II**

March 2018-October 2023

Maine Department of Marine Resources, West Boothbay Harbor, ME

- Groundfish Biologist and lead scientist of the Maine-New Hampshire Inshore Trawl Survey

#### **NOAA Sea Grant Knauss Fellow**

February 2017–January 2018

NOAA Fisheries Office of Science and Technology

- Served as the habitat and ecosystem science coordinator for NOAA Fisheries Office of Science and Technology’s Habitat Science program as a NOAA Sea Grant Knauss Fellow
- Updated NOAA Fisheries’ Habitat Assessment Improvement Plan to align goals with Ecosystem Based Management, supported the Ecosystem Science and Management Working Group of the NOAA Science Advisory Board, and coordinated a workshop and report to develop recommendations to improve NOAA Fisheries’ ability to conduct benthic habitat mapping on fishery survey vessels
- Managed the FY18 Habitat Information for Stock Assessments call for proposals

#### **Research Assistant**

June 2014 – January 2017

University of Maryland Eastern Shore

- Developed and conducted a research project to assess habitat preference and potential site fidelity of juvenile black sea bass in the Maryland Coastal Bays for completion of a master’s degree Thesis titled: “Investigations into the ecology of juvenile black sea bass, *Centropristis striata*, in the Maryland coastal bays”
- Examined spatial and temporal distribution in abundance of black sea bass in the Maryland juvenile finfish trawl survey from 1989-2013
- Supervised two interns during completion of research projects

### **Education**

#### **M.S. Marine, Estuarine, and Environmental Science**

December 2016

University of Maryland Eastern Shore, Princess Anne, MD

- Thesis title: “Investigations into the ecology of juvenile black sea bass, *Centropristis striata*, in the Maryland coastal bays”

#### **B.S. Biology**

December 2012

Old Dominion University, Norfolk, VA

### **Selected Publications and Technical Memos**

- Waller, J., Bartlett, J., Bates, E., Bray, H., Brown, M., Cieri, M., Clark, C., DeVoe, W., Donahue, B., Frechette, D., Glon, H., Hunter, M., Huntsberger, C., Kanwit, K., Ledwin, S., Lewis, B., **Peters, R.**, Reardon, K., Russell, R., Smith, M., Uraneck, C., Watts, R., Wilson, C. 2023. Reflecting on the recent history of coastal Maine fisheries and marine resource monitoring: the

value of collaborative research, changing ecosystems, and thoughts on preparing for the future. ICES Journal of Marine Science. <https://doi.org/10.1093/icesjms/fsad134>

- LaFreniere, B.R., **Peters, R.**, Donahue, B., McBride, R., Mohan, J.A. 2023. What the Hake? Correlating Environmental Factors with Hake Abundance in the Gulf of Maine. Journal of Northwest Fishery Science. In review.
- Chapman, E.J., Byron, C.J., Lasley-Rasher, R., Lipsky, C., Stevens, J.R., **Peters, R.** 2020. Effects of climate change on coastal ecosystem food webs: implications for aquaculture. Marine Environmental Research. 162. <https://doi.org/10.1016/j.marenvres.2020.105103>.
- **Peters, R.**, A.R. Marshak, M.M. Brady, S.K. Brown, K. Osgood, C. Greene, V. Guida, M. Johnson, T. Kellison, R. McConnaughey, T. Noji, M. Parke, C. Rooper, W. Wakefield, and M. Yoklavich. 2018. Habitat Science is a Fundamental in an Ecosystem-Based Fisheries Management Framework: An Update to the Marine Fisheries Habitat Assessment Improvement Plan. U.S. Dept. of Commerce, NOAA. NOAA Technical Memorandum NMFS-F/SPO-181, 29p.
- **Peters, R.** and P. Chigbu. 2017. Spatial and Temporal Patterns of Abundance of Juvenile Black Sea Bass (*Centropristis striata*) in the Maryland Coastal Bays. Fishery Bulletin. 115(4): 504-516. Doi: 10.7755/FB.115.4.7

### **Selected Presentations**

- **Peters, R.** E. Bates, J. Waller, and C. Guenther (2023, August). “Who’s eating juvenile lobsters?”: An evaluation of lobster predation in the Gulf of Maine using stomach content analysis. 153<sup>rd</sup> American Fisheries Society Annual Meeting, Grand Rapids, MI.
- Marshak, A.M., S.K. Brown, and **R. Peters.** (2017, August). Habitat Science is an Essential Element of Ecosystem-Based Fisheries Management. 147<sup>th</sup> American Fisheries Society Annual Meeting, Tampa, FL.
- **Peters, R.** and P. Chigbu (2016, February). Temporal Variation in Juvenile and Young-of-the-Year Black Sea Bass Abundance in the Maryland Coastal Bays. Ocean Sciences Meeting, New Orleans, LA.

### **Boards and Committees**

- NERACOOS Board – December 2023-present
- Maine Climate Council Coastal and Marine Working Group Staff, 2019-present
- ASMFC NEAMAP Operations Committee, Vice chair, April 2018-present
- ASMFC NEAMAP Survey Technical Committee, April 2018-present
- NEFMC Groundfish PDT, March 2019-present

### **Awards and Fellowships**

- 2017 NOAA Sea Grant John A. Knauss Marine Policy Fellowship
- American Fisheries Society Tidewater Chapter Eileen Setzler-Hamilton Memorial Scholarship (April 2016)
- NSF CREST-CISCEP Graduate Research Assistantship (2014-2016)

**Jesica Waller**  
**Maine Department of Marine Resources**  
**(207) 350-6440**  
[Jesica.d.waller@maine.gov](mailto:Jesica.d.waller@maine.gov)

**PROFILE:**

- Knowledge and oversight of the State of Maine’s programs to research, monitor, and compile data from commercial and recreational coastal marine fisheries. This includes coordination of research plans across programs and with external research partners.
- Knowledgeable of Maine’s fishing industries and how they operate.
- Knowledgeable about state and federal funding structures to support this work.

**EDUCATION:**

B.S. Marine and Freshwater Biology, University of New Hampshire, Durham, NH 2009  
M.S. Marine Biology, University of Maine, Orono, ME 2016

**EMPLOYMENT EXPERIENCE:**

**July 2022 – Present                      Marine Resource Scientist IV**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Division Director for the Division of Biological Monitoring and Assessment
- Oversee fishery monitoring and research for commercially important marine species
- Lead research around emerging fisheries and climate related topics
- Supervise a staff of 35 MEDMR researchers and maintain external collaborations
- Hire, train, and supervise research staff and students supported by MEDMR programs
- Write research proposals to federal agencies to obtain funding for MEDMR programs
- Coordinate the drafting and submission of all federal grant reporting requirements
- Conduct research and analyses, and write and review reports on timely research questions
- Work with diverse stakeholders to coordinate research in support of MEDMR priorities
- Represent MEDMR on state, regional, and federal research panels
- Advise senior staff on issues ranging from new research findings to funding opportunities

**March 2018 – July 2022                Marine Resource Scientist III**  
**Maine Department of Marine Resources**  
**West Boothbay Harbor, ME**

- Lead question-based lobster research to support the management of the Maine lobster fishery
- Build research collaborations, submit proposals for funding and author research publications
- Co-develop the MEDMR wet lab and serve as the point person for biosecurity
- Represent MEDMR at regional meetings, research conferences, and the Maine Climate Council
- Coordinated the MEDMR Lobster Research Collaborative and organized quarterly meetings

**Jan. 2017 – March 2018                Research Technician**  
**Bigelow Laboratory for Ocean Sciences**  
**East Boothbay Harbor, ME**

- Designed and performed laboratory and field experiments for grant funded projects
- Contributed to authorship of peer-reviewed publications and federal/state grant proposals
- Led field and lab-based data collection for multiple projects with no supervision
- Supervised and developed research projects for summer undergraduate interns

**Sept. 2014 – Dec. 2016    Graduate Student and Canadian American Center Fellow  
University of Maine (UMaine), Darling Marine Center  
Walpole, ME**

- Thesis title: Linking Rising  $p\text{CO}_2$  and Temperature to the Larval Development, Physiology and Gene Expression of the American Lobster (*Homarus americanus*)
- Completed all thesis research and coursework and secured fellowship funding annually

**Selected Publications**

1. **Waller, J.**, Bartlett, J., Bates, E., Bray, H., Brown, M., Cieri, M., ... & Wilson, C. (2023). Reflecting on the recent history of coastal Maine fisheries and marine resource monitoring: the value of collaborative research, changing ecosystems, and thoughts on preparing for the future. *ICES Journal of Marine Science*, 80(8), 2074-2086.
2. Ellertson, A. A., **Waller, J. D.**, Pugh, T. L., & Bethoney, N. D. (2022). Differences in the size at maturity of female American lobsters (*Homarus americanus*) from offshore Southern New England and eastern Georges Bank, USA. *Fisheries Research*, 250, 106276.
3. McClenachan, L., Record, N. R., & **Waller, J. D.** (2022). How do human actions affect fisheries? Differences in perceptions between fishers and scientists in the Maine lobster fishery. *FACETS*, 7(1), 174-193.
4. **Waller, J. D.**, Reardon, K. M., Caron, S. E., Jenner, B. P., Summers, E. L., & Wilson, C. J. (2021). A comparison of the size at maturity of female American lobsters (*Homarus americanus*) over three decades and across coastal areas of the Gulf of Maine using ovarian staging. *ICES Journal of Marine Science*, 78(4), 1267-1277.
5. **Waller, J.D.**, Reardon, K.M., Caron, S.E., Masters, H.M., Summers, E.L. & Wilson, C.J. (2019). Decrease in size at maturity of female American lobsters *Homarus americanus* (H. Milne Edwards, 1837) (Decapoda: Nephropidae) over a 50-year period in Maine, USA. *Journal of Crustacean Biology*, 39(4), 509-519.
6. **Waller, J. D.**, Wahle, R. A., McVeigh, H., & Fields, D. M. (2017). Linking rising  $p\text{CO}_2$  and temperature to the larval development and physiology of the American lobster (*Homarus americanus*). *ICES Journal of Marine Science*, 74(4), 1210-1219.

**Synergistic Activities**

2021-present *Steering Committee Member*, Maine Ocean and Coastal Acidification Partnership  
 2021-present *Advisory Committee Member*, Dalhousie University (PhD student, M. Rampual)  
 2021-present *Reviewer*, *Journal of Crustacean Biology*  
 2019-present *Agency support*, Maine Climate Council, Coastal and Marine Working Group  
 2019-present *Reviewer*, *Canadian Journal of Fisheries and Aquatic Sciences*  
 2018-2022 *Coordinator*, Maine Department of Marine Resources Lobster Research Collaborative  
 2017-present *Reviewer*, *ICES Journal of Marine Science*



**Corrin Flora**  
Maine Department of Marine Resources  
corrin.flora@maine.gov

## **RELATED EXPERIENCE**

### **Marine Resources Management Coordinator – Maine Department of Marine Resources, Augusta, ME February 2024 – Present**

- Provide policy guidance to department staff, plan and facilitate meetings, public outreach, creating documents, communicating with a wide range of stakeholders and division management.
- Attend and participate in Atlantic States Marine Fisheries Commission and federal council interjurisdictional management meetings, work groups, committees, and teams as needed. Write reports, compliance, plans, and comments. Review and comment on management and rule documents.
- Manage state ground fish permit bank through cooperation with Maine sectors and NOAA fisheries.

### **Fisheries Management Plan Coordinator - North Carolina Division of Marine Fisheries, Morehead City, NC June 2020 – February 2024**

- Provide leadership and policy guidance throughout the division fishery management plan (FMP) process; including planning and facilitating meetings, public outreach, creating documents, communicating with a wide range of stakeholders and division management, and decision making.
- Develop and ensure FMP schedules and timelines are maintained following internal FMP guidelines. Communicate with staff to facilitate tasks, anticipate problems, and recommend solutions. This includes providing alternative suggestions to how to meet deadlines.
- Hold a monthly virtual meeting to keep DMF staff informed on the status of FMPs.
- Coordinate and participate in Director's Review Team, advisory committees, cross-sectional programs, FMP schedule, strategic planning, meetings, public engagement, and biologist training.
- Serve on committees and workgroups in absence or support of Section Chief.

### **Biologist I - North Carolina Division of Marine Fisheries, Elizabeth City, NC JUNE 2015 - JUNE 2020**

- Lead biologist for Atlantic Menhaden, Blue Crab, and Invasive Species.
- Member of The Gulf and South Atlantic Regional Panel on Aquatic Invasive Species, Atlantic State Marine Fisheries Commission technical committees, the NC Aquatic Nuisance Species Plan Development Team, and Plan Development Teams.
- Program lead for fisheries-independent and fisheries-dependent surveys
- Member of several division biological review teams; including gear, life history, and commercial fisheries.
- Field work conducting fish/crab house sampling; onboard sampling using water quality monitoring equipment, acoustic monitoring and water quality sondes, trawls, and gillnets; trailering and operating small vessels; and tagging fish. Support fishery data collection.
- Analyze and summarize data for reports, stock assessments, and FMPs using SAS, SQL, Microsoft Excel, PowerPoint, and Word. Using multivariate analysis and modeling to assist in data analysis.

