



Atlantic Coastal Cooperative Statistics Program

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

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Atlantic Coastal Cooperative Statistics Program Coordinating Council Meeting

In-person Meeting

October 17, 2017 | 4:45 pm

Waterside Marriott Hotel, 235 East Main Street, Norfolk, VA

https://safis.accsp.org:8443/accsp_prod/f?p=552:15:::NO:15:P15_CAL_ID_1:1902

1. Welcome and Introductions (Chair R. Boyles)
2. Review and Approve Agenda (R. Boyles) – Attachment I **ACTION**
3. Public Comment (R. Boyles)
4. Review and Approve August Meeting Minutes (R. Boyles) – Attachment II **ACTION**
5. ACCSP Status Report (M. Cahall) – Attachment III
 - a. Program Updates
 - b. Committee Updates
6. Social and Economic Data Standards Update (R. Rhodes)
7. Consider Approval of Recommendations of FY2018 Submitted Proposals (Operations Committee Chair P. Campfield and Advisory Committee Chair J. Morgan) - Attachment IV **ACTION**
8. Chair/Vice Chair Elections
9. Other Business
10. Adjourn



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August 1st, 2017

Westin Alexandria, 400 Courthouse Square, Alexandria, VA

https://safis.accsp.org:8443/accsp_prod/f?p=550:15:1724908583617::NO:15:P15_CAL_ID_1:1899

DRAFT MEETING MINUTES

COMMITTEE MEMBERS IN ATTENDANCE

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Derek Orner (Proxy)	NOAA	(301) 427-8567	derek.ornier@noaa.gov
Cheri Patterson (Proxy)	NH FGD	(603) 868-1095	cheri.patterson@wildlife.nh.gov

Committee Members Not in Attendance: B. Clifford (GARFO), B. King (DC FWD), J. McCawley (FL FWCC), T. Nies (NEFMC), B. Ponwith (SEFSC), A. Shiels (PFBC), J. Stephen (SERO)

Others in Attendance:

Name	Title	Partner	Phone	Email
Lance Stewart	Governor's Appointee	CT DEEP		

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

Staff Members in Attendance: M. Cahall (Program Director), J. Defilippi Simpson (Data Team Leader) A. DiJohnson (Recreational Data Coordinator), H. Konell (Data Coordinator), J. Myers (Senior Data Coordinator), S. Rains (Recreational Data Analyst), A. Schwaab (Outreach Coordinator), C. Wilt (Recreational Data Coordinator), G. White (Recreational Program Manager), E. Wyatt (Program Coordinator)

Welcome and Introductions (Chair R. Boyles)

The ACCSP Coordinating Council of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, August 1, 2017, and was called to order at 2:28 o'clock p.m. by Chairman Robert H. Boyles, Jr.

CHAIRMAN ROBERT H. BOYLES, JR.: Good afternoon everybody. I would like to welcome everyone to the ACCSP Coordinating Council meeting, and call the meeting to order.

Review and Approve Agenda (R. Boyles) – Attachment I

The first couple of items on the agenda are to review and approve the agenda that was submitted in the mail outs. Are there any additions to the agenda? Seeing none; the agenda will be approved by consent.

Public Comment* (R. Boyles)

Next is time for public comment for items that are not on the agenda. I am not aware of anyone from the public who wished to address the Coordinating Council,

Review and Approve May Meeting Minutes (R. Boyles) – Attachment II

so we will move right on to review and approve the May meeting minutes; which were also submitted in the briefing materials. Are there any additions, deletions, edits or corrections to the minutes as submitted? Seeing none; they will be approved by consent, and roll right on into Mr. Cahall's status report. Mike.

ACCSP Status Report (M. Cahall)

• Program Updates

I do believe that is a record, Robert. We're going to give you a fairly brief program and committee update. The primary purpose of this meeting of course is for you all to review and approve the Atlantic Recreational Plan that we want to submit to MRIP. Then we're going to give you an update on where we are with recreational data collection in general.

As you're aware, the funding process is well underway. Many of your staff's have submitted requests to us. We've received eight maintenance requests, four new requests, and the administrative grant request. By coincidence, we have come in at almost exactly 75 percent maintenance, 25 percent new.

The initial request is \$700.00 less than our usually funded amount. I'm not sure anybody could have hit a target much closer if they had been on purpose. We're continuing to work on some of the council initiatives. We're working again with the Mid Atlantic Fishery Management Council (MAFMC) in our for-hire reporting. We expect that tool to go live on January 1 of 2018.

We are working with their folks to do the outreach and training. The tool itself is pretty much ready to go. There are still a lot of logistical issues to be ironed out. But we are confident that the tool itself and our portion of that project will be ready to go in time. We are also working with the South Atlantic Fishery Management Council (SAFMC) on a data collection pilot. That pilot itself is nearly finished. They run out of money in mid-October. Probably what we're going to do, the SAFMC has requested a soft launch of that tool. We would move it into production to be used on a voluntary basis; so that they can collect data to use for analysis, and assist in the Southeast Region in their implementation of for-hire reporting, in the Gulf and the South Atlantic. In terms of our redesign, many of your folks came to our workshop in May for integrated reporting. We expect a report to be out in the next couple of weeks. We will be using that report to help guide the blueprint for the SAFIS redesign. We expect to have a preliminary design meeting sometime in October.

We're going to bring together a bunch of the computer folks from our partners to go over the results of the workshop; along with an assessment that Tom Hoopes did for us a few months back, so that we can synthesize a go forward plan for the SAFIS redesign. I think I want to emphasize at this point that we don't expect that the user products, the tools that individual users, especially the tablet-based tools which are fairly new.

We don't expect those to change very much in the way that they look. But the behind the scenes pieces, the software that drives the various processes, will be rewritten. The database structure will probably be rewritten to help harmonize things, and to bring it all into like a smooth homogenous, maybe sort of a creamy smoothness is a way to describe it.

Right now it is sort of like cottage cheese. It works and it tastes good, but it's got some chunks in it. That's the best analogy I could come up with. We just did a data workshop with the Commission. That went really well. This is the second one that we've done in the last few years. We brought in the Science, ISFMP, and the outreach folks, and went through what we can do, what we have soup to nuts.

We had a very positive response from the Commission, the other folks in the Commission, and immediately we had a whole pile of custom data requests; which is a good thing, exactly what we wanted. They have a much better understanding now of our holdings as well as our capabilities; what kinds of things that we can provide to help support the Commission initiatives.

I think what we're going to do is continue to do this every year. It was extremely productive. We got feedback from them also, so it's a two-way street. Of course we're producing products we think everybody wants. But of course getting a direct feedback from the people that actually have to use them, and actually have to put them into plans and such, obviously tempers any kind of response or changes that we would have in design.

In terms of our Data Warehouse, we finished the 2016 data load. Unfortunately there was a tiny bit of confusion at the beginning of the release of the preliminary data. We did release the preliminary data on time. But we didn't make a public announcement that we were complete for a couple of weeks later, when we were publically complete; and there was some confusion about whether or not we had the data ready.

I think it was March 15 or April 15, but the bottom line is that we had the data ready. Next year we'll make sure there is no confusion. We don't release preliminary data at the level that we gave

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to the Northeast processes to the public, so that's what caused the confusion. We've already started on the 2016 final load.

Most of your people are either diligently giving us or have given us the data that we need; and the deadline to complete that is August 26. It takes us a little while to continue to process it. We should have data ready mid-September; I would think that we can push out as our final product for the year for 2016. Access Point Angler Intercept Survey (APAIS), you're going to get a lot more APAIS after I'm done. But this is the 20,000 foot view here. We're almost through the 2016-17 budget year and the 2017 and '18 agreements in funding have been put in place for the following year. We've made some minor budget adjustments; of course it's still a learning process.