### **Biological Science Laboratory Technician - USDA ARS, Stoneville, MS JUNE 2013 - JUNE 2015**

- Prepare and maintain fish culture tanks used in research projects through all catfish life stages. This includes light plumbing, biological security, proper cleaning, feeding, monitoring fish health, anesthetizing fish, euthanizing fish, and proper animal handling.
- Coordinate and implement experimental setup, breakdown, and data collection/maintenance.

- Assist in necropsies, biopsies, tissue sampling, sample preparations, and morphological, biochemical, histological, and physiological measurements or analysis.
- Calibrate, perform maintenance, and properly operate laboratory equipment; including spectrophotometers, ion analyzers, osmometers, centrifuges, freezers, and incubators.

**Biologist: Vessel Call-in Coordinator - *Integrated Statistics, Falmouth, MA* JUNE 2006 - JUNE 2011**

- NOAA Fisheries Northeast Fisheries Science Center Industry Funded Scallop Observer Program Vessel Call-In Coordinator. Review, catalog, and select coverage of declared scallop trips through randomized selection process for fair, equitable, and representative coverage. Monitor coverage and compliance across various areas and permit types. Communicate with service providers and the office of law enforcement as needed.
- Prepare outreach materials
- Attend New England Fisheries Management Council, Scallop Committee, and Scallop Plan Development Team meetings as needed. Provide guidance on sea scallop management plans.
- Participate in at sea surveys and commercial scallop trips.

**Commercial Fisheries Observer - *AIS inc, New Bedford, MA* MARCH 2004 - MARCH 2005**

- Accompany commercial fishing operations on 1 to 14 day trips. Record information on vessel, gear, catch/discard information, species identification, measurements, and biological samples.
- Record incidental takes of marine mammals, sea turtles, and sea birds.

**EDUCATION**

M.S. Wildlife, Fisheries, and Aquaculture, Mississippi State University, Mississippi State, MS - 2013

B.S. Marine Science, Southampton College Long Island University, Southampton, NY - 2003

**SELECTED PAPERS**

- Anstead, KA, K Drew, D Chagaris, A Schueller, JE McNamee, A Buchheister, G Nesslage, JH Uphoff Jr, MJ Wilberg, A Sharov, MJ Dean, J Brust, M Celestino, S Madsen, S Murray, M Appelman, JC Ballenger, J Brito, E Cosby, C Craig, C Flora, K Gottschall, RJ Latour, E Leonard, R Mroch, J Newhard, D Orner, C Swanson, J Tinsman, E Houde, TJ Miller, H Townsend. The Path to an ecosystem approach for forage fish management: A case study of Atlantic menhaden. *Frontiers in Marine Science*, 8 (2021):491.
- Peterson, BC, C Flora, M Wood, BG Bosworth, S Quiniou, TE Greenway, TS Byars, DJ Wise. Vaccination of full-sib channel catfish families against enteric septicemia of catfish with an oral live attenuated *Edwardsiella ictalurid* vaccine. *Journal of the World Aquaculture Society*. 47(2). (2016)
- Baker, BH, R Kröger, JD Prevost, T Pierce, JJ Ramirez Avila, JM Prince Czarnecki, D Faust, C Flora. A field scale investigation of nutrient and sediment reduction efficiencies of a low-technology best management practice: low-grade weirs. *Ecological Engineering*, 91 (2016):240-248.
- Flora C., Kröger K. Use of vegetated drainage ditches and low-grade weirs for aquaculture effluent mitigation: I. Nutrients *Aquaculture Engineering* 60 (2014) 56-62
- Flora C., Kröger K. Use of vegetated drainage ditches and low-grade weirs for aquaculture effluent mitigation: II. Suspended Sediment *Aquaculture Engineering* 60 (2014) 68-72
- Kröger R., Prevost D., Littlejohn T., Henderson J., Pierce S., Flora C., Poganski B. Evidence towards sediment accumulation characteristics of slotted pipes as best management practices on agricultural landscapes. *Ecological Engineering* 51 (2013) 249-255

# Hannah J. Verkamp

Commercial Fisheries Research Foundation

[hverkamp@cfrfoundation.org](mailto:hverkamp@cfrfoundation.org)

(401) 515-4892

## Education

**Master of Science, Marine Science.** University of New England, Biddeford, ME

**Bachelor of Science, Biological Sciences, *summa cum laude*.** University of Arkansas, Fayetteville, AR.

## Relevant Work Experience

### **Senior Research Associate**

February 22, 2024 – Present

Commercial Fisheries Research Foundation  
61B East Farm Rd Kingston, RI 02881

- Leading the foundation's research on black sea bass and supervising research biologists
- Developing, managing, and evolving all phases of fisheries research projects
- Managing outreach activities for all of the organization's research projects, including tracking deliverables and reporting to funding agencies
- Expanding and improving the organization's outreach program to reach broader audiences and include new Diversity, Equity, and Inclusion initiatives
- Continuing duties described for the Research Biologist position below

### **Research Biologist**

February 21, 2021 – February 21, 2024

Commercial Fisheries Research Foundation  
61B East Farm Rd Kingston, RI 02881

- Collaborated with internal and external stakeholders, including scientists, fishing industry members, and fisheries management professionals, to develop and lead research projects
- Collected fishery, biological, and environmental data at-sea and on-land
- Reviewed data and performed quality control/quality assurance checks
- Used statistical programs such as R, SQL, and Excel to manage and analyze data and produce publication-quality figures and tables
- Led meetings and workshops with fishery stakeholders, including fishermen, state and federal agencies, fishery managers, and other academic and nonprofit institutions
- Reported findings and managing deliverables for research projects
- Wrote grant proposals, reports, and scientific publications
- Communicated audience-appropriate scientific, technical, and programmatic information orally and in written format to a variety of audiences

## **Selected Publications**

- Verkamp HJ**, Heimann T, McNamee J, Jones A, and Bethoney ND. (2023). An Overview of the Commercial Fisheries Research Foundation and Rhode Island Department of Environmental Management Black Sea Bass Research Fleet: A Working Paper for the 2022 Black Sea Bass Research Track Stock Assessment. Report of the Black Sea Bass (*Centropristis striata*) Research Track Stock Assessment Working Group.
- Heimann T, McNamee J, **Verkamp HJ**, Bethoney ND. (2023). Mobilizing the Fishing Industry to Address Data Gaps Created by Shifting Species Distribution. *Frontiers in Marine Science*, 10, <https://doi.org/10.3389/fmars.2023.1043676>
- Verkamp HJ**, Nooij J, Helt W, Ruddock K, Gerber Williams A, McManus MC, Bethoney ND. (2022). Scoping Bay Scallop Restoration in Rhode Island: A Synthesis of Knowledge and Recommendations for Future Efforts. *Journal of Shellfish Research*, 41(2): 153-171, <https://doi.org/10.2983/035.041.0201>
- Verkamp HJ**, Hammerschlag N, Quinlan J, Langan JA, and Sulikowski JA. (2022). Preliminary investigation of reproductive hormone profiles in the blacktip shark (*Carcharhinus limbatus*), a placental viviparous species, in southern Florida. *Marine and Freshwater Research*, 73(4), 8pp. doi.org/10.1071/MF21235
- Verkamp HJ**, Skomal G, Winton M, and Sulikowski JA. (2021) Using reproductive hormone concentrations from the muscle of white sharks (*Carcharodon carcharias*) to evaluate life stage and potential habitat use in the coastal waters of Cape Cod, Massachusetts. *Endangered Species Research*, 44: 231-236 doi.org/10.3354/esr01109

## **Selected Presentations**

- Verkamp, HJ**, McNamee, J, and Bethoney ND. (2024). Empowering fishermen to fill data gaps for a rapidly changing fishery: The Black Sea Bass Research Fleet. World Fisheries Congress. Seattle, WA. Poster.
- Verkamp HJ**, Huntsberger C, Bethoney ND. (2023). Augmenting an offshore wind farm monitoring survey to incorporate biological condition monitoring. Annual Meeting of the American Fisheries Society. Grand Rapids, MI. Poster.
- Verkamp HJ**, Heimann T, McNamee J, Bethoney ND. (2021). Using a fishery-dependent research fleet approach to characterize the composition of black sea bass (*Centropristis striata*) discards in the Southern New England and Mid-Atlantic fishery. Annual Meeting of the American Fisheries Society. Baltimore, MD. Oral.
- Verkamp HJ**, Skomal G, Winton M, Sulikowski JA. (2019) First observations of reproductive hormone concentrations in white shark (*Carcharodon carcharias*) skeletal muscle tissue. Joint Meeting of Ichthyologists and Herpetologists. Snowbird, UT. Oral.

**Dr. NAIFF DAVID BETHONEY**  
Executive Director  
Commercial Fisheries Research Foundation  
P.O. Box 278  
Saunderstown, RI  
401-515-4662, dbethoney@cfrfoundation.org

**EDUCATION:**

**University of Massachusetts at Dartmouth School for Marine Science and Technology**  
PhD Dissertation: Understanding and avoiding River herring and American shad bycatch in the Atlantic herring and mackerel mid-water trawl fisheries.  
Cum. GPA: 3.92 PhD Received 2013

MA Thesis: Association between diet and epizootic shell disease in the American lobster (*Homarus americanus*) around Martha's Vineyard  
Cum. GPA: 3.93 M.S. Received 2010

**Colby College - Waterville, ME**  
Major: Biology with Concentration in Environmental Science  
Cum. GPA: 3.41, Cum Laude B.A. Received 2008

**RECENT WORK EXPERIENCE:**

- Commercial Fisheries Research Foundation Spring 2020-Present

**Executive Director:** Responsible for overseeing foundation business manager, scientific staff, interns, and consultants to carry out all tasks associated with ongoing projects and general administration. In addition, responsible for pursuing new partnerships and projects, including proposal development and submission, under the advisement of the foundation Board of Directors. Served on New England Fishery Management Council's Sea Scallop Survey Working Group and serves as a Responsible Offshore Science Alliance research advisor and on the Rhode Island Marine Fisheries Council.

- UMASS-Dartmouth School for Marine Science and Technology Fall 2008-Spring 2020

**Research Assistant Professor,** Fall 2014-Spring 2020: All responsibilities of research associate position related to drop camera and herring work with the ability to be lead principal investigator on research proposals and serve on student committees.

**Research Associate,** Summer 2013-Summer 2014: All responsibilities of research assistant position described below with management and development responsibilities for scallop drop camera and groundfish video surveys. Management responsibilities include equipment purchasing and maintenance and oversight of all technical operations and student involvement.

**Research Assistant,** Summer 2010- Spring 2013: Major responsibilities included coordinating River Herring bycatch avoidance program, assisting the Massachusetts Division of Marine Fisheries port side sampling program, and scallop drop camera survey at-sea data collection and analysis.

**Graduate Research Assistant,** Fall 2008-2010: Assisted with American lobster research including lobster husbandry, measuring and photographing lobsters, collecting larvae, and setting up housing apparatuses.

**SCIENTIFIC JOURNAL PUBLICATIONS (LAST 3 YEARS):**

1. Huntsberger CJ, Shank B, McManus MC, Ellertson AE, Bethoney ND, 2024. Industry reported biological data informs population demographics and commercial fleet heterogeneity for American lobster (*Homarus americanus*). *Fisheries Research*. 273. DOI: 10.1016/j.fishres.2024.10695
2. Arnott SA, Long MP, Ellertson AE, Bethoney ND, 2023. American lobster and Jonah crab populations inside and outside the Northeast Canyons and Seamounts Marine National Monument, USA. *Marine and Coastal Fisheries* 15(5). DOI: 10.1002/mcf2.10266.
3. Olsen NA, Bahr F, Bethoney ND, Mercer AM, Gawarkiewicz G. 2023. Integrating fishers' knowledge with oceanographic observations to understand changing ocean conditions in the Northeast United States. *Frontiers in Marine Science*. 10:1144178.

4. Heimann T, Verkamp HJ, McNamee J, Bethoney ND. 2023 Mobilizing the fishing industry to address data gaps created by shifting species distribution. *Frontiers in Marine Science*. 10:1043676.
5. Verkamp HJ, Nooj J, Helt W, Ruddick K, Gerber-Williams A, McManus MC, Bethoney ND. 2022. Scoping bay scallop restoration in Rhode Island: a synthesis of knowledge and recommendations for future efforts. *Journal of Shellfish Research* 41(2):153–171
6. Ellertson AE, Waller JD, Pugh TL, Bethoney ND. Differences in the size at maturity of female American lobsters (*Homarus americanus*) from offshore Southern New England and eastern Georges Bank, USA. 2022. *Fisheries Research*. DOI: 106276

**GRANTS RECEIVED AS A PRINCIPAL INVESTIGATOR (LAST YEAR):**

- |  |                |
|--|----------------|
| 1. “Exploring the creation of a new seafood market segment that would enhance the resiliency of small-scale commercial fishing industry in Rhode Island<br>Awarded from: University of Rhode Island<br>Value: \$28,387   | March 2024     |
| 2. “Mechanical jigs for resilience of sustainable fishing to wind farm development”<br>Awarded from: New York State Energy Research and Development Authority<br>Value: \$354,337  | January 2024   |
| 3. “Research Agreement” (Squid jigging research)<br>Awarded from: Park City Wind LLC<br>Value: \$50,000  | January 2024   |
| 4. “Research Agreement” (Squid jigging research)<br>Awarded from: Commonwealth Wind LLC<br>Value: \$50,000   | January 2024   |
| 5. “FY 2024: Advancing Fishery Dependent Data Collection for Black Sea Bass ( <i>Centropristis striata</i> ) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach”<br>Awarded from: Rhode Island Department of Environmental Management<br>Value: \$43,635 | January 2024   |
| 6. “Monitoring Technologies for Ghost Gear and Ecosystem Biodiversity”<br>Awarded from: University of Rhode Island<br>Value: \$515,000   | December 2023  |
| 7. “Determining the dose- and range-dependent impacts of windfarm noise on stress in the American lobster”<br>Awarded from: Woods Hole Oceanographic Institution<br>Value: \$19,820  | September 2023 |
| 8. “Fishermen on the frontlines of addressing modern ocean problems”<br>Awarded from: National Oceanic and Atmospheric Administration<br>Value: \$500,000  | September 2023 |
| 9. “Fostering the development of automatic squid jigging”<br>Awarded from: University of Rhode Island<br>Value: \$29,621   | September 2023 |
| 10. “Reducing small scallop and sand dollar catch through dredge bag modifications”<br>Awarded from: National Oceanic and Atmospheric Administration<br>Value: \$171,493   | June 2023      |
| 11. “Establishing the Research Fleet approach in the Atlantic sea scallop fishery”<br>Awarded from: National Oceanic and Atmospheric Administration<br>Value: \$204,666  | June 2023      |
| 12. “SRW01 – Trawl Survey”<br>Awarded from: Sunrise Wind LLC<br>Value: \$508,110   | June 2023      |
| 13. “REV01 – Trawl Survey”<br>Awarded from: Revolution Wind LLC<br>Value: \$508,110  | June 2023      |
| 14. “REV01 – Ventless Trap Fisheries Monitoring”<br>Awarded from: Revolution Wind LLC<br>Value: \$831,993  | June 2023      |
| 15. “Exploring the feasibility of a Common Spider Crab ( <i>Libinia emarginata</i> ) fishery”<br>Awarded from: Rhode Island Sea Grant<br>Value: \$5,000  | May 2023       |



# Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201

703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

June 17, 2024

To the members of the Operations and Advisory Committees:

The FY2025 Administrative Budget contains a few changes to the core request primarily driven by increases in costs for fringe benefits and travel and modernization of some technical approaches to meet the demand for increased data flow and reduce technical debt. ACCSP leadership continues to make concerted efforts to maximize the potential of the administrative budget by finding additional sources of funding and exploring opportunities to gain efficiencies, which is evidenced by the IRA funds (\$367,822) which were secured to offset the cost of modernizing the ACCSP technological infrastructure. Additionally, the ASMFC has again decreased its overhead rate from 11.56% to 10.32%. These combined efforts have resulted in a minimal increase in the Administrative Budget compared to FY2024.

Attachment I of the FY2025 Administrative Budget request, the 2024 ASMFC Strategic Plan (Goal 3), provides an overview of the high-level tasks and milestones expected for the coming year.

Sincerely,

Geoff White

ACCSP Director

**Funding Proposal**  
**FY25 ACCSP Administrative Budget**

Applicant Name: Atlantic States Marine Fisheries Commission

Project Title: Administrative Support to the Atlantic Coastal Cooperative Statistics Program

Principal Investigator: Geoff White, Director, ACCSP

Requested Award Amount: \$2,353,179

Request Type: Maintenance/Administrative

Requested Award Period: March 1, 2025 through February 28, 2026

**A. Goals**

The Atlantic Coastal Cooperative Statistics Program (ACCSP) is a state-federal cooperative partnership between 23 entities responsible for fisheries management, and fisheries data collection on the Atlantic Coast: the 15 Atlantic coast states and the District of Columbia, two federal fisheries agencies (Commerce's NOAA Fisheries and Interior's U.S. Fish and Wildlife Service), three regional fisheries management councils (New England, Mid-Atlantic, and South Atlantic), the Potomac River Fisheries Commission, and the Atlantic States Marine Fisheries Commission (ASMFC). Partner agencies are listed in the original [ACCSP Memorandum of Understanding](#).

The Program was established in 1995 to design, implement, and conduct marine fisheries statistics data collection programs and to integrate those data into a single data management system that will meet the needs of fishery managers, scientists, and the general public.

By establishing and maintaining data collection standards and providing a data management system that incorporates state and federal data, ACCSP will ensure that the best available statistics can be used for fisheries management.

**B. Objectives**

1. Manage and expand a fully integrated data set that represents the best available fisheries-dependent data;
2. Continue working with the program partners to improve fisheries data collection and management in accordance with the evolving ACCSP standards within the confines of limited funds;



3. Explore the allocation of existing Program funds and work with partners to pursue additional funding;
4. Maintain strong executive leadership and collaborative involvement among partners at all committee levels;
5. Monitor and improve the usefulness of products and services provided by the ACCSP;
6. Collaborate with program partners in their funding processes by providing outreach materials and other support to demonstrate the value of ACCSP products and the importance of maintaining base support for fishery-dependent data collection programs to state partners and their executive and legislative branches as well as to all other partner agencies; and,
7. Support nationwide systems as defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

### **C. Need**

Various state and federal fishery management agencies on the Atlantic coast collect data on the status and trends of specific fish populations and the fisheries that utilize these resources; however, it is often difficult to develop sound recommendations to fisheries managers due to inconsistencies in the way data are collected and managed. The various data sets often cannot be integrated to provide accurate information at the state, regional, or coast-wide level. In addition, the disparate manner in which these data are collected and managed places duplicative burdens on fishermen and dealers reporting to multiple state and federal agencies and regions. Due to rapidly changing stock conditions, within-season regulatory changes and catch quotas have become common fishery management strategies. Timely and accurate harvest information for both recreational and commercial fisheries is required to determine the need for and effects of these management measures.

The [Atlantic Coastal Fisheries Cooperative Management Act of 1993](#) mandated a cooperative state-federal program for the conservation of Atlantic coastal fisheries. Section 804 of the Act requires the Secretaries of Commerce and the Interior to develop a program to support state fisheries programs and those of the ASMFC, including improvements in statistics programs. Since the mid-1990s, the ASMFC has provided administrative support for this coordinated effort to improve data collection and management activities.

In 1995 the states, the ASMFC, and the federal fishery management agencies on the Atlantic coast entered into a Memorandum of Understanding (MOU) to develop and implement a cooperative state-federal statistics program that would meet the management needs of all participating agencies. All program partners signed the MOU for the ACCSP at the Commission's 54th Annual Meeting in Charleston, SC. Following signing, an Operations Plan was developed to outline the specific tasks and timetables required to develop and initiate implementation of this program. In October of 2016, an updated MOU was approved that made the ACCSP a program of the ASMFC. This governance change integrates the long-term and annual planning processes with those already in existence for the ASMFC and conform to policy as set by the ACCSP Coordinating Council.

## **D. Results and Benefits**

The ACCSP developed and adopted 1999, 2004 and 2012 versions of the Program Design (now renamed [Atlantic Coast Fisheries Data Collection Standards](#)), which document the standards and protocols for collection and management of commercial, recreational, and for-hire fisheries statistics. Program partners developed and approved minimum data elements for collection of catch, effort, biological, social, and economic statistics. The ACCSP also developed standard codes and formats to ensure consistency of all data collected under the Program. These standards require periodic review and revision as the needs of fisheries managers and the state of the art of fisheries science change.

In 2000, the first version of the [Data Warehouse](#) was made available to the program partners. Since then, it has grown to encompass almost a 70-year time series of fisheries-dependent catch and effort data. Loading of biological data has begun. These data are constantly reviewed and updated as needed.

In 2004, the first version of the [Standard Atlantic Fisheries Information System \(SAFIS\)](#) eDR (electronic dealer reporting) was deployed, followed in 2008, by eTRIPS (electronic trip reporting). This system is used to collect data from commercial and recreational fishermen and dealers and is now deployed from Maine to Georgia. SAFIS is an ongoing and evolving system, requiring support, review, and revision.

The ACCSP will continue to reduce duplication of effort by dealers and fishermen, make more efficient use of limited funds, promote education of resource users, and provide a more complete information base for formulating management policies, strategies, and tactics for shared resources. An integrated multi-agency program using standard protocols for reporting compatible information will lead to more efficient and cost-effective use of current federally and state funded data collection and management programs. The ACCSP will reduce the burden on the fishing industry to provide information in multiple formats to multiple agencies, in alignment with the coastwide One Stop Reporting initiative, and will provide more accurate and timely information to achieve optimum public benefits from the use of fishery resources along the Atlantic coast. The ACCSP will ensure the timely dissemination of accurate data on commercial and recreational fisheries for use in stock assessments and fisheries management through a comprehensive and easily accessible data management system.

## **E. Approach**

The ACCSP is managed collaboratively by committee: the Coordinating Council, composed of high-level fisheries policy makers from all the program partners, is the governing body; the Operations Committee provides guidance in standards setting and funding priorities. An Advisory Committee provides industry input into the process. A number of other [technical committees](#) provide input into various aspects of the process.

Program planning builds on basic principles related to the goals stated in the ACCSP MOU:

- Development of data collection standards and the implementation of data collection programs will be done cooperatively, across jurisdictional lines;
- Consistent coast-wide data collection standards will be implemented by all program partners that include data on all fishing activities -- commercial, recreational and for-hire fisheries;
- Once achieved, data collection improvements will be maintained;
- These data will be loaded and maintained in a central data repository and provided to data users through a user-friendly query system;
- Program planning will be done collaboratively, by consensus;
- The program will be responsive and accountable to partner and end-user needs; and
- Focus on activities that yield maximum benefit.

Goal 3 of the ASMFC Strategic Plan (Attachment I) provides high-level activities to be conducted by ACCSP staff and committees under the FY25 Administrative Budget. As a program of the ASMFC, administrative support of ACCSP activities is funded through indirect charges of all ACCSP awards, including the Administrative Grant. Note that program activities and staff in support of the Marine Recreational Information Program are separately funded and therefore not included in this plan.

The ACCSP initially developed common standards collaboratively, by consensus, then began to work with program partners to implement the standards, according to a commonly agreed upon priority. All ACCSP technical committees, except for the Advisory Committee which is composed of industry and recreational representatives, are comprised of managers and staff of the partner agencies and set policy by consensus. Only the Coordinating Council votes directly on motions.

The standards, known as the [Atlantic Coast Fisheries Data Collection Standards](#), for data collection and management are developed and maintained by ACCSP Technical Committees, with review and oversight by the Operations Committee, and advice from the Advisory Committee. The ACCSP Coordinating Council makes policy level decisions to adopt the program standards. The full-time ACCSP staff coordinates all activities conducted by the ACCSP.

The [Atlantic Coast Fisheries Data Collection Standards](#) documents all completed standards and provides the basic framework for full implementation of the ACCSP by all program partners. The ACCSP is continuously evolving as technology and the needs of management and science change over time. Therefore, the *Standards* and supporting systems are always developing. Support for the implementation of ACCSP modules is provided by staff in various jurisdictions. To this end, funding is required to provide for full-time staff for all ACCSP activities, as well as for travel and meeting expenses.

The ACCSP Director, reporting to the Executive Director of the ASMFC, provides leadership for the Program, overall programmatic management and guidance, and is responsible for the day-to-day operations. The ACCSP Deputy Director supports the ACCSP Director on operation and development of the Program and is responsible for managing the competitive ACCSP funding

process, coordinating cross-team project management, and providing support for a wide range of Program activities. The ACCSP Program Assistant aids the ACCSP Director and ACCSP Deputy Director, provides staff support for program and technical committees by drafting, maintaining, and coordinating program documents, and publicizes the availability and benefits of the Program. The Data Team Leader provides guidance for data compilation and dissemination related activities. The Recreational Team Lead coordinates MRIP survey implementation and recreational and for-hire data standards. The Data Coordinators and Developers provide programming services and system support required to develop and fine-tune the data management systems, assist users as they access the system and provide quality management and control. The Data Coordinators also complete custom data requests, QA/QC existing data, maintain data feeds, and directly participate in data intensive activities such as a stock assessment data workshops. The ACCSP Software & IT Manager manages the information systems infrastructure and security and coordinates the development and management of ACCSP data collection systems. The Software Team staff provides expert consultation to partners as they implement new reporting, and licensing/permitting systems. The Software Team will continue to support development of SAFIS.

ACCSP staff will follow Goal 3 of the ASMFC 2024 Strategic Plan during FY25, in consultation with all partners. Specific tasks to be accomplished during the period include initiation and maintenance of Partner data feeds from the commercial, recreational, and biological modules; finalize the redesign of SAFIS eDR (dealer reporting); maintenance of Federal Information Security Management Act procedures; and support of other partner projects by providing technical expertise as necessary.

The ASMFC has basic responsibility for the logistics of all committee meetings which support the development and ongoing operations of the ACCSP, including: the ACCSP Coordinating Council, the ACCSP Operations Committee, the Advisory Committee, the Recreational Technical Committee, the Commercial Technical Committee, the Information Systems Committee, the Biological Review Panel, the Bycatch Prioritization Committee, the Standard Codes Committee, and the SciFish Advisory Panel. Full-time ACCSP personnel staff these committees for planning of work, providing minutes and other documents, and other follow-up.