We're looking at in some places things cost more than we expect; in other places things cost less than we expect. We're making budget adjustments as we go. Please bear with us as we negotiate and work with your folks to make the adjustments we feel are necessary. We've completed Waves 1 through 3, including the social and economic survey.

We've had very good response rates on that survey; much better than we've had in previous iterations of this. In addition, we've had much improvement from the charter mode; which as you know is one of the points that we're really pushing hard right now. We want to be able to improve the charter and head boat data substantially. It's where we had some issues last year; as I'm sure you're all aware.

In terms of the continuing improvements we've been working on, we've been working steadily back and forth with a contractor who is responsible for supporting the vessel frame. We are getting slow, steady improvements; which is very encouraging. On the data processing and reporting we've been able to substantially improve the speed with which we can process data, because we're data people and that's really all we do.

We've written, I can't even tell you how many procedures to review the data automatically, spit out the errors, in some cases make error checks and make corrections automatically. G. White has more details for that sort of thing later. The cooperative partnership by and large is working very well. There are always a few little sticky spots.

But I have to say that from where I sit and the feedback that I get from G. White and from the rest of the APAIS team is that in general the process is going really well. Again, every now and then you run into something. But I have to say, and the numbers that we're looking at that are in the current waves are even better than we've been seeing in previous waves.

You've been hearing from me a good bit about the GARFO collaboration; and now starts the SERO collaboration. The Southeast Regional Office has acknowledged the necessity for going ahead and planning for electronic trip reporting in their for-hire fisheries. They foresee this tidal wave of work coming in their direction; and they've put together a number of working groups, to try and figure out exactly what they're going to do.

They have named it the Southeast For-Hire Integrated Reporting (SEFHIR), and it is formed as I said before in response to the Gulf and the South Atlantic initiatives. The idea, we were invited to participate and we're sitting on most of the teams at this point. Several of the subgroups look at things like confidentiality and data hosting.

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For those of you have been around a long time, or remember the discussion we had around where ACCSP data warehouse was going to live and all of that. This is a very familiar discussion. We expect to be part of the solution. I can't tell you at this point exactly at what level they're going to ask us to participate. But I have sent them correspondence indicating that we are willing to work with them in whatever capacity they think we could be helpful. We're also looking towards our role of course is to minimize the duplicative technology as much as we possibly can. Make the transition as smooth as we possibly can, make sure that the data are consolidated as quickly as possible, and of course this leads on to further future developments and how for-hire data is going to be reported and managed. Again, I think you'll hear a little bit more about that from G. White as we start talking about our go forward plans.

And, C. Patterson, we've started work on the social and economic module. There was kind of by coincidence a meeting of the Commission's Social and Economic Sciences Committee, and we did get a volunteer subgroup, which is planning to have its first call on August 10. Our plan is to review a 1998 data requirements document.

This predates me. I had no idea it even existed, but Shanna Madsen found it. We'll be looking at what were the data requirements in 1998, and see if they jive with what we still need. My suspicion is that a lot of it is probably still relevant. Also, what does our current data standard look like? What are we currently collecting; because we are in a completely different place than we were in 1998? We have a lot of data that might be useful for the social scientists.

What we want to do is look at what we have now that we could turn into potentially to useful products quickly. We would look towards being able to provide data fairly soon out of what we have in our existing data stats, and then look towards what is the delta between what they would really like to have, and what we're currently collecting.

Then come up with a strategy to close that delta, thus a new data standard and then potentially a plan on how we might move forward with social and economic module for the future.

- **Committee Updates**

Move on to the committee updates. These will be fairly brief. The Recreational Technical Committee had a conference call on June 13, where they have been really focused on the Atlantic Regional Implementation Plan. You all are going to get an overview of that shortly.

They did approve the plan. There was a lot of back and forth on this plan. The Recreational Technical Committee worked very hard on this. We had a lot of soul searching I think, as we moved forward. I think that the change in role from kind of an active observer to an active participant, and having influence on policy has been a little difficult.

But I also think based on the last meeting, which occurred just last week that they're into it. It was a very, very productive meeting. We looked at the Marine Recreational Information Program (MRIP) certification process, because we certainly want to have the work that's going on in the South Carolina pilot certified as a validation methodology for census-based reporting, which G. White will talk to, it's in your presentation as well, and also talking about how we're going to do the comprehensive for-hire reporting.

How we're going to turn what right now are mostly federal programs, how those data will be integrated into the MRIP estimates, how we can come up with a single number now with a checkerboard of census data along with survey data. We're going to have states that never are going to be able to implement the for-hire census.

They will continue to do a survey. We're going to have to work out with MRIP how those methods are going to work, and how we're going to come up with numbers using the new data. We also confirmed the priorities that the Recreational Technical Committee set for funding; which is a little bit separate from our plan. Then finally we talked a good bit about how the APAIS conduct was going. Then the Operations Committee had its preliminary proposal review, which was the week before last. We sent out the comments to the Principle Investigators yesterday. The final proposals are due on August 21. Once again I think we're in the fairly enviable position of probably not having to say no to anyone, unless we feel like some of these projects are out of our scope.

But we've also put in a qualitative review process, so that if there is a project that is out of our scope that we still think is worth funding, we can in good conscience recommend it to move forward. They also approved the Atlantic Regional Implementation Plan, which you all are about to see. Then we've got the joint Advisory and Operations Committee meeting scheduled now for Portland, in early September. Do you all have any questions for me?

MR. JOHN CARMICHAEL: Just one quick comment. Earlier on you mentioned the workshop and stuff, and that's great. Just think about inviting NOAA Fisheries and Council staff to those to keep us all in the loop.

MR. CAHALL: I sent a recommendation to Nick Farmer, who is leading that process that he includes states in the discussions. He hasn't responded in an official way at this point.

CHAIRMAN BOYLES: Dan.

MR. DAN MCKIERNAN: Just a point of clarification. On one of the earlier slides you mentioned in Waves 1 through 3 you had increasing numbers of intercepts in the charter mode. Does that reflect increasing cooperation in that sector?

MR. GEOFF WHITE: I think it is both cooperation of the sector as well as learning skill and focus of the interviewers. The methodology has not changed between 2016 and '17, but the comment is even more broad to the flexibility that MRIP has provided between 2013 with a new APAIS methodology, and doing more of the mixed boat assignments, and now the assignments are fully mixed mode, so the allowance in the procedures for the sampling to occur that way, the skills of the interviewers, the relationships with the anglers. I think it all plays a role.

Review and Consider Approval of the Marine Recreational Information Program Atlantic Regional Implementation Plan (G. White) – Attachment III

CHAIRMAN BOYLES: Anything further on program updates or committee updates for Mike? All right, Geoff let's roll on into MRIP implementation.

MR. WHITE: This, as Mike noted has been a long time coming. MRIP asked all of the Fisheries Information Networks (FIN) to come up with regional strategic plans. The intention is really to put this in the same timeline and methodologies to align with the MRIP strategic plan, which just closed public

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comment last month; and really to support implementation of certified methods, and establish consistent methodology and priority-based foundation for MRIP funding in the future.

One of the main pieces is if it's in the implementation plan and it's in the strategic plan, it's going to be open for further development and funding by and through MRIP over the next five years. In addition to that ACCSP is keenly aware certification doesn't always just mean funding. But it means consistent methodologies that can be enacted regardless of the funding source. That is kind of moving along that zone. MRIP requested implementation plans from each of the regions, plus Highly Migratory Species (HMS), because that bridges of course the different regions. The programs are supposed to include a baseline assessment of current data collection programs, the regional needs, recommendations for a prioritized approach, a process to combine the statistics if there are multiple surveys or methods to cover a particular sector or area, and then of course the estimated cost. The baseline assessment is really the first half of the document, which you received earlier.

I'm not going to speak directly to that. It is pretty much background information and data needs. The bulk of the work was in identifying priorities, and defining what the future holds. In that the priorities that were updated through Recreational Technical Committee, and we asked to have them work with each of their respective agencies, was to look at a variety of issues.

Those scores were added up, regionalized, put in place, and the top six are what were presented in the implementation plan. Those are on the screen at the moment, and we're going to step through them individually. But it was improving Percent Standard Error (PSE). There was a tie in exact ranking and scores for comprehensive for-hire data collection and monitoring; as well as improving discard and release data.

Then Item 4 was biological sampling for recreational fisheries, meaning separate from the APAIS dockside interview. The fifth was to improve spatial resolution and guidance for post stratification of the MRIP estimates. Then Item 6 was to improve timeliness of the catch and harvest estimates.

When it comes to improving PSE, the issues we're recognizing that in many cases the current MRIP estimates are reasonable for annual and regional estimates; but there are management needs for more precision at smaller scale, either by wave or by state to monitor the catch, and also a need for increased data on pulse, deep water and other species rarely sampled in the current APAIS design.

The recommendation is still relatively broad here; it is to investigate targeted sampling design, changes alternative estimation approaches, and to optimize sampling effort. For those items they kind of – improving PSE is not just sample size driven – and the approach now is to kind of wait. Even though it's the highest priority is to wait a little bit until some other efforts pay off.

That is why the costs are not identified at this point; under comprehensive for-hire data collection and monitoring, again the issue of pulse and rarely sample species in the current system to integrate reporting mechanisms. There are many cases where captains or fishermen, captains have to report multiple times, and also recognizing that the councils and the federal electronic logbooks are moving forward, and needing to recognize at the moment that is a new data stream that isn't fully integrated into MRIP, and what to do about that.

The recommendation here is to complete and certify methods to validate logbooks with dockside sampling. There are a couple of different projects in the works on that. There has already been a fair

amount of movement, and also to develop a comprehensive integrated data collection program for state and federal, charter and head boats.

The current mix of sampling, there is some overlap. There are a few gaps and the Recreational Technical Committee wanted to really look at a holistic approach and put that forward; so developing that is on the horizon, projects in that zone. In terms of improving discard and release data, this has been identified as release catch is certainly not available to dockside sampling. There are problems in the species identification and the recall of the number of fish. Sometimes they get really high numbers. We see it come through the data and there are even suggestions to interviewers to say 100 fish that is about one fish every three minutes. Is that really what you meant? But it's also just a recall problem in methodology. One of the issues is also the ability to increase head boat sample size in the frame.

Again, the recommendation here is the GulfFIN is putting on a workshop collaboratively with the other regions, PacFIN, and ACCSP and sponsored through NOAA Fisheries. It's going to be this fall in November down in the Gulf, to look at release catch data collection methodologies, and try and figure out the next path forward.

This is one where there were historical costs from ACCSP funding as one portion of sampling the discarded catch. There are likely other things that would feed into that. But there was one place where we did have some numbers to support it. For Priority 4, biological sampling separate from APAIS, the issues would be that APAIS primary design is for catch in numbers per unit effort.

They have limited effort to collect additional biological structures and weights. The recommendation is to develop a supplemental survey for the biological information, so of course the cost of that as yet undetermined method is unknown. Fifth priority is improving spatial resolution. The biological stock boundaries may be different than sampling.

Assessment and monitoring can be at different scales, and there may be differences in sample size requirements if you wanted to break a state into multiple regions, and still have the same idea of precision that may require additional samples by area. There are methods about sample size and there are methods about post stratification.

The item here includes guidance, because some of this might just be providing tools that are available to everybody to do the post stratified domain estimates; so basically the statistical method that could be part of a standard website tool, instead of something that the stock assessment biologists run on their own, again helping everyone to be able to see the same dataset instead of something that is only available to those in the assessment workshops.

Again, continue to evaluate the stratification. Sample allocation and develop the web tools. Again, no cost associated with that at the moment, no known cost. Then last is improving the timeliness and recording of recreational catch and harvest estimates. The desire has been placed out in front of MRIP and ACCSP for a long time about wanting to move from a two month wave to a monthly wave; wanting to get the data released from 45 days down to 37.

A lot of what happens in APAIS wouldn't change very much at all; but it does depend on whether the fishing effort survey would be able to move to a monthly data collection. There is of course a cost associated with that and the recommendation is to continue evaluating the tradeoff between costs,

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sample size and timeliness. Relative to timeliness, in many of these priorities the tradeoffs may not just be in cost.

Moving to a monthly estimate at the current same sampling size, may have a cost in precision. That is why these tradeoffs and evaluating them is going to be an important task. The action for the Council today is the Operations Committee has approved the Implementation Plan for your consideration.

CHAIRMAN BOYLES: Geoff, thank you for that presentation. Questions before we go to an action. Are there any questions for Geoff on the presentation? John.

MR. JOHN CLARK: Geoff, just a question about lowering the PSEs there. You talked about putting effort to different parts of the recreational fishery. Were you talking about reallocating the current effort to lower these PSEs or are you talking about we're going to have to add samples to do that?

MR. WHITE: Honestly both options are on the table. It could be changing the amount of sample between modes of shore and private boats and for-hire. It might be moving around when the current sample sizes are placed in the year. It could be adding more samples overall. Because of the variation in timing and states and staff sizes, kind of all of those options are on the table. We'll have to see what comes out of the work that Recreational Technical Committee does.

CHAIRMAN BOYLES: John.

MR. CARMICHAEL: Do you have a target PSE in mind or is that also something else that will be developed?

MR. WHITE: Fair question and it's on the list. It was not identified in the 2012 ACCSP standards as something to be identified. Basically we had a workshop in 2014 and the PSE to be able to be put into a stock assessment, we made progress on. But the level of PSE appropriate for management still needs further development work.

CHAIRMAN BOYLES: Dr. Duval.

DR. MICHELLE DUVAL: Geoff, I'm assuming that this follows up on John's question about a target PSE and some data standard conversations that we had heard from MRIP staff about. When is a PSE too high such that it really probably isn't useable for management, or those catch estimates are not useable for management.

I assume this; it's been a little bit since I've read the MRIP strategic plan. We've sent so many letters in recently that I can't keep track of all of them. But some type of standards approach for use and release of that data, this would fit within that wheelhouse, I assume.

MR. WHITE: Correct. The Implementation Plan leaves the door open for a lot of work in that area.

CHAIRMAN BOYLES: All right, I will look for a motion recognizing the Operations Committee has approved the Plan. I am looking for a motion to approve the MRIP Implementation Plan. Cheri.

MS. CHERI PATTERSON: Yes, I thought the plan was very well put together; very thorough for what you had to do, and I would like to make a **motion to accept the Atlantic Recreational Implementation Plan and move forward.**

CHAIRMAN BOYLES: **Motion by Cheri, second by Pat Geer** and Joe and several others. Is there any opposition to this motion? I see none; the motion carries. Geoff thank you, you've got one more item on the agenda?