The ACCSP has helped foster an improved atmosphere of cooperation among its partners. The Program has succeeded in establishing coast-wide fisheries data standards that all program partners have agreed to adopt. Data collection and management systems will be developed and deployed and maintained as the standards and Partner needs evolve. Program partners remain engaged in the process, and the program has made substantial progress towards its goals.

**1. Geographic Location:** Atlantic Coast (Maine through Florida)

**2. Milestone Schedule:** See Goal 3 of the ASMFC 2024 Strategic Plan (Attachment I)

This is a continuation from previous projects. Table 1 contains the base administrative budget amounts by year since implementation began in 1999.

**Table 1. Administrative funding for ACCSP from 2000-2023**

Year	Funding	Number of Staff
2000	\$681,451	3
2001	\$1,054,466	5
2002	\$1,178,677	6
2003	\$1,302,768	7
2004	\$1,298,319	8
2005	\$1,409,545	8
2006	\$1,380,598	8
2007	\$1,489,189	8
2008	\$1,447,620	9
2009	\$1,527,996	9
2010	\$1,509,899	9
2011	\$1,530,699	9
2012	\$1,509,555	9
2013	\$1,582,780	9
2014	\$1,718,447	9.5
2015	\$1,731,666	9.5
2016	\$1,623,360	9.5
2017	\$1,855,113	9.5
2018	\$1,854,249	9.5
2019	\$1,816,503	9.5
2020	\$2,012,744	11
2021	\$2,069,244	12
2022	\$2,224,272	13
2023	\$2,211,126	13
2024	\$2,260,327	13

**3. Cost Summary:** The ACCSP requests \$2,133,049 for administrative support, committee travel and systems operations during FY25. The addition of the 10.32% indirect rate raises the request to \$2,353,179. The increase in request from FY24 reflects an increase in staff salaries and funding requested for travel due balanced with decreases in ASMFC indirect. Significant increases in Equipment and Supplies are not necessary due to the IRA funds secured by ACCSP staff.

The funds used for the ACCSP shall be accounted for separately from all other ASMFC funds.

#### 4. Personnel

Program personnel funded through this grant, except the Recreational Team Lead, are dedicated 100% to the ACCSP and are full-time employees of the Atlantic States Marine Fisheries Commission. Note that personnel associated with the MRIP state conduct and 85% of the Recreational Team Leader are funded under separate authority and not accounted for in this document. Fringe benefits which include health care, vision, dental, annual, and sick leave are calculated at 29%. ASMFC salaries are kept confidential, thus only totals are displayed. Additionally, an agreement has been put in place with NMFS Highly Migratory Species (HMS) to partially fund the Information Systems Specialist responsible for maintaining HMS data feeds.

- ACCSP Director - Geoff White
- ACCSP Deputy Director – Julie DeFilippi Simpson
- Program Assistant – Marisa Powell
- ACCSP Software & IT Manager – Edward Martino
- Recreational Team Lead (15%) – Alex DiJohnson
- Software Developer – Jamal Oudiden
- Software Developer – Daniel Mestawat
- Software Developer – Kranthi Kumar Palla
- Data Team Lead – Michael Opiekun
- Data Analyst - Jennifer Ni
- Senior Data Coordinator – Joseph Myers
- Senior Data Coordinator – Heather Konell
- Data Coordinator – Anna-Mai Christmas-Svajdlenka
- Data Coordinator – Skye Thomas

<b>Salaries and Wages</b>	
Total Salary	\$ 1,436,414
Benefits @29%	\$ 416,560
<b>Total Costs</b>	<b>\$ 1,852,974</b>

#### 5. Travel

Travel is broken down into two general categories; committee meetings and staff travel. Given shift back to having in-person meetings and supplementing with online meetings, this year’s request increases the ask for committee travel. In addition to staff travel to support committee meetings, staff travel is needed for implementation planning, data collection activities, outreach efforts, and information system development meetings with partners.

The Program funds fares to and from the meeting site, per diem according to Office of Personnel and Management guidelines and facilities costs for the meeting itself. (The daily rate per meeting

includes cost of airfare or mileage, lodging, meals, and other travel related expenses.) Reimbursable participants include state fisheries directors and biologists, state and university scientists, law enforcement personnel and citizen advisors from Maine through Florida. Meetings will be held in various locations on the Eastern Seaboard, including but not limited to: Annapolis, MD; Norfolk, VA; Charleston, SC; Portland, ME; Alexandria, VA; Providence, RI; Tampa, FL; Washington, D.C.

The travel budget is based on an ASMFC average estimated \$325 per day multiplied by meetings multiplied by days multiplied by non-federal membership plus staff.

<b>Committee Travel</b>	<b>Meetings</b>	<b>Days</b>	<b>Membership</b>	<b>Total</b>	<b>Staff</b>	<b>Total</b>	<b>Grand Total</b>
Biological Review panel	1	0	15	\$0	1	\$0	\$0
Bycatch Prioritization	1	0	15	\$0	1	\$0	\$0
Commercial Technical Committee	1	2	15	\$9,750	1	\$650	\$10,400
Coordinating Council (with ASMFC)	2	0.5	12	\$3,900	2	\$650	\$4,550
Operations and Advisory Committees	1	2.5	20	\$16,250	2	\$1,625	\$17,875
Recreational Technical	1	1	15	\$4,875	1	\$325	\$5,200
Information Systems Committee	1	1	15	\$4,875	1	\$325	\$5,200
<b>Total Committees</b>				\$39,650		\$3,575	\$43,225
<b>Staff Travel</b>							
Partner Coordination	3	2	2	\$3,900			
Data Support (Stock Assessment etc)	1	5	2	\$3,250			
IT/SAFIS Support	2	1	1	\$650			
Outreach or Partner Training	4	1	2	\$2,600			
GulfFIN Coordination	2	1.5	2	\$1,950			
Staff Training	2	4	5	\$13,000			
<b>Total Staff Travel</b>				\$25,350			
<b>Grand Total</b>							\$68,575

Attachment II provides the FY24 schedule of the funding cycle and calendar of meetings, which serves as a tentative schedule for FY25.

## 6. Supplies

Supply costs include supplies not covered by the ASMFC indirect. This includes ACCSP specific materials for outreach, smaller information systems items such as network switches and cables.

<b>Supplies</b>	
Misc Hardware (cables, network switches, etc)	\$4,600
Backup Tapes	\$1,000
<b>Total</b>	<b>\$5,600</b>

## 7. Equipment

ACCSP maintains several large server systems and related hardware in support of the Data Warehouse, website, SAFIS, and administrative functions. These systems previously have had a 5-year life cycle after which they require upgrade or replacement. While ACCSP has historically decreased budget and extended life of servers, there is now a need to shorten refresh cycle to 3-years. This will allow for more capable hardware to meet increasing data flow needs as well as improve performance and support, results in less technical debt.

Included in the costs are normal life cycle replacements of laptop systems, assuming replacement of three (3) systems annually. Costs are based upon current market surveys and an estimate of our needs. In FY25, we will require replacement of one server and several staff computers.

<b>Equipment</b>	
Infrastructure Replacement of one server	\$ 18,000
Desktop/Laptop Systems	\$ 6,000
<b>Total</b>	<b>\$ 24,000</b>

## 8. Other Costs

Hardware and software support are supplied by several different vendors and includes costs associated with licensing and maintenance fees (such as *Oracle* licensing).

The Program maintains a high-speed internet connection and associated infrastructure in support of the server systems. The primary internet connection is covered by ASMFC. The second connection, using an entirely different technology and provider provides redundancy to the primary connection in case of failure. The system is configured to automatically fail over in the event of a failure of the primary internet connection. A previously maintained ACCSP funded connection dedicated to the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO) to provide full time secure connectivity requested by the Region has been replaced with a VPN



connection through NOAA’s OCIO office. Coordination of ACCSP with the OCIO has resulted in a permanent decrease in costs in this area by about \$10,000.

Outside vendors include Hewlett Packard for systems hardware and software support; Oracle for database management systems support; DLT Solutions and Trident Solutions for hardware support. All pricing is based on the GSA schedule.

Software maintenance and development workload at times exceeds staff’s resources. Contract services will be utilized to provide services that staff may be unable to perform.

**E-Reporting Support**

Funds are requested for electronic reporting outreach and support activities. Interest among state partners and harvesters is continually rising and a steady stream of new users are adopting the system where agencies will accept electronic reports through SAFIS. SAFIS eTrips in both the mobile and on-line versions are likely to be the top applications used by commercial harvesters in the Southeast as voluntary electronic reporting for commercial harvesters is rolled out. This is especially true as eTRIPS is the only application on the east coast that is considered compliant with the One Stop Reporting (OSR) requirements. In addition, most trips will be reported to the SAFIS system (via API) regardless of the tool selected.

Funds requested include both costs associated with initial deployment and ongoing support. Initial startup costs include, but are not limited to, in-person and virtual training workshops for harvesters and partner agency personnel and published training guides and videos that will be available via the ACCSP website. ACCSP continues to contract for help desk support for SAFIS which includes 24/7 helpdesk support, a toll-free number to contact support personnel, and a helpdesk ticketing program designed to keep track of all requests and provide feedback to the Program. The ACCSP Director and ASMFC Executive Director have secured external funding to support the help desk and FISMA costs in FY2025.

<b>Other Expenses</b>	
Software Support	\$65,000
Hardware Support	\$11,000
Communications/Internet Connectivity	\$12,500
Outreach Materials	\$3,400
Software Development	\$90,000
Help Desk Support	\$0
<b>Total</b>	<b>\$181,900</b>

**Budget Summary**

Budget Summary	2025
Personnel	\$1,436,414
Fringe Benefits	\$416,560
Travel	\$68,575
Equipment	\$24,000
Supplies	\$5,600
Other	\$181,900
Total Program	<b>\$2,133,049</b>
ASMFC Overhead (10.32%)	<b>\$220,131</b>
Total Proposal	<b>\$2,353,180</b>

Resources actively sought to support ACCSP activities in addition to the Administrative Grant

2024-2025 Support	Coverage	Funding Expected
IRA proposal (FIS) <b>(New for FY25)</b>	Modernization of ACCSP Technological Infrastructure	\$367,822
HMS	Partial Data Analyst	\$40,000
NOAA Fisheries Office of Science and Technology	ACCSP SAFIS Help Desk and FISMA Support	\$215,000
MRIP	State Conduct of MRIP APAIS, FHTS ME-GA, and additional surveys in some states (LPIS in ME, Catch Cards in MD & NC, and LPBS in NC). Includes Recreational Team Staff (3).	Total Grant: \$5,912,000  ACCSP: \$540,305

# ATLANTIC STATES MARINE FISHERIES COMMISSION

## Five-Year Strategic Plan 2024-2028



*The nation behaves well if it treats the natural resources  
as assets which it must turn over to the next generation  
increased and not impaired in value.*

*Theodore Roosevelt*

## Introduction

Each state has a fundamental responsibility to safeguard the public trust with respect to its natural resources. Fishery managers are faced with many challenges in carrying out that responsibility. Living marine resources inhabit ecosystems that cross state and federal jurisdictions. Thus, no state, by itself, can effectively protect the interests of its citizens. Each state must work with its sister states and the federal government to conserve and manage natural resources.

Beginning in the late 1930s, the 15 Atlantic coastal states from Maine to Florida took steps to develop cooperative mechanisms to define and achieve their mutual interests in coastal fisheries. The most notable of these was their commitment to form the Atlantic States Marine Fisheries Commission (Commission) in 1942, and to work together through the Commission to promote the conservation and management of shared marine fishery resources. Over the years, the Commission has remained an effective forum for fishery managers to pursue concerted management actions. Through the Commission, states cooperate in a broad range of programs including interstate fisheries management, fisheries science, fishery-dependent and fishery-independent data collection and management, habitat conservation, and law enforcement.

Congress has long recognized the critical role of the states and the need to support their mutual efforts. Most notably, it enacted the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) in 1993, which built on the success of the Atlantic Striped Bass Conservation Act of 1984. Acknowledging that no single governmental entity has exclusive management authority for Atlantic coastal fishery resources, the Atlantic Coastal Act recognizes the states' responsibility for cooperative fisheries management through the Commission. The Atlantic Coastal Act charges all Atlantic states with implementing coastal fishery management plans that will safeguard the future of Atlantic coastal fisheries in the interest of both fishermen and the nation.

Accepting these challenges and maintaining their mutual commitment to success, the Atlantic coastal states have adopted this five-year Strategic Plan. The states recognize circumstances today make the work of the Commission more important than ever before. The Strategic Plan articulates the mission, vision, goals, and objectives needed to accomplish the Commission's mission. It serves as the basis for annual action planning, whereby Commissioners identify the highest priority issues and activities to be addressed in the upcoming year. With 27 species/species complexes currently managed by the Commission, finite staff time, Commissioner time and funding, as well as a myriad of other factors impacting marine resources (e.g., changing ocean conditions, protected species interactions, offshore energy, and aquaculture), Commissioners recognize the absolute need to prioritize activities, dedicating staff time and resources where they are needed most and addressing less pressing issues as resources allow. Efforts will be made to balance the competing needs of stability/predictability in fisheries management and the necessity for adaptability to respond to changing fishery and environmental conditions. A key to prioritizing issues and maximizing

efficiencies will be working closely with the three East Coast Regional Fishery Management Councils, NOAA Fisheries, US Fish and Wildlife Service and US Geological Survey.

## **Mission**

The Commission's mission, as stated in its 1942 Compact, is:

*To promote the better utilization of the fisheries, marine, shell and anadromous, of the Atlantic seaboard by the development of a joint program for the promotion and protection of such fisheries, and by the prevention of physical waste of the fisheries from any cause.*

The mission grounds the Commission in history. It reminds every one of the Commission's sense of purpose that has been in place for over 82 years. The constantly changing physical, political, social, and economic environments led the Commission to restate the mission in more modern terms:

*To promote cooperative management of marine, shell and diadromous fisheries of the Atlantic coast of the United States by the protection and enhancement of such fisheries, and by the avoidance of physical waste of the fisheries from any cause.*

The mission and nature of the Commission as a mutual interstate body incorporate several guiding principles. They include:

- States are sovereign entities, each having its own laws and responsibilities for managing fishery resources within its jurisdiction
- States serve the broad public interest and represent the common good
- Multi-state resource management is complex and dependent upon cooperative efforts by all states involved
- The Commission provides a critical sounding board on issues requiring cross-jurisdictional action, coordinating cooperation, and collaboration among the states and federal government, including NOAA Fisheries, US Fish and Wildlife Service, and US Geological Survey.

## **Vision**

The long-term vision of the Commission is:

***Sustainable and Cooperative Management of Atlantic Coastal Fisheries***

## Values

The Commission and its member states have adopted the following values to guide its operations and activities. These values affirm the Commission's commitment to sustainable fisheries management for the benefit of all fisheries participants and coastal communities. They also acknowledge the growing importance of managing fisheries in a more holistic and adaptive way, seeking solutions to cross-cutting resource issues that lead to long-term ecological and socioeconomic sustainability.

- Effective stewardship of marine resources through strong partnerships
- Decisions based on sound science
- Long-term ecological sustainability
- Transparency and accountability in all actions
- Timely response to new information through adaptive management
- Balancing resource conservation with the economic success of coastal communities
- Efficient use of time and fiscal resources
- Work cooperatively with honesty, integrity, and fairness

## Driving Forces

The Commission and its actions are influenced by a multitude of factors. These factors are constantly evolving and will most likely change over the time period of this Strategic Plan. However, the most pressing factors affecting the Commission today are climate-induced changes to the ocean environment, fisheries, and coastal communities; resource allocation; the quality and quantity of scientific information; competing ocean uses; a growing need to address ecosystem functions; and interactions between fisheries and protected species. The Strategic Plan, through its goals and broad objectives, will seek to address each of these issues over the next five years.

### Climate-Induced Changes

Changes in ocean temperature, currents, acidification, and sea level rise are occurring rapidly, affecting nearly every facet of fisheries resources and management at the state, interstate, and federal levels. Potential impacts to marine species include degraded water quality, altered prey and habitat availability, susceptibility to disease, changing migration patterns, and changes to spawning and reproductive potential. It is often difficult for fisheries stock assessments and management to keep pace with changes in distribution and productivity of fishery stocks. Several Commission species, such as northern shrimp, American lobster, Atlantic cobia, Atlantic croaker, Atlantic striped bass, Spanish mackerel, black sea bass, and summer flounder are already responding to changes in the ocean. In the case of northern shrimp and American lobster, warming ocean waters have created inhospitable environments for reproduction and survivability in some areas. For cobia, black sea bass, and summer flounder, changing ocean conditions have contributed to altered species distributions, with some species expanding their ranges and others moving into deeper and/or more northern waters to stay within preferred temperature ranges. Where shifts are occurring, the

Commission may need to reconsider state-by-state allocation schemes and make adjustments to our fishery management plans (FMPs). For other species depleted due to factors other than fishing mortality (e.g., habitat degradation and availability, predation), the states will need to explore steps to aid in species recovery. And, if a stock's viability is compromised, Commission resources and efforts should be shifted to other species that can be rebuilt or sustainably maintained.

Since 2021, the Commission and other marine fishery management organizations along the U.S. East Coast have been exploring governance and management issues related to climate change and fishery stock distributions. This effort recognizes the need to plan for how fishery management organizations and coastal communities can best adapt to environmental changes in a thoughtful and deliberate way. Over the span of this Strategic Plan and beyond, the Commission and other East Coast marine fishery management organizations will be prioritizing actions around three overarching themes of cross-jurisdictional governance; managing under increased uncertainty; and data sources and partnerships to plan for possible future outcomes.

### **Allocation**

Resource allocation among the states and between various user groups will continue to be an important issue over the next five years. Many of the Commission FMPs divvy up the available harvestable resource through various types of allocation schemes, such as by state, region, season, or gear type. The changing distribution of many species has further complicated the issue of resource allocation with traditional allocation schemes being challenged and a finite amount of fishery resources to be shared. Discussion may be difficult and divisive, with some states (and their stakeholders) wanting to maintain their historic (traditional) allocations, while others are seeking a greater share of the resource given increased abundance and availability in their waters. States will need to seek innovative ways to reallocate species so that collectively all states feel their needs are met. What will be required to successfully navigate these discussions and decisions is the commitment of the states to work through the issues with honesty, integrity, and fairness, seeking outcomes that balance the needs of the states and their stakeholders with the ever-changing realities of shifting resource abundance and availability.

### **Science as the Foundation**

Accurate and timely scientific information form the basis of the Commission's fisheries management decision-making. Continued investments in the collection and management of fishery-dependent and -independent data remain a high priority for the Commission and its member states. The challenge will be to maintain and expand data collection efforts in the face of shrinking state and federal budgets. Past and current investments by state, regional and federal partners have established the Atlantic Coastal Cooperative Statistics Program (ACCSP) as the principal source of marine fishery statistics for the Atlantic coast. State and regional fishery-independent data collection programs, in combination with fishery statistics, provide the scientific foundation for stock assessments. Many data collection programs will continue to be strained by budget restrictions, scientists' workload capacities, and competing priorities. The Commission remains committed to pursuing long-term support for research surveys and

monitoring programs that are critical to informing management decisions and resource sustainability.

### **Ecosystem Functions**

Nationally, there has been a growing demand for fisheries managers to address broader ecosystem functions such as predator-prey interactions and environmental factors during their fisheries management planning. Ecosystem science has improved in recent years, though the challenges of comprehensive data collection continue. While the majority of the Commission's species are managed and assessed on a single species basis, there have been significant advancements in the development and use of ecological reference points for Atlantic menhaden management. Horseshoe crabs of Delaware Bay origin are also managed in an ecosystem context to account for the forage needs of migratory shorebirds. The Commission remains committed to seeking ecological sustainability over the long-term through continuing its work on multispecies assessment modeling and the development of ecosystem-based reference points in its fisheries management planning process.

### **Competing Ocean Uses**

Marine spatial planning has become an increasingly popular method of balancing the growing demands on valuable ocean resources. More specifically, the competing interests of commercial and recreational fishing, offshore energy development, aquaculture, marine transportation, offshore oil exploration and drilling, military needs, and habitat restoration are all components that must be integrated into successful ocean use policies. The Commission has always emphasized cooperative management with our federal partners; however, the states' authorities in their marine jurisdictions must be preserved and respected. The Commission will continue to prioritize the successful operation of its fisheries, but it will be imperative to work closely with federal, state, and local governments on emerging ocean use conflicts as they diversify into the future.

### **Protected Species**

Like coastal fishery resources, protected species, such as marine mammals, sea turtles, and listed and candidate fish species, traverse both state and federal waters. The protections afforded these species under the Marine Mammal Protection Act and Endangered Species Act can play a significant role in the management and prosecution of Atlantic coastal fisheries. The Commission and the states have a long history of supporting our federal partners to minimize interactions with and bycatch of marine mammals and sea turtles. The listing of Atlantic sturgeon under the Endangered Species Act has added a whole new level of complexity in the ability of the Commission and its member states to carry out their stewardship responsibilities for this important diadromous species. The species spends the majority of its life in state waters and depend on estuarine and riverine habitat for their survival. Listing has the potential to jeopardize the states' ability to effectively monitor and assess stock condition, as well as impact fisheries that may encounter listed species. It is incumbent upon the Commission and its federal partners to work jointly to assess stock health, identify threats, and implement effective rebuilding programs for listed and candidate species.



More recently, the depleted status of the Northern right whale population and the potential impacts to this population by entanglement in fishing gear, particularly lobster and crab gear, has heightened concern for both whales and the lobster industry.

### **Increased Cooperation and Collaboration among the States and between the States and Our Federal Partners**

Demands for ecosystem-based fisheries management, competing and often conflicting ocean uses, and legislative mandates to protect marine mammals and other protected species further complicate fisheries management and require quality scientific information to guide management decisions. Federal agencies have a long track record of providing scientific support to the Commission and collaborations recently expanded in some areas. However, there is a developing trend of reduced support for fundamental data collection and assessment support. Year to year static funding results in decreased scientific support due to inflationary cost increases. There is a growing concern among fishery managers that some “control” over fisheries decisions and status has been diminished due to political intervention and our inability to effect climate changes and other environmental factors that impact marine resources. Fisheries management has never been more complex or politically charged. State members are pulled between what is best for their stakeholders versus what is best for the resource and the states as a whole.

While the issues may seem daunting, they are not insurmountable. In order for the Commission to be successful, the states must recommit to their collective vision of “Sustainable and Cooperative Management of Atlantic Coastal Fisheries,” recognizing that their strength lies in working together to address the fisheries issues that lie ahead. Given today’s political and environmental realities, the need for cooperation among the states has never been more important. It is also critical the states and their federal partners seek to strengthen their cooperation and working relationships, providing for efficient and effective fisheries management across all agencies. No one state or federal agency has the resources, authority, or ability to do it alone.

## **GOALS & OBJECTIVES**

The Commission will pursue the following eight goals and their related strategies during the five-year planning period from 2024 through 2028. It will pursue these goals through specific objectives, targets, and milestones outlined in an annual Action Plan, which is adopted each year at the Commission’s Annual Meeting to guide the subsequent year’s activities. Throughout the year, the Commission and its staff will monitor progress in meeting the Commission’s goals, and evaluate the effectiveness of the strategies. While committed to the objectives included in this plan, the Commission is ready to adopt additional objectives to take advantage of new opportunities and address emerging issues as they arise.

## **Goal 1 – Rebuild, maintain, fairly allocate, and promote sustainable Atlantic coastal fisheries**

Goal 1 focuses on the responsibility of the states to conserve and manage Atlantic coastal fishery resources for sustainable use. Commission members will advocate decisions to achieve the long-term benefits of conservation, while balancing the socioeconomic interests and needs of coastal communities. Inherent in this is the recognition that healthy and vibrant resources benefit stakeholders. The states are committed to proactive management, with a focus on integrating ecosystem services, socioeconomic impacts, habitat issues, bycatch and discard reduction measures, and protected species interactions into well-defined fishery management plans. Fishery management plans will also address fair allocation of fishery resources among the states. Understanding climate change and its impact on fishery productivity and distribution is an elevated priority. Successful management under climate change will depend not only on adjusting management strategies to be more adaptable and flexible, but also in reevaluating and revising, as necessary, the underlying conservation goals and objectives of fishery management plans. Changing climate and ocean conditions can impact fish stocks, fish habitats, and interactions between species and fisheries. The Commission will strive to proactively consider ecosystem level impacts when making management decisions to take a more holistic consideration of issues. Improving cooperation and coordination with federal partners and stakeholders can streamline efficiency, transparency and, ultimately, success. In the next five years, the Commission is committed to ending overfishing and working to rebuild overfished Atlantic coast fish stocks, while promoting sustainable harvest of and access to rebuilt fisheries. Where possible, the Commission will seek to aid in the rebuilding of depleted stocks, whose recovery is hindered by factors other than fishing pressure.

Annual action planning will be guided by the following objectives:

- Manage interstate resources that provide for productive, sustainable fisheries using sound science
- Strengthen state and federal partnerships to improve comprehensive management of shared fishery resources
- Create management frameworks that are nimble, adaptable, and robust to climate change
- Practice efficient, transparent, and accountable management processes
- Evaluate progress towards rebuilding fisheries
- Promote sustainable harvest of and access to rebuilt fisheries
- Strengthen interactions and input among stakeholders, technical, advisory, and management groups
- Develop criteria for prioritizing management actions for species that are depleted due to factors other than fishing mortality
- Include climate change considerations in our management strategies

## **Goal 2 – Provide robust, actionable science to inform management decisions**

Sustainable management of fisheries relies on accurate and timely scientific advice. The Commission strives to produce robust, actionable science through a technically rigorous, independently peer-reviewed stock assessment process. Assessments are developed using a broad suite of fishery-independent surveys and fishery-dependent monitoring, as well as research products developed, in cooperation with the fishing industry, by a broad network of fisheries scientists at state, federal, and academic institutions along the coast. This goal encompasses the development of novel and innovative scientific research, modern assessment methodology, and enhancement of the states' stock assessment capabilities. It provides for the administration, coordination, and expansion of collaborative research and data collection programs. Achieving the goal will ensure robust science is available as the foundation for the Commission's evaluation of stock status and adaptive management actions.