Recreational Data Collection: Changes on the Horizon (G. White)

MR. WHITE: Excellent, thank you all and the Recreational Technical Committee thank you as well, because they've put a ton of work into that; and it was far from an individual effort. The next section I will present. It's only a few more slides. I'm going to include Alex DiJohnson and Coleby Wilt who are our recreational data coordinators on kind of what is coming up forward a little bit more. Our title is changes on the horizon; but it could just as easily be progress through partnership. A little bit of the history of cooperative developments.

ACCSP has been very involved with the MRIP Operations Team, and the Executive Steering Committee. We participated in the MRIP peer review and through our efforts over the last few years in the APAIS state conduct in that implementation, we've really gained a better view of the complexities of what MRIP goes through, but also, this implementation of the standards and the other things, working collaboratively with all the states.

There has been a lot of moving forward on how well we work together highlighting particular issues that are important to everybody, and that has really kind of set the stage for I think a lot of what's been going on recently, and what we see coming forward. ACCSP was involved on the for-hire data collection side; kind of a historical view.

We were involved in the Atlantic MRIP head boat sampling design. That was back in 2003 or '04, and began working on a pilot project through the Rhode Island Charter Logbook; which later grew into SAFIS eTrips, and is now the eTrips/Mobile, and is one of the items considered for the South Atlantic for-hire charter project.

GARFO now accepts the SAFIS eTrips/Mobile as a VTR submission, so that again the development on our side and the partnership on their side are really paying off for the fishermen's standpoint of a reduced reporting burden and a little bit of cleaning up the data flow. Again, the partnership with the MAFMC on the charter electronic logbooks, SAFIS is one of the five options that you work for that reporting.

It is really moving forward in terms of development that needs to occur on our side, as well as data flow in streams that will help them. All of that is really true as well with the South Atlantic pilot that we've been working very, very closely with Mike Errigo and all the South Atlantic states do that; both from the captains tool, the captains reporting tool as well as a component to do the dockside validation.

That is collecting the angler intercepts on the dockside end. A lot of promise through working together, and not having a ton of side-by-side stove-pipe allocations and trying to tie them together after the fact, but working early on to streamline the approaches. That has been a huge benefit moving up to this point, and Alex is going to tell us a little bit more about what we've noticed through APAIS and Coleby is going to talk about the for-hire group.

MR. ALEX DiJOHNSON: Just in general I'm going to go through basically how the APAIS process has kind of changed since state contact began in January of 2016; with involvement with the ACCSP, and I'll move in to the process itself, and then just basically the partnership and how that has kind of transitioned as well. Obviously like I just said, it started in January of 2016 and the big part of the process has been kind of working with the management and the process of bringing in data, cleaning that data, sending it to NOAA Fisheries, and presenting that back. A big part of it has been the data entry itself, which has kind of taken a lesson from the Gulf in using Optical Character Recognition (OCR) software.

That is basically just scanning everything in, and it's just making everything more consistent than by key logging that. It's also changed through data storage. We use Oracle databases now, and that just makes it easier to handle large amounts of data; and it also makes it a little bit easier to calculate things on our end, to then translate that both into reports for the states, as well as eventually moving that to SAS tables to send to NOAA.

Then it's also helped with data quality, just using an essential check system that's provided by NOAA called an intercept check or In-Check program that we use. We're able to kind of take these into real time and present them back to the states; any questions about anything from length and weight of fish to something like logic that might prevent that intercept from actually making sense with other intercepts in that particular assignment.

The way that we do that is through the use of this online web tool, the Assignment Tracking Application of ATA. What that helps us do is kind of distribute site-based assignments, as well as head boat assignments, as well as FHS pre-validations; all the sort of information to the states. Then it helps us actually complete, like I just mentioned before, all these data edits.

We are able to present these back to the states and effectively and efficiently get back responses, communicate if something is especially confusing, you know maybe pick up the phone and discuss that. It has also helped a lot with being able to summarize statistics, basic statistics, and keep track of trends in a real-time-report section, which comes out basically two weeks after that intercept would have happened.

It is available for them to take a look at and for us to communicate. Then the last big thing that comes in the ATA is this post-validation caddy. This is a way, they have to contact 10 percent of all the intercepts from a particular interviewer, to make sure that the person is out there doing what they're supposed to be doing, and that they are following procedures correctly. We've kind of developed this system of being able to track this very efficiently, and take a random sample from each assignment; so that they're getting that 10 percent as easily as possible.

MR. COLEBY WILT: Just to add to that it's a computer assisted telephone interviewer interface, and it allows the states to pull up the phone numbers and make the phone calls from pretty much anywhere. That way it runs through all of the questions that they need to ask, and records the responses. What a lot of these things that we've implemented and Alex is talking about is reducing the amount of e-mail traffic back and forth, how many times you have to touch a particular record or data to get the solution and move it forward.

MR. DiJOHNSON: Exactly, just automating that process as much as possible. Another part of this is this kind of intangible quality, which is these relationships not only between us and the states, but between

the states themselves. Coleby and I work day to day with everyone, all the state leads with APAIS, and we're trying to facilitate a level of trust and through consistency in data edits, and what's being talked about the procedures to keep all that. It's really important to just understand that I think the important part here is that we're making sure that we're asking what they need and want; not assuming, not making presumptions about what is needed and wanted, in order to improve the process. We like to think that the process has definitely improved just because of that.

Also through training, so this came up during the National Academy of Science review. That training is an important part of maintaining that the procedures are taking place properly and all the time by everybody and we kind of redesigned the training going into ACCSP conduct. We also made sure that it's very interactive, both while it's taking place if you want to make sure that we are engaging people from seasoned veterans to people that are new at this, and just making sure that everything is going to be running smoothly.

We also have been working with NOAA Fisheries in the Gulf, as I mentioned before, with this In Check program, but what we're also doing is we're continually writing these new checks to look at different types of problems that might be occurring and refine this. We're working with NOAA and the Gulf to incorporate these, so that MRIP as a whole has these different checks.

We're also, as Geoff mentioned, we're using electronic data capture as a part of the South Atlantic Logbook pilot. Specifically the way that South Carolina did this as a validation tool, using APAIS as a validation tool for these logbooks. That is set to go out in the next couple of days, hopefully, and the goal is to hopefully use this maybe with APAIS in 2019.

The last thing here is just that we have been, as M. Cahall I believe mentioned that we're focusing on for-hire on charter intercepts. This has come from procedural changes, including mixed mode sampling to being able to sample charter boats that have more than six people, as well as outreach initiatives like stickers, possibly having some sort of raffle, mentioning that people should go out to their charter boat groups to talk to them, and all sorts of handouts.

Then just a cooperative approach in general, which is including updates to the state register and vessel directory; to make sure that their frames are as accurate as possible, so they can address everything. That kind of lends itself to what Coleby is going to talk about next, which is the for-hire sector.

MR. WILT: Thank you, Alex. I have the pleasure to talk to you today a little bit about the future of for-hire data collection. To get started; a little bit of the background about where we are now. I'm sure as you all know there are currently multiple state and federal for-hire data collection programs that are basically working concurrently along the Atlantic coast.

From Maine to the Atlantic coast of Florida, we're looking at about 20 individual programs right now that captains need to respond to. This obviously creates a really high reporting burden on the captain. There is no integration, or very little integration of the data that's coming in; so captains have to report the same information multiple times in many cases, which as you can imagine can be problematic, especially in trying to get the information from the captains.