Annual action planning will be guided by the following objectives:

- Proactively address research priorities through cooperative state and regional data collection programs; strengthen stakeholder involvement in collaborative research projects
- Explore the use of emerging technologies to improve fishery-independent surveys, monitoring, and the timeliness of scientific products
- Provide training to enhance the expertise and participation of state and staff scientists in conducting stock assessments
- Streamline assessment data assimilation within individual states, and among states and the Commission
- Conduct stock assessments based on comprehensive data sources and rigorous technical analysis; deliver direct, concise scientific advice in order to achieve clear endpoints in the assessment process; generate indicators/rapid assessments for all stocks
- Balance requests from fisheries management with finite assessment workload capacity
- Support the development and utilization of industry-based surveys and other cooperative research opportunities.
- Utilize ecosystem and climate science products to inform fisheries management decisions, including projected shifts with quota allocation implications  
(Action): Integrate estuarine/state waters and federal waters environmental data for use in stock assessments
- Communicate with stakeholders to ensure scientific advice and on-the-water observations are consistent
- Characterize the risk and certainty associated with the scientific advice provided to decision-makers
- Explore the use of management strategy evaluations to inform management decisions

### **Goal 3 – Produce dependable and timely marine fishery statistics for Atlantic coast fisheries**

Effective management depends on quality fishery-dependent data to inform stock assessments and fisheries management decisions. Goal 3 focuses on providing timely, accurate catch, effort, and biological data on Atlantic coast recreational, for-hire, and commercial fisheries to support fisheries management.

This goal seeks to accomplish this through the activities of the Atlantic Coastal Cooperative Statistics Program (ACCSP), a cooperative state-federal program that designs, implements, and conducts marine fisheries statistics data collection programs and integrates those data into data management systems that will meet the needs of fishery managers, scientists, and fishermen. ACCSP partners include the 15 Atlantic coast state fishery agencies, the three Atlantic Coast Fishery Management Councils, the Potomac River Fisheries Commission, NOAA Fisheries, the US Fish and Wildlife Service, and the US Geological Survey.

Annual action planning will be guided by the following objectives:

- Focus on activities that maximize benefits, are responsive and accountable to partner and end-user needs, and are based on available resources
- Develop, implement, and maintain coastwide data standards through cooperation with all program partners
- Provide electronic applications that efficiently align partner data collection
- Integrate and provide access to partner data via a coastwide repository
- Facilitate fisheries data access through an on-line, user-friendly system while protecting confidentiality
- Support data systems modernization and integration

### **Goal 4 – Protect and enhance fish habitat and ecosystem health through partnerships and education**

Goal 4 aims to conserve and improve coastal, marine, and riverine habitat to enhance the benefits of sustainable Atlantic coastal fisheries and resilient coastal communities in the face of changing ecosystems. Habitat loss and degradation have been identified as significant factors affecting the long-term sustainability and productivity of our nation's fisheries. The Commission's Habitat Program develops objectives, sets priorities, and produces tools to guide fisheries habitat conservation efforts directed towards ecosystem-based management.

The challenge for the Commission and its state members is maintaining fish habitat under limited regulatory authority for habitat protection or enhancement. Therefore, the Commission will work cooperatively with state, federal, and stakeholder partnerships to achieve this goal. Much of the work to address habitat is conducted through the Commission's Habitat and Artificial Reef Committees. In order to identify fish habitats of concern for Commission managed species, each year the Habitat Committee reviews existing reference documents for

Commission-managed species to identify gaps or updates needed to describe important habitat types and review and revise species habitat factsheets. The Habitat Committee also publishes an annual issue of the *Habitat Hotline Atlantic*, highlighting topical issues that affect all the states.

The Commission and its Habitat Program endorses the National Fish Habitat Partnership, and will continue to work cooperatively with the partnership to improve aquatic habitat along the Atlantic coast. Since 2008, the Commission has invested considerable resources, as both a partner and administrative home, to the Atlantic Coastal Fish Habitat Partnership (ACFHP), a coastwide collaborative effort to accelerate the conservation and restoration of habitat for native Atlantic coastal, estuarine-dependent, and diadromous fishes. As part of this goal, the Commission will continue to provide support for ACFHP, under the direction of the National Fish Habitat Partnership Board.

Annual action planning will be guided by the following objectives:

- Identify fish habitats of concerns through fisheries management programs and partnerships
- Educate Commissioners, stakeholders, and the general public about the importance of habitat to healthy fisheries and ecosystems
- Better integrate habitat information and data into fishery management plans and stock assessments
- Engage local, state, and regional governments in mutually beneficial habitat protection and enhancement programs
- Foster partnerships with management agencies, researchers, and habitat stakeholders to leverage scientific, regulatory, political, and financial support
- Work with ACFHP to foster partnerships with like-minded organizations at local levels to further common habitat goals

## **Goal 5 – Promote compliance with fishery management plans to ensure sustainable use of Atlantic coast resources**

Fisheries managers, law enforcement personnel, and stakeholders have a shared responsibility to promote compliance with fisheries management measures. Activities under this goal seek to increase and improve compliance with fishery management plans. This requires the successful coordination of both management and enforcement activities among state and federal agencies. Commission members recognize that adequate and consistent enforcement of fisheries rules is required to keep pace with increasingly complex management activity and emerging technologies. Achieving the goal will improve the effectiveness of the Commission's fishery management plans.

Annual action planning will be guided by the following objectives:

- Develop practical compliance requirements that foster stakeholder buy-in
- Evaluate the enforceability of management measures and the effectiveness of law enforcement programs
- Promote coordination and expand existing partnerships with state and federal natural resource law enforcement agencies
- Enhance stakeholder awareness of management measures through education and outreach
- Use emerging communication platforms to deliver real time information regarding regulations and the outcomes of law enforcement investigations

### **Goal 6 – Strengthen stakeholder and public support for the Commission**

Stakeholder and public acceptance of Commission decisions are critical to our ultimate success. For the Commission to be effective, these groups must have a clear understanding of our mission, vision, and decision-making processes. The goal seeks to do so through expanded outreach and education efforts about Commission programs, decision-making processes, and its management successes and challenges. It aims to engage stakeholders in the process of fisheries management, and promote the activities and accomplishments of the Commission. Achieving the goal will increase stakeholder participation, understanding, and acceptance of Commission activities.

Annual action planning will be guided by the following objectives:

- Increase public understanding and support of activities through expanded outreach at the local, state, and federal levels
- Develop proactive communication to directly address issues of public concern
- Clearly define Commission processes to facilitate stakeholder participation, as well as transparency and accountability
- Strengthen national, regional, and local media relations to increase coverage of Commission actions
- Use new technologies and communication platforms to more fully engage the broader public in the Commission’s activities and actions

### **Goal 7 – Advance Commission and member states’ priorities through a proactive legislative policy agenda**

Although states are positioned to achieve many of the national goals for marine fisheries through cooperative efforts, state fisheries interests are often underrepresented at the national level. This is due, in part, to the fact that policy formulation is often disconnected from the processes that provide the support, organization, and resources necessary to implement the policies. The capabilities and input of the states are an important aspect of developing national fisheries policy, and the goal seeks to increase the states’ role in national policy formulation. Additionally, the goal emphasizes the importance of achieving

management goals consistent with productive commercial and recreational fisheries and healthy ecosystems.

The Commission recognizes the need to work with Congress in all phases of policy formulation. Several important fishery-related laws may be reauthorized over the next couple of years (i.e., Atlantic Coastal Act, Magnuson-Stevens Fishery Conservation and Management Act, Interjurisdictional Fisheries Act, Atlantic Striped Bass Conservation Act, and Anadromous Fish Conservation Act). The Commission needs to proactively engage with reauthorization efforts, this includes advocating for increased funding from sources such as Sportfish Restoration Trust Fund and the Atlantic Coastal Act. The Commission will be vigilant in advancing the states' interests to Congress as these laws are reauthorized and other fishery-related pieces of legislation are considered.

Annual action planning will be guided by the following objectives:

- Increase the Commission's profile and support in the US Congress by developing relationships between Members and their staff and Commissioners, the Executive Director, and Commission staff
- Maintain or increase long-term funding for Commission programs through the federal appropriations process and other available sources. This includes funding for non-federal surveys and to support our partnerships with outside organizations such as US Geological Survey
- Engage Congress on fishery-related legislation affecting the Atlantic coast
- Promote member states' collective interests at the regional and national levels
- Promote economic benefits of the Commission's actions (return on investment)

## **Goal 8 – Ensure the fiscal stability & efficient administration of the Commission**

Goal 8 focuses on ensuring the business affairs of the Commission are managed effectively and efficiently, including workload balancing through the development of annual action plans to support the Commission's management process. It also highlights the need for the Commission to efficiently manage its resources. The goal promotes the efficient use of legal advice to proactively review policies and react to litigation as necessary. It also promotes human resource policies that attract talented and committed individuals to conduct the work of the Commission. The goal highlights the need for the Commission as an organization to continually expand its skill set through training and educational opportunities. It calls for Commissioners and Commission staff to maintain and increase the institutional knowledge of the Commission through periods of transition. Achieving this goal will build core strengths, enabling the Commission to respond to increasingly difficult and complex fisheries management issues.

Annual action planning will be guided by the following objectives:

- Conservatively manage the Commission's operations and budgets to ensure fiscal stability

- Utilize new information technology to improve meeting and workload efficiencies, and enhance communications
- Refine strategies to recruit professional staff, and enhance growth and learning opportunities for Commission and state personnel
- Fully engage new Commissioners in the Commission process and document institutional knowledge
- Utilize legal advice on new management strategies and policies, and respond to litigation as necessary





## Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201  
703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

This list includes dates for fiscal year 2024, including ACCSP committee meetings, relevant dates of the funding cycle, as well as meetings or conferences ACCSP typically attends or which may be of interest to our partners. If you have any questions or comments on this calendar, please do not hesitate to contact the ACCSP staff at [info@accsp.org](mailto:info@accsp.org).

Jan 23- Jan 25:	ASMFC Meeting – Arlington, VA
Jan 30- Feb 1:	NEFMC Meeting – Portsmouth, NH
Jan 31:	2023 FHTS Training– Webinar
Feb 6:	Biological Review Panel Annual Meeting – Webinar
Feb 7:	Bycatch Prioritization Committee Annual Meeting –Webinar
Feb 6-7:	MAFMC Council Meeting- Arlington, VA
Feb 13-14:	APAIS North Atlantic Training- Providence, RI
Feb 27-28:	APAIS South Atlantic Training- Raleigh, NC
Mar 1:	Start of ACCSP FY24
Mar 4-8:	SAFMC Meeting – Jekyll Island, GA
Mar 6:	Commercial Technical Committee Annual Meeting – Webinar
Mar 7:	Information Systems Committee Annual Meeting – Webinar
Mar 20-21:	Recreational Technical Committee Meeting – Crystal City, VA
<b>Apr 1:</b>	Operations and Advisory Committees Spring Meeting – Webinar
Apr 9-10:	MAFMC Meeting – Atlantic City
Apr 16-18:	NEFMC Meeting – Mystic, CT
<b>Apr 29-May2:</b>	ASMFC/Coordinating Council Meeting – Arlington, VA
<b>May 6:</b>	ACCSP issues request for proposals
Jun 4-6:	MAFMC Meeting – Riverhead, NY
Jun 10-14:	SAFMC Meeting – Daytona Beach Shores, FL
<b>Jun 17:</b>	Initial proposals are due
<b>Jun 24:</b>	Initial proposals are distributed to Operations and Advisory Committees
Jun 25-27:	NEFMC Meeting – Freeport, ME
<b>July 5:</b>	Any initial written comments on proposals due
<b>Week of Jul 8:</b>	Review of initial proposals by Operations and Advisory Committees – Webinar
<b>July 17:</b>	If applicable, any revised written comments due
<b>Week of Jul 22:</b>	Feedback submitted to principal investigators
Aug 5 -Aug 8:	ASMFC Meeting – Arlington, VA
Aug 12-15:	MAFMC Meeting – Philadelphia, PA

Aug 19:	Revised proposals due
Aug 26:	Revised proposals distributed to Operations and Advisory Committees
Week of Sep 2:	Ranking exercise for Advisors and Operations Members – Webinar
Sep 16-20:	SAFMC Meeting – Charleston, SC
Sep 24-25:	Annual Advisors/Operations Committee Joint Meeting (in-person; location TBD)
Sep 24-26:	NEFMC Meeting – Plymouth, MA
Oct 8-10:	MAFMC Meeting – New York, NY
Oct 21-24:	ASMFC Annual Meeting/Coordinating Council Meeting – Annapolis, MD
Dec 2-6:	SAFMC Meeting – Wrightsville Beach, NC
Dec 3-6:	NEFMC Meeting – Newport, RI
Dec 9-12:	MAFMC Meeting – Annapolis, MD

# Geoff White

## ACCSP Director



### EXECUTIVE COMPETENCIES

- Committed to excellence and accountability
- Empowering leadership and inclusive management style
- Leveraging technology and cooperative approach
- Belief in holistic and integrated solutions
- Passion for strategic vision
- Project design and oversight
- Financial responsibility and accountability
- Effective communicator, writer and presenter
- Proven ACCSP ambassador

10836 Tuckahoe Way  
N. Potomac, MD 20878  
Home: (301) 838-2856  
Mobile: (301) 706-1804  
[Geoff.White@ACCSP.org](mailto:Geoff.White@ACCSP.org)

### SELECTED ACHIEVEMENTS

- Supported reduced fishery reporting burden through One Stop Reporting.
- Improved efficiency of APAIS data collection by integrating tablet data capture, Oracle database, SAS processing and delivery.
- Extended state conduct of MRIP FHTS and LPS with integrated web tools.
- Developed budget and managed over \$4.5M annual funding for multiple MRIP surveys through ACCSP and 13 State Partners
- Initiated development of comprehensive for-hire data collection methods.
- Developed and implemented the MRIP APAIS Atlantic state conduct transition
- Conceived and implemented changes to improve availability of ACCSP data

### EMPLOYMENT EXPERIENCE

#### **Director, ACCSP 2019 – Present**

Responsible for ACCSP strategic direction through the Coordinating Council, and management of ongoing projects. Represent ASMFC and Atlantic states on data related topics in regional and national meetings.