In addition, we're looking at implementing the federal logbook or the Federal Logbook Data Collection Program will be implemented soon. The Recreational Technical Committee and ACCSP is looking at this as an opportunity moving forward to try to create a new sort of program, basically basing itself on this

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model. The goals of the ACCSP looking at this, is we want to maintain the cooperative approach that we've done through APAIS that we feel as though has been rather successful. The Recreational Technical Committee wants to create a single database system, basically where all the information from for-hire vessels can be gathered and put into one single location.

In that way the states, federal government, ACCSP, everybody involved including the captains, would be able to log in and be able to review the data. Captains would be able to log in and be able to see their own data that they have submitted; which we think will be really useful. We would also provide a tool to be able to submit the data into that system, as well as the management needed for that data.

We also plan on basically moving forward with the implementation plan for the comprehensive for-hire data collection program that was talked about. A little bit about this comprehensive for-hire data collection program that G. White mentioned earlier. We're looking at this in three major sections. The first, which is already going to be implemented soon, is going to be the federally permitted vessels are mandatorily required to submit their data through the logbook system.

This would cover both effort and catch data. Looking at the states, this obviously would leave a hole in the data. This is the only place where we're going to be collecting information. Any vessels that are not going to be federally permitted, we also want to implement a logbook system using the same tool, and it would be state run, where the state vessels would be able to submit logbooks.

Now, we also recognize that it's not always going to be possible for the states to be able to implement logbooks all at the same time. The Recreational Technical Committee has put together this idea of implementing a survey; in place where states cannot collect state logbook information right away. How this would work is it would be something, we haven't defined exactly what that survey would be, but it could look something similar to FHS is currently; where they could contact vessels and collect effort information.

We could continue to use APAIS data for catch information on those vessels. Now, the goal here would be able to take the information from the federal logbooks, state logbooks, and/or the survey information, and integrate it into a single database so that captains would only have to report their information one time. That is the main goal here. This also maintains flexibility with the states; so that if they're not able to create mandatory logbooks immediately that they would be able to basically use the survey, up until the point where they can implement logbooks.

We do recognize that there are a number of needs and challenges moving forward with this sort of program. One of the first things is South Carolina, a pilot project, which A. DiJohnson mentioned briefly, is looking at using APAIS intercepts as a way to validate logbooks. They're currently, as far as I understand, they were looking at about 50 percent; they could match about 50 percent of intercepts to logbook data in South Carolina.

They are currently working on a way to, once they match those, create a statistical method to be able to validate the logbook submissions, as well as kind of calibrate the data coming in. The plan is to be able to certify the method that is being created through the South Carolina pilot, and potentially use APAIS as a validation tool for the logbook or comprehensive program. We also recognize that we need to develop a statistical method to combine logbook information for federally permitted vessels, and the survey information from the states. If we can create, we need to develop a statistical method to be able to combine that information to create valid estimates. Last, we basically want to, once all that

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information is basically put together, we want to implement the plan, the Comprehensive For-Hire Plan.

Then integrate the information into federal assessments and management. That includes MRIP. Moving forward, we recognize that you all here have a unique perspective on fisheries, and we request your partner direction involvement in finding new solutions.

MR. WHITE: Thank you, Coleby, and we've got one more slide here. Really the action out of this presentation is to continue to recognize that MRIP and APAIS data collection supports both state and federal species management; as well as the Commission regional ones of course, to continue to build on our current progress and partnerships.

We are really just asking, because some of these answers are not known yet. We don't have the solution to hang up and say, hey what do you think about this? We're really asking for your continued staff time to contribute to the Recreational Technical Committee agenda items. The system really relies on the group input; and whether that's figuring out a PSE target or regional aspects of the for-hire implementation.

But basically it is going to take some more time, and it's going to take a lot more work to come up with the right ideas. We've come up with some, and they don't always pan out. We're looking for continued ideas and support, so we're just fostering the internal and external support of the data collection partnership. We're in this together and in most cases the more effort that we see states put in, the more benefit the states get out of it. Thank you for your time. Are there any questions?

CHAIRMAN BOYLES: Geoff, Coleby, Alex, thank you all; questions, Lynn.

MS. LYNN FEGLEY: Thank you all for the presentation. You mentioned it several times, and we were talking about this back at the office. You mentioned certification of logbooks. I'm just wondering if you can tell us a little bit about what that process is, or if there is a time when we're going to hear more about that. Help, thank you.

MR. WHITE: I smile, because we wondered ourselves. We just had Richard Cody come and talk to the Recreational Technical Committee. Would you want to handle that Richard, or do you want me to take a stab and you can correct?

MR. RICHARD CODY: Go ahead, Geoff, and I'll interject if I need to.

MR. WHITE: Perfect. We asked MRIP to come and discuss to the Recreational Technical Committee what certification means. That led to a review of a lot of materials that are already on the website. MRIP certifies particular methodologies, and that means a statistical method or an approach for a survey; and that's where the certification process ends in one sense, and the implementation process starts.

The goal of certification is to have a toolbox of methods that can work and provide a statistically valid output, and then whether that method is the chosen one for a particular state, region, area, is up to the implementation planning process. MRIP doesn't certify programs, they certify methodologies. Then the implementation planning process goes through what you've already seen the fishing effort survey go through. It is how would we get from A to B from the current way to do it to the future way? How

would those statistics be used and integrated? How would some sort of a transition or calibration period occur? Those are all implementation issues, which are after the certification process. I think that's probably enough of what you were asking for; Richard, anything else?

MR. CODY: The whole idea is to come up with a statistically valid method that can be used to either replace APAIS if it needs to, or if that is the desire of the region. This kind of ties into the regional implementation plans and how they are executed. MRIP recognizes that the regions have specific needs that may not be addressable through APAIS or any MRIP survey. The idea with the certification process was to just ensure that the data that would come from, say a supplementary program, would meet the standards that MRIP had to abide by, basically.

CHAIRMAN BOYLES: John Clark.

MR. CLARK: Thanks for the presentation, guys. It just wasn't clear to me what progress we're making toward electronic data collection for our field interviewers. Is that still a focus to get away from the paper altogether and go to that?

MR. WHITE: Definitely yes. The South Atlantic pilot project for their charter boat captains has, they're calling it the dockside reporter, but the validation tool for dockside intercepts. That is specifically for the pilot at this point. We have hopes that it could be modified slightly for use by the APAIS interviewers.

It wouldn't happen in 2018, but we think it's very possible for 2019. Again, we'll keep working on that and collaborating with MRIP on what their requirements or needs would be for that system; and because it's a pilot that's about to go into the field, we will of course have to incorporate any of that feedback, do some programming changes, before we can consider buying tablets and sending them out in the field.

MR. CAHALL: I'm going to briefly resume my role as Pollyanna for just a minute here. We are getting very positive feedback on the notion of implementing a tablet-based reporting, based on this tool; and the processes that you had detailed a little bit earlier were specifically designed to accept a direct data stream.

That means that we can very easily plug the data that streams into us from these tablets into the existing processes; because they were designed ahead of time with that in mind. I think one thing that I want to make clear is that in a sense National Marine Fisheries has done us a favor by mandating this electronic trip reporting.

They're kick starting a process where we're going to have to figure out some way to accurately integrate these data together to create a cohesive dataset, and try to minimize the duplicate reporting as much as we possibly can, which is I think a fundamental cornerstone of the program.

What you've been seeing from my folks here presented is our strategy on how we need to move forward with that. We have to get a certification method for the census-based reporting certified. We have to figure out a statistically valid way to combine data when we do not have census-based data from the states, and then we have to figure out the best way to automate all of that and get it up and running. Those really are amongst all of the other challenges, kind of the things that we're facing over the next couple of years.