#### **Recreational Program Manager ACCSP 2015 – 2019**

Responsible for ACCSP's recreational fishery data standards and implementing state conduct of MRIP APAIS and FHTS surveys. Developed coastwide budgets, data collection, processing, and delivery systems. Managed local staff and guided partner staff in survey completion. Represented ACCSP and Atlantic states on MRIP Regional Council and at national meetings.

#### **Data Team Lead / Systems Admin ACCSP 2008 – 2015**

Provided data team leadership and subject expertise for ACCSP data projects and priorities. Engineered transition to state conduct of MRIP APAIS. Responsible for ACCSP information systems maintenance including network, servers, oracle databases, and 2010 office relocation.

#### **Systems Admin -ACCSP 2004-2008**

Responsible for the ACCSP's IT infrastructure. Provided subject expertise for partner data access, data translations, and development of web-based recreational and commercial queries.

#### **Fisheries Specialist -ASMFC 1998-2004**

Coordinated SEAMAP SA, staffed development of two multi-species assessment models, designed and implemented the Lobster Assessment Database, coordinated fisheries research programs and stock assessment reviews supporting fisheries management.

#### **Marine Scientist -VIMS 1996-1998**

Estimated fishing mortality of tautog in Virginia waters. Project results accepted as Virginia's fishery status in the ASMFC Tautog FMP.

### MANAGEMENT EXPERIENCE

- Managed multiple concurrent projects and contracts to extend ACCSP capabilities.
- Contributing member of MRIP Regional Implementation Council & MRIP NAS reviews.
- Extended development of the MRIP survey state conduct through leadership of three local staff and 160 remote partner staff.
- Coached RecTech Committee development of Atlantic Recreational Implementation Plan.
- Supported Cooperative agreement funding and management, including proposal writing, information gathering, contract oversight, and report submission.
- Demonstrated ability to bring together diverse groups on issues by coordinating and facilitating workshops.

### FISHERIES EXPERIENCE

- Deep understanding of the ACCSP mission, activities, and partners gained over 24 years of working in consensus-driven environment of Atlantic coast fisheries management
- Adept at balancing state and federal partner needs in the development of coastwide data standards, data entry and query tools for recreational and commercial fisheries data
- Proven ability to understand fisheries stock assessment data needs

### IT EXPERIENCE

**Software Development** – Strategic priorities for SAFIS capabilities. Managed and programmed projects to create Data Warehouse end user queries, APAIS web interface, APAIS Tablet application, API data transmission and FHTS CATI.

**Oracle DBA** – Managed 10 DB instances supporting coastwide standardization of fisheries data collection and dissemination.

**Systems Administrator**– Performed or directed data center implementation and support including network security & system availability.

### EDUCATION & AWARDS

- B.S. Dickinson College
- M.S. Virginia Institute of Marine Science
- ASMFC Stock Assessment Training I-III
- Oracle PL/SQL, DB Administration, Windows & Linux Server Administration
- Project Management & Leadership Training
- ASMFC Employee of the Qtr 2003, 2011
- ASMFC Directors Meritorious Service 2017
- ASMFC Science & Technical Excellence 2019
- Eagle Scout, Boy Scouts of America





# Atlantic Coastal Cooperative Statistics Program

1050 N. Highland Street, Suite 200A-N | Arlington, VA 22201

703.842.0780 | 703.842.0779 (fax) | [www.accsp.org](http://www.accsp.org)

## ***Guide for Ranking Proposals*** **FY2025 Edition**

### **INTRODUCTION**

Each year, the Atlantic Coastal Cooperative Statistics Program (Program) distributes a [Funding Decision Document](#) outlining the priorities for the coming fiscal year. These priorities are reviewed by the Coordinating Council each spring before the request for proposals is distributed. The Funding Decision Document is available to all ACCSP grant applicants.

We cannot assume that all proposals will meet the guidelines set forth by the document. This is precisely why we need a diverse set of eyes to review the proposals so we can distribute the funds in accordance with Program guidelines.

### **PHILOSOPHY**

What is most important to remember as a proposal ranker is that you are consistent when reviewing the proposals. Many people have different viewpoints as to what would receive a high score. For instance, someone might think it is worth 10 points if a proposal states that it will collect all minimum data elements of catch and effort, whereas, someone else might view a proposal that collects all minimum data elements as worthy of 7 points, which would leave room if another proposal went above and beyond with an innovative data verification program.

It is entirely up to you how you view these proposals. We realize each proposal ranker is coming from a different perspective and we look forward to gathering a diverse set of rankings for each proposal. The most important aspect to ranking proposals is to remain consistent from proposal to proposal.

### **CATEGORIES FOR RANKING**

For FY2025, there are three categories used to rank the project proposals:

- 1) *Primary Program Priority;*
- 2) *Project Quality Factors;* and
- 3) *Other Factors.*

### **SCORING**

The factors of each category carry a different weight. For instance, when ranking these proposals, the score of the primary module given to the proposal is given a weight of 3 (the score given is multiplied by 3). The funding transition plan, improvement in data quality/quantity/timeliness, and impact on stock assessments criteria are given a weight of 2 (the score given is multiplied by 2). Finally, the data delivery plan, multiple partners, in-kind contribution, potential secondary module, merit, and properly prepared criteria are all given a weight of 1 (the score given is multiplied by 1). Review the Ranking Criteria Spreadsheet and the multiplier that is applied to each factor.

### **PRIMARY PROGRAM PRIORITY**

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

Projects must be rated on how well the data being collected by the project fit the current [Atlantic Coast Fisheries Data Collection Standards](#). You will rate only one module in addition to whether the proposal contains a data delivery plan. If a secondary one is recognized, it will be considered during the *Project Quality Factors*. The highest possible score for this section (PRIMARY PROGRAM PRIORITY) is 32. The score of this category is 46% of the total score of the project.

A. *Catch and Effort* – ACCSP is principally seeking to collect catch and effort data in FY2025. If a proposal description states that it will primarily collect catch and effort data, the proposal may score a maximum of 10 points.

How does a proposal receive the maximum 10 points? The ACCSP standard for commercial catch and effort statistics is mandatory, trip-level reporting of all commercial harvested marine species, with fishermen and/or dealers required to report standardized data elements for each trip by the tenth of the following month.

The ACCSP standard for recreational catch and effort statistics are covered in more detail in the current Atlantic Coast Fisheries Data Collection Standards. Something you may want to consider when ranking proposals is whether all data elements outlined in the Atlantic Coast Fisheries Data Collection Standards. To determine scoring for this factor, consider the following:

- 1) If they collect the minimum data elements would the proposal be ranked a 5 and thus for all additional information it would lead up to the highest possible score – a 10?
- 2) Is the data collection method they used (1 ticket vs. 2 ticket) a determining factor on the final score given in this category?
- 3) Also, is data validation a consideration for this ranking?

B. *Biological Sampling* – A second primary priority for ACCSP for FY2025 is the collection of biological data. If a proposal description states that it will primarily collect biological data, the proposal may score a maximum of 10 points.

How does a proposal receive the maximum 10 points? The [FY2025 Biological Matrix](#) identifies the top quartile of all species ranked by the Atlantic States Marine Fisheries Commission, regional councils, NOAA Fisheries, and the states. The top quartile species are grouped by average priority and biological sampling adequacy. The proposals should be given a high ranking if data are collected on species with high average priority and inadequate adequacy (*black sea bass, cobia, and Spanish mackerel*). A mid-level score would be given to those proposals that have a low average priority and inadequate sampling (*American eel, American lobster, American shad, Atlantic halibut, Atlantic menhaden, bluefin tuna, blueline tilefish, finetooth shark, gag grouper, gray triggerfish, red grouper, river herring, snowy grouper, and tilefish*) or high average priority and adequate sampling (*none*). A low-level score would go to those species that have a low average priority and are adequately sampled (*red snapper, shortfin mako shark, spiny dogfish, and vermillion snapper*).

C. *Bycatch/Species Interaction* - A third priority for ACCSP for FY2025 is the collection of bycatch data. If a proposal description states that it will primarily collect bycatch data, the proposal may score a maximum of 6 points.

How does a proposal receive the maximum 6 points? The [FY2025 Bycatch Matrix](#) identifies the top quartile of all fisheries fleets ranked by the Atlantic States Marine Fisheries Commission, regional councils, NOAA Fisheries, and the states. The bycatch matrix was recently revised to fleet-based

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

approach with 2021 being the first year the new matrix is being used. The top fleets are ranked by scoring protected species interactions, amount of regulatory discards, amount of non-regulatory discards, significant changes in management in the past 36 months, total number of trips, and total landings. The fleets in the top quartile of the matrix for FY2025 ranked from highest to lowest include: Mid-Atlantic gillnet, New England American lobster pots, Mid-Atlantic American lobster pots, South Atlantic Shrimp Trawl, South Atlantic Shrimp Deepwater Trawl, New England otter trawl, Mid-Atlantic pound net, pelagic H&L fleet (North), snapper grouper H&L fleet, New England gillnet, New England extra-large mesh gillnet, , Mid-Atlantic small-mesh otter trawl (bottom), Mid-Atlantic large-mesh otter trawl (bottom), Mid-Atlantic Fish Pots and Traps, South Atlantic Large Mesh Gillnet, HMS pelagic longline (Southeastern, Atlantic, and Gulf of Mexico), Mid-Atlantic dredge other, New England crab pots, HMS shark bottom long line (Southeastern, Atlantic, and Gulf of Mexico). Points should be given according to how the fleet was ranked in top quartile with the most points going towards a proposal studying the fleet with the highest ranking.

The Definition of bycatch as defined in the Atlantic Coast Fisheries Data Collection Standards includes:

a. Fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program. From Magnuson-Stevens Fishery Conservation and Management Act.

b. Discarded catch of any living marine resource plus retained incidental catch and unobserved mortality due to a direct encounter with fishing gear. From NOAA Fisheries Service (used for its National Bycatch Strategy and bycatch reduction efforts).

D. *Social and Economic* – Another important priority in FY2025 is the collection of social and economic data. If a proposal description states that it will primarily collect social and economic data, the proposal may score a maximum of 4 points.

How does a proposal receive the maximum 4 points? [Priorities](#) for commercial social and economic data collection were compiled by the Committee on Economic and Social Science. Additionally, there is a list of data elements found in the Atlantic Coast Fisheries Data Collection Standards you may want to consider as a proposal ranker. The ACCSP has established standards for social and economic data collection in recreational and for-hire finfish fisheries. Our standard is voluntary surveys of finfish fisheries conducted at least every three years.

E. *Data Delivery Plan* – All proposals are expected to submit data collected through a proposal to the ACCSP. A proposal may therefore receive up to an additional 2 points if the proposal clearly identifies a plan for submitting collected data to ACCSP. When considering how many points a proposal should receive, consider the method of data transmission and frequency of submission to ACCSP.

**PROJECT QUALITY FACTORS (Partners, Funding and Data):**

A. *Multi-Partner Regional impact including broad applications* (PARTNERS) - To determine scoring for this factor (a score of 0-5) consider the following:

- 1) Does this project involve one or multiple partners?
- 2) Does this project collect data from one or multiple partners?
- 3) What is the timeline for benefiting from the data?
- 4) Does this project have a narrow or broad scope of work?

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

The highest possible score for the above section (PARTNERS) is a 5. The score of this category is 7% of the total score of the project.

*B. Contains funding transition plan/Defined end point (FUNDING)* - To determine scoring for this factor (a score of 0-4) consider the following:

- 1) How long has the project been receiving funds from ACCSP or other sources?
- 2) Does the project have an end point or continue year after year?
- 3) If the project continues does this project explain how new funds will be applied in coming years?
- 4) Is there a transition plan?

*C. In-kind contribution (FUNDING)* – To determine scoring for this factor (a score of 0-4) consider the following:

- 1) Is the partner adding funds as well as ACCSP?
- 2) At what level is the partner applying additional funds?
- 3) Is it at a level that is acceptable for the ACCSP standards?

The highest possible score for the above section (FUNDING) is a 12. The score of this category is 17% of the total score of the project.

*D. Improvement in data quality/quantity/timeliness (DATA)* - To determine scoring for this factor (a score of 0-4) consider the following:

- 1) At what rate can this project provide data to the ACCSP Data Warehouse?
- 2) Are the data collected from this project a higher pedigree than in previous years?
- 3) Does this project include innovative ways to collect data?
- 4) Does this project outline a clear and timely mechanism for sharing data to ACCSP?

*E. Potential secondary module as a by-product (In program priority order) (DATA)* – In determining what (if any) score to give for a proposal that addresses a secondary module as a byproduct consider the following, if the secondary module is:

- 1) Catch and effort data receives a score of 3;
- 2) Biological data receives a score of 3;
- 3) Bycatch data receives a score of 3; and
- 4) Social and economic data receives a score of 1.

*F. Impact on stock assessment (DATA)* – To determine scoring for this factor (a score of 0-3) consider the following:

- 1) Does this project collect data from a species that has a stock assessment in the next few years?
- 2) Does this project collect data that can be organized in a fashion suitable for the ACCSP Data Warehouse that can be used for a stock assessment when needed?

The highest possible score for the above section (DATA) is 17. The score of this category is 24% of the total score of the project.

## **OTHER FACTORS**

*A. Properly Prepared* – To determine scoring for this factor (a score of -1-1) consider the following:

- 1) Does the proposal follow the guidelines of the Funding Decision Document?
- 2) Does this proposal follow the directions of the guidelines set forth by the request for proposals?

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*



B. *Merit* – To determine the scoring for this factor (a score of 0-3) consider the subjective worthiness of the proposal to receive funding.

The highest possible score for the above section (OTHER FACTORS) is a 4. The score of this category is 6% of the total score of the project.

If you have any additional questions, it is best to consult with the Operations Committee member from your state, agency or organization. Committee lists can be found at [here](#).

Thank you for your hard work and dedication in reviewing the proposals!

## **GLOSSARY OF TERMS COMMONLY FOUND IN PROPOSALS**

**Access sites:** Areas where fishermen fish from shore. Or access sites can be defined as the place fishermen board or leave a boat to go fishing.

**Bank:** A stretch of rising land at the edge of a body of water not washed by high water, which could be rocks or an overhanging cliff.

**Beach:** A level stretch of pebbles, bedrock shore, or sand beside a body of water (often washed by high water).

**Breachway:** Shore along a connecting channel.

**Breakwaters:** An offshore structure used to protect a harbor or beach from the forces of waves.

**Bridge:** A structure carrying a pathway or roadway over a body of water.

**Bulkhead (as known as seawall):** A retaining wall along a waterfront.

### **Bycatch (2 accepted definitions):**

a. Fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch and release fishery management program. *From Magnuson-Stevens Fishery Conservation and Management Act*

b. Discarded catch of any living marine resource plus retained incidental catch and unobserved mortality due to a direct encounter with fishing gear. *From NOAA Fisheries Service (used for its National Bycatch Strategy and bycatch reduction efforts)*

**Catch:** The total number, weight, or other measure of marine resources (fish, invertebrates, or others) which are captured and retained, released, or discarded.

**Advisory Committee:** Finfish, shellfish, and protected species that are captured, whether retained, released, or discarded.

**Discarded or released catch:** The portions of the catch that is not retained (i.e., discarded or released at sea dead or alive) and includes incidental take of protected species.

**Advisory Committee:** Recommends deleting the definition above and replacing it with:

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

Economic, social, and cultural discard: Finfish and shellfish that are the target of a fishery, but which are not retained because they are undesirable size, sex, or quality, or for other economic, social, or cultural reasons.

Regulatory discard: Finfish, shellfish, and protected species harvested in a fishery which fishermen are required by regulation to discard.

**Immediate use catch:** Use of the retained catch for food or bait before the end of the trip.

**Landed catch:** The total number, weight, or other measure of all marine resources (fish, invertebrates, others) captured, brought to shore and retained at the end of a trip. This includes catch that is discarded or not sold after being landed. This type of catch is indicated by disposition codes.

Advisory Committee:

Landed Catch: Finfish, shellfish, and protected that are captured, brought to shore and retained at the end of a trip.

**Causeway:** An elevated or raised way across wet ground or water.

**Charterboat:** *Trip Definition* - Any trip of a vessel-for hire engaged in recreational fishing (VHERF) that is hired on a per trip basis. For survey purposes, and possible alternative definitions, information should be gathered on: a) number of anglers (refers to all marine recreational resource users); b) size of boat; and c) where fishing occurred. *Boat Definition* - A charterboat is any VHERF that typically is hired on a per trip basis.

**Commercial and recreational fisherman:** For statistical purposes only, anyone who sells or barter any portion of the catch from a trip is a commercial fisherman for that trip, and any marine resources that are sold or bartered are considered a commercial product. All other fishermen and catches are considered recreational. Commercial trips with effort but no catch are still commercial trips and should be reported.

**Commercial dealer:** A seafood dealer is defined as any person or entity other than the final consumer, who purchases, ships, consigns, transfers, transports, barter, accepts (maintains) or packs any marine fishery products received from marine resource harvesters or marine aquaculturists. Any marine fishery products landed in any state must be reported by a dealer or a marine resource harvester acting as dealer in that state. Any marine resource harvester or aquaculturist who sells, consigns, transfers, or barter marine fishery products to anyone other than a dealer would himself be acting as a dealer and would therefore be responsible for reporting as a dealer. This definition is provided for purposes of statistical gathering only.

**Docks:** Structure built out over water and supported by pillars/anchors with long-term docking facilities for boats.

**Exclusive Economic Zone (EEZ):** Offshore waters 3-200 miles on Atlantic coast. For the Gulf coast it is 9-200 miles from the shoreline.

**Effort:** Estimated number of fishing trips taken by an individual (recreationally).

**Entanglements:** A condition in which any part of a protected species is tangled, wrapped and snared, hooked, or otherwise attached to fishing gear.

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

**Fisheries-dependent:** Information collected directly from the commercial, for-hire, and recreational fisheries.

**Fisheries-independent:** Information gathered independent of the fisheries through direct or indirect sampling of the stocks.

**Fishing guide:** A person hired by a recreational fisherman to aid in fishing activities.

**Fishing trip:** A period of time over which fishing occurs. The time spent fishing includes configuring, deploying, and retrieving gear, clearing animals from the gear, and storing, releasing or discarding catch. When watercraft are used, a fishing trip also includes the time spent traveling to and from fishing areas or locales and ends when the vessel offloads product at sea or returns to the shore. When fishing from shore or man-made structures, a fishing trip may include travel between different fishing sites within a 24-hour period.

*Commercial Trip:* Any trip where the retained catch is or would be sold or bartered. This includes trips with effort but no catch.

*For-hire Trip:* Any shore or vessel trip whose participants are engaged in a marine resources recreational activity that is contracted for a fee.

*Recreational Trip:* Any trip for the purpose of recreation from which none of the catch is sold or bartered. This includes trips with effort but no catch.

*Split Trip:* A split trip is any angler trip in which a portion of the landings are sold commercially and a portion of the landings are retained for personal use.

**Gear:** Anything used to catch marine resources.

**Gear configuration:** Materials, construction, measure (e.g., mesh size, length of gear), and deployment of gear.

**Guided beach trip:** Any shore-based trip where a guide is hired or provided.

**Guided fishing trip:** A fishing trip on which a fishing guide is hired to provide services directly related to fishing activities.

**Headboat:** *Trip* - Any trip of a VHERF that is hired on a per person basis. For survey purposes, and possible alternative definitions information should be gathered on: a) number of anglers (refers to all marine recreational resource users); b) size of boat; and c) where fishing occurred. *Boat* - A headboat is any VHERF that typically is hired on a per person basis.

**Inland:** Waterbodies less than zero miles from the shoreline. Also, includes waterbodies found inside the boundaries for territorial waters.

**Intercept survey:** On-site interviews which gather data from fishermen during or upon completion of their fishing trip at access sites.

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

**International:** Offshore waters greater than 200 miles from the shore line

**Integrated Taxonomic Information System (ITIS):** A taxonomic database for terrestrial and aquatic plants and animals. The product of a partnership of federal agencies collaborating with systemists in the federal, state and private sectors to provide scientifically credible taxonomic information.

**Jetties:** A kind of wall, usually made of rocks, built into the water to restrain currents or protect a harbor.

**Metadata:** Metadata are corollary or descriptive information, both numeric and non-numeric, which may qualify or explain primary data.

**Mode of fishing:** The method by which a recreational fishing trip is taken, e.g. private/rental boat, shore, or for-hire.

**Multi-trip fisheries:** Multiple trip fisheries are characterized by a large number of relatively short duration trips employing the same type of gear, (e.g. lobster pots), and resulting in catch of the same species (e.g. lobster), or relatively few species

**Non-consumptive use:** Any activity related to marine resources where no take of marine resources is attempted. Examples include photographing wildlife in natural or managed areas, SCUBA diving to view jewfish, whale watching, etc.

**Observer:** A trained agent (employee, contractor, grantee, etc.) of any ACCSP partner acting as an unbiased data collector observing fishing operations on fishing vessels at sea.

**Other fishing modes:** Any other non-boat fishing.

**Piers:** Structure built out over water and supported by pillars without long-term docking facilities for boats.

**Person:** Any individual, corporation, partnership, association or other entity, or any federal, state, local, or foreign government or any entity of such governments, including regional fishery management councils.

**Port agent/sampler:** A trained agent (e.g., employee, contractor, grantee, etc.) of any partner acting as an unbiased data collector, collecting data after the completion of a fishing trip.

**Post stratification:** Summarization of data into strata different from strata design used during data collection.

**Price:** The dollar amount per landed unit (e.g. pounds, bushels) of a given species (or species landing condition and market category).

**Private access sites:** Privately owned riparian land with dock/shoreline, waterfront residential developments, or marinas inaccessible to intercept sampling.

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

**Private boat:** *Trip* - Any boat trip for which no fee is paid for use of the boat. *Boat* - Any boat for which no fee is paid for use of the boat.

**Protected species:** Any organism listed under the MMPA, ESA, or the Migratory Bird Treaty or any state protected species legislation. The term protected species can include protected finfish species (e.g., Atlantic salmon, shortnose sturgeon), invertebrates (e.g., Queen conch), sea birds, and plants (e.g., sea oats).

**Protected species interactions:** Any interaction with a fishery, which results in the harassment, harm, or death of individuals of a species.

**Public:** Any user of non-confidential information.

**Rental boat:** *Trip* - A trip on a boat that is rented or leased. No captain or crew is hired. *Boat* - A boat that is rented or leased. No captain or crew is hired.

**Retained catch:** The number or weight of marine resources caught and kept for immediate use (e.g., bait, food) or for landing.

**State territorial seas:** Inshore 0-3 miles on Atlantic coast. Gulf coast is 0-9 miles from the shoreline.

**Strandings:** A marine mammal or sea turtle where: 1) the specimen is dead and/or moribund on the beach or shore or in a coastal waterway or EEZ, or 2) the specimen is alive and is on the beach or shore and is unable to return to the water under its own power, or 3) the specimen is in the EEZ or a coastal waterway where the water is so shallow and/or inhospitable that the specimen is unable to return to its natural habitat under its own power.

**Stratification:** The process of dividing a population into two or more non-overlapping comprehensive subpopulations, called strata, for the purpose of conducting independent surveys of these subpopulations.

**Stratum:** An identifiable sub-population of a population that is being sampled.

**Team Fish:** The cooperative harvesting of the resource by a group of fishermen. These fishermen may be formally organized in a sector or coop. Cooperation may take many forms (information-sharing on the location of the stocks, rationalization of the group's fleet, coordinate access to fishing grounds to avoid congestion and gear conflicts, search for lost gear, etc.), but in most cases the main objective is to increase the profits of the whole group.

**Trip (see fishing trip):** A trip is shore to shore by gear/area combination, or in the case of transfers at sea, an offloading at sea is a trip.

**Trip duration:** *Recreational Trip Duration:* A day of fishing measured in hours fished for the shore mode and dock-to-dock duration for the private/rental boat mode. *For-hire Trip Duration:* Dock-to-dock duration measured in hours fished

**Unique Identifier for commercial fisheries:** The unique identifier for commercial fisheries trip data is the trip start, the vessel identifier, and trip number when a vessel is involved; the trip start, the

*Our vision is to produce dependable and timely marine fishery statistics for Atlantic coast fisheries that are collected, processed, and disseminated according to common standards agreed upon by all program partners.*

individual identifier, and the trip number when a vessel is not involved. Reporting of the unique identifier is required of both commercial fishermen and dealer on all submitted reports.

**Unique identifier for recreational fisheries:** The unique identifier for recreational trip data is the date of return, the sampler number, the record number, and the individual.

**Value:** The total landed dollar amount of a given species (or species landing condition and market category). Example: 100 pounds of lobster at a price of \$3.50 per pound will have a value of \$350.

**Vessel directory frame:** A list of known vessels operating in a particular fishery, which can be used to sample that fishery.

**Waterbodies:** Bodies of waters used for defining areas fished and identified by standard codes.