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

CHAIRMAN BOYLES: Okay, Geoff, Alex, Coleby, thank you for that. Mark, do you have something?

MR. MARK ALEXANDER: I just had one question. A lot of the work that goes into conducting APAIS from a state point of view is handling all the paperwork. To what degree has there been discussion regarding tablet assisted interviews by the field agents; so that we can get around having to do all this error checking and manipulation of these paper reports?

MR. WHITE: That's effectively the same question as John's about the field interviewers having tablets to do the data collection. There are certainly different components for the captains, but we're thinking probably 2019 is a realistic shot of having the interviewers using tablets to collect, and then submit the information. That could reduce probably two weeks in the whole system generation lag, and catch a lot of the initial data errors while it's still fresh in their minds.

MR. CAHALL: I'll go a little further out, because well, it's sort of what I do. Our hope is that it will be integrated into the entire data management system. For example, it will automatically download the assignments. It should largely eliminate the paperwork; once it's fully implemented.

CHAIRMAN BOYLES: Okay, Mike, thank you all. I don't think we have any other business. Thank you all for good discussion here today. We will stand adjourned. Thanks to the staff for good work, to the Coordinating Council for the approvals today, and Ray, I didn't give you back all 23 minutes, but we got you close. You all make good use of that time with Lobster, okay?

Other Business

Adjourn (R. Boyles)

Action Items and Motions

1. Motion to accept the Atlantic Recreational Implementation Plan and move forward. Motion by Cheri Patterson, second by Pat Geer. Motion Carries.

	Partner	Title	Primary Module	Others	Cost	
MAINTENANCE	1	ME DMR	FY2018: Managing Mandatory Dealer Reporting in Maine (35 pages)	Catch/Effort	\$ 193,516	
	2	ME DMR	Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden fisheries (49 pages)	Biological	\$ 25,974	
	3	RI DFW	FY2018: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island (19 pages)	Catch/Effort (100%)	\$ 76,920	
	4	NJ DFW	Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries (27 pages)	Catch/Effort (55%)	Biological (45%) \$ 164,356	
	5	SC DNR	ACCSP Data Reporting from South Carolina's Commercial Fisheries (17 pages)	Catch/Effort (70%)	Biological (30%) \$ 163,221	
	6	GA DNR	Continuing Data Entry and Management of Commercial Fisheries Paper Trip Tickets in Georgia (11 pages)	Catch/Effort	\$ 116,874	
	7	ACCSP RTC	Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast (22 pages)	Catch/Effort (50%)	Biological (40%), Bycatch (10%) \$ 134,370	
	8	SEFSC	Continued Processing and Aging of Biological Samples Collected from U.S. South Atlantic Commercial and Recreational Fisheries (22 pages)	Biological (100%)	\$ 251,600	
				Total Maintenance	\$ 1,126,831	
NEW		Partner	Title	Primary Module	Others	Cost
	9	RI DFW	Advancing Fishery Dependent Data Collection for Black Sea Bass in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach (36 pages)	Biological (40%)	Catch/Effort (30%), Bycatch (30%) \$ 135,648	
	10	RI DFW	Rhode Island Department of Environmental Management Proposal: Voice Recognition and Head boat Survey Mobile Application (11 pages)	Catch/Effort	\$ 48,303	
	11	SC DNR	VESL API Development (8 pages)	Biological (40%)	Catch/Effort (30%), Bycatch (30%) \$ 86,400	
	12	MAFMC	Evaluating Angler Perception, Handling Practices and Maltreatment of Smooth Dogfish in the Mid-Atlantic Recreational Rod-and-Reel Fishery (19 pages)	Bycatch (75%)	Social/Economic (25%) \$ 46,427	
				Total New	\$ 316,778	
Admin	ACCSP	ACCSP Administrative Budget (23 pages)	Admin		\$ 1,854,249	
				Grand Total Proposed	\$ 3,297,858	



STATE OF MAINE
DEPARTMENT OF
MARINE RESOURCES
MARINE RESOURCES LABORATORY
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PATRICK C. KELIHER
COMMISSIONER

August 21, 2017

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

We are pleased to submit the proposal titled “FY18: Managing Mandatory Dealer Reporting in Maine” for your consideration. This is a maintenance proposal which has not changed in the scope of work. The Maine Department of Marine Resources (MEDMR) has required mandatory swipe card reporting for elver dealers since the 2014 season; which the MEDMR fully funded. The MEDMR implemented swipe card reporting in the sea urchin fishery during the 2016-2017 season. MEDMR used eDR mobile for sea urchin swipe card reporting. This is the swipe card program that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. The MEDMR brought its experience with the Elver System swipe card project to this effort in the hope that other partners may benefit from the new swipe card system and we could use our “lessons learned” to make this project a success. While the roll-out did not go as smooth as intended, the end results were acceptable and collected the data as intended. The MEDMR also continued to monitor compliance and suspend those dealers who fail to report on time. The threat of a license suspension has improved the timeliness and quality of data submitted. Please view all graphs in color. This proposal addresses the following 2018 ranking criteria: catch and effort, metadata, regional impact, funding transition plan, in kind contribution, improvement in data quality and timeliness, impact on stock assessment and properly prepared. This proposal has been revised from the original proposal submitted on June 19th to address a reviewer’s comment about labeling our vehicle seasonal when we rent for the entire year. We have removed the word “seasonal” from our vehicle description to more clearly define the vehicle. For a summary of the proposal for ranking purposes, please see page 26. Please contact Robert Watts at the MEDMR with any questions. Thank you for your consideration of this proposal.

Sincerely,

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Atlantic Coastal Cooperative Statistics Program
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FY18: Managing Mandatory Dealer Reporting in Maine

Total Cost: \$193,516

Submitted by:

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Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Robert Watts, Marine Resource Scientist

Project Title: FY18: Managing Mandatory Dealer Reporting in Maine

Project Type: Maintenance Project

Requested Award Amount (without the NOAA administration fee): \$193,516

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the FY17 proposal. The dealer reporting objectives have largely remained unchanged since 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters, which meets ACCSP standards. However, since 2014 the MEDMR required that all elver dealers report daily using a MEDMR initiated and funded swipe card reporting program called the “Elver System” for dealers to report. Elver dealers were required to report daily using the Elver System. Since 2015, the Elver System was modified to start tracking of dealer to dealer transactions. Not only are harvesters required to swipe a card at the initial point of sale, but also dealers are required to swipe a card for any dealer to dealer elver transactions. The MEDMR implemented swipe card reporting in the sea urchin fishery during the 2016-2017 season. The program used for sea urchins was the swipe card program (eDR mobile) that MEDMR worked collaboratively with the Massachusetts Division of Marine Fisheries (MADMF), National Marine Fisheries Service Greater Atlantic Regional Office (NMFS GARFO), ACCSP and HarborLight Software LLC. All 12 sea urchin dealers were required to report through the new eDR mobile program and represented the first time that sea urchin data were reported electronically by dealers. The MEDMR requested that a new market codes be created to allow dealers to report the percent roe which is a MEDMR reporting requirement for dealers. The MEDMR continues to bring its experience with the Elver System and now eDR mobile swipe card projects to the current effort in the hope that other partners may benefit from the new swipe card system. It is the intent of the MEDMR to continue to expand the use of swipe cards over time to other fisheries with mandatory reporting. While the initial roll-out of eDR mobile did not go as smooth as planned, by the middle of November, 2016 many of the major bugs were worked out and dealers were experiencing only minor issues. MEDMR staff were able to present data on this past season within a week of seasons end. Industry were impressed with how fast MEDMR could provide them with accurate data. The use of swipe cards in the sea urchin fishery has allowed MEDMR to try a new method of managing fishing days in the sea urchin fishery. In past years, harvesters were provided with set days they could fish. For the 2017-2018 season the MEDMR has allowed harvesters to pick their own days from a list of open fishing days. It is the hope of the MEDMR that allowing harvesters this flexibility will allow harvesters to stay home on foul weather days. The MEDMR also continued to suspend dealer licenses for those who fail to report on time which has greatly improved the timeliness and quality of the data submitted. The MEDMR continues to fund the position that administers this suspension authority. These costs are not included in this grant proposal. See Attachment 1 for a summary of the project history and Attachment 2 (view in color) for a graph of previous grant costs.

Objectives:

The objective of this proposal is to collect trip level landings information from all licensed dealers who buy directly from harvesters. The primary tasks will be regulation compliance, data entry and auditing. Staff will also focus on dealer outreach to help industry understand the importance of the accurate and timely reporting. With the expansion of mandatory swipe card reporting, the MEDMR expects to spend a significant amount of time on outreach, explaining the new system to dealers and troubleshooting any issues that might arise. Electronic reporting will be encouraged for those still opting to report on paper.

In 2014 Maine State Legislature passed a law requiring that all elver dealers report using a swipe card program. Another law was passed in 2015 that provides the MEDMR the authority to require scallop and sea urchin dealers to report with swipe cards. The results of the Elver System have proven successful and the MEDMR feels it is now time to implement swipe cards into more fisheries that have shown a difficulty in receiving timely data. The MEDMR used their swipe card program experience as a learning process to help create a more complete swipe card program in collaboration with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC. For the 2016-2017 sea urchin season the MEDMR required all sea urchin dealers to use eDR mobile to report all sea urchin transactions. There is no plan to mandate electronic reporting for all other dealers at this time, as this is not an ACCSP requirement.

Need:

Maine has a large number of dealers who can buy directly from harvesters, and thus has to spend significant resources tracking compliance, and entering and auditing a large numbers of records. In 2016, over 649 dealers were licensed to buy from harvesters and 222 (34%) of them were required to report to National Marine Fisheries Service (NMFS). Regardless of their federal permit status, MEDMR works with all dealers to ensure all landings are reported either to MEDMR or to SAFIS, and staff audits all records with a state landed of Maine. Of the 649 dealers, 277 (43%) chose to report on paper; 203 (31%) chose Trip Ticket (electronic reporting software developed by Bluefin Data LLC); 120 (18%) chose file upload; 77 (12%) chose key entry SAFIS; 24 (4%) were required to use VESL (swipe card reporting program developed by Bluefin Data LLC); 15 (2%) were required to use eDR mobile (swipe card program created jointly by ACCSP, MADMF, MEDMR and NOAA GARFO) and 5 (1%) would report using the NMFS quahog database (Table 1).

Table 1: Reporting Methods Chosen for the 2016-2017 Primary Buyers in Maine

Reporting Method	Combo Dealers	State Dealers	Total Dealers
Paper	11	266	277
Trip Ticket	135	68	203
VESL Program	0	24	24
eDR Mobile	6	9	15
SAFIS Key Entry	55	22	77
File Upload	65	55	120
Quahog Electronic Logbook	5	0	5
Total Electronic*	266	178	444
Grand Total	277	444	721

*Data submitted via Trip Ticket, SAFIS Key Entry, eDR Mobile, VESL, File Upload and Quahog Electronic Logbook are data electronically reported.

Note: Fifty dealers chose multiple methods of reporting, so they were counted two or more times on this table.

Some dealers opted to report using multiple methods, (largely due to the exemption of certain species in the federal reporting requirement). Of the 1.55 million trips entered for 2016 in the data warehouse, 31% of them were landed in Maine which exceeds any other state (Figure 1 – view in color). These records were submitted by both “state-only” dealers (those that only report to MEDMR) as well as “combo” dealers (those that report to fulfill both NMFS and MEDMR requirements). Because MEDMR cooperatively works with NMFS to collect and audit data from federally permitted dealers, MEDMR staff devotes time and resources to help these “combo” dealers submit data and MEDMR staff audits all these records.

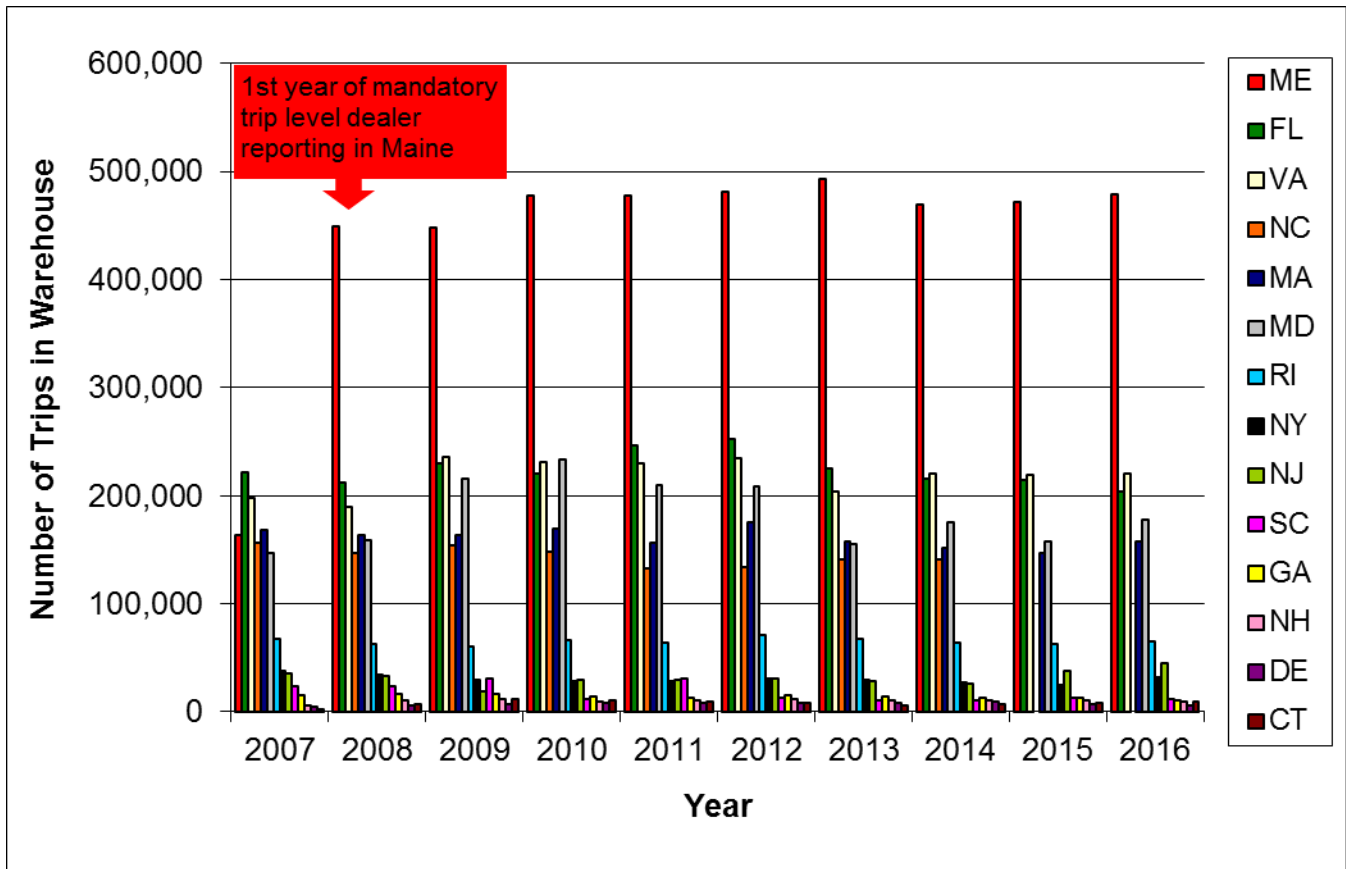


Figure 1: Number of Reported Trip Records by State Landed in ACCSP Data Warehouse

The number of trip records that MEDMR staff uploaded into SAFIS or data entered into MARVIN (MEDMR’s database that contains all sampling, biological and landings data that MEDMR collects) has increased 83% from since 2007 (Figure 2 – view in color). When dealers submit reports on paper, 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 wishes to use 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.

The numbers in Figures 1 and 2 differ because they contain different data sets. Figure 1 shows the Maine-landed data in the warehouse which contains data from: MARVIN dealer data, MARVIN harvester data, SAFIS data, the federal ocean quahog data, and highly migratory species data. Figure 2 only shows Maine-landed records from MARVIN dealer data and SAFIS data.

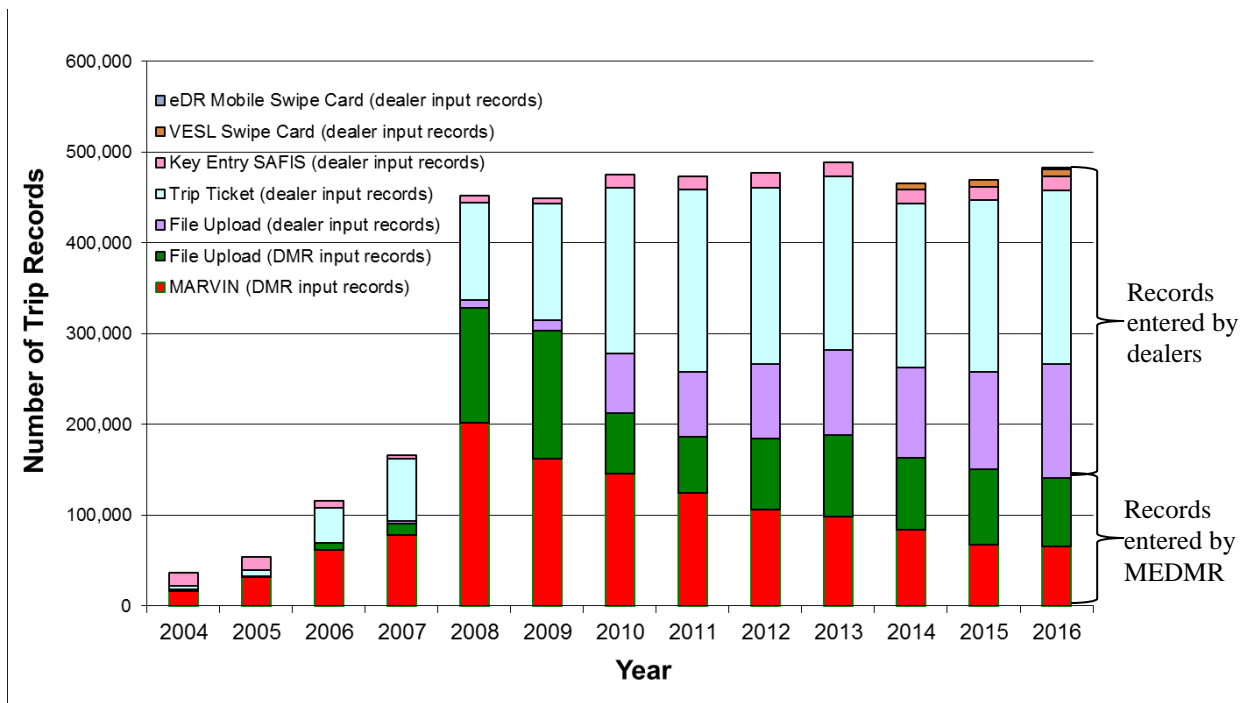


Figure 2: Number of Dealer Reported Trip Records entered in MARVIN and SAFIS

Landings data entered in MARVIN are uploaded to the ACCSP data warehouse. The significant increase in the amount of data entry and auditing is the single greatest challenge for the dealer program staff. Within the past few years, MEDMR absorbed the cost of two of the four positions previously funded by ACCSP grants, and MEDMR is also funding the position who will administer the license suspension process of the program. MEDMR is now requesting funding for two existing positions: one Specialist I who audits data, helps set up dealers with electronic reporting (trip ticket, file upload, key entry SAFIS and swipe card programs), uploads data for “state-only” dealers, trains and supports “combo” dealers to report their own data, and provides the personal outreach with industry; and one Office Associate I who key enters dealer landings submitted on paper. It is essential that this dealer reporting program continue as it is an important 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 5/30/2017), Maine was ranked as the highest state on the Atlantic Coast in commercial value (\$731 million) and fourth highest in whole pounds landed (301.5 million) in 2016. This comprehensive dealer reporting program is also an ASMFC (Atlantic States Marine Fisheries Commission) compliance issue for several fisheries, including for American lobster which is Maine’s largest fishery.

Summary of staffing:

MEDMR Landings Program staff involved in dealer 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.
- Specialist II: provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who choose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. See the *Approach* section below

for further details on auditing. This position is also assigned tasks in the harvester-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: opens and processes mail and enters data into MARVIN.

MEDMR Landings Program staff currently funded by ACCSP and in need of additional ACCSP funding:

- Specialist I: provides one-on-one outreach with the seafood dealers; trains dealers how to report electronically or on paper; follows up on compliance issues; uploads data from “state-only” dealers who chose to file upload; and audits data. This position trains “combo” dealers how to file upload their own data, maintains dealer upload conversion tables, troubleshoots uploading errors, and installs Trip Ticket at dealer locations. This position not only audits data from “state-only” dealers, but also data submitted electronically by “combo” dealers. This position frequently works with federally permitted dealers because the dealers are also submitting this information in order to fulfill MEDMR reporting requirements. MEDMR staff help federally permitted dealers to submit data and staff audit the data submitted to ensure the data are as accurate as possible, even though the data may have been submitted under the NMFS partner ID. See the *Approach* section below for further details on auditing.
- Office Associate I: key enters dealer reports into MARVIN, files the dealer reports submitted to MEDMR and performs other office duties as requested (assists with mailings, compliance entry, opening mail, etc.).

The FY14 through FY17 grant did not include any funding for the elver swipe card program. The MEDMR fully funded the original programming, programmatic updates and maintenance costs associated with this project. The MEDMR will continue to fund the monthly maintenance fees. The MEDMR has been absorbing positions to transition off ACCSP grant money, and the new positions/resources needed for the license suspension authority were absorbed by the MEDMR and are not included in this funding request. MEDMR will continue to try to identify alternative sources of funding for the dealer 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 at this time.

Results and Benefits:

The data collected so far have shown how valuable this information is for Maine’s fisheries. In the lobster industry, MEDMR scientists have learned more about the fleet characteristics and number of active 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. MEDMR has learned how many harvesters are active in each fishery (Figure 3 – view in color).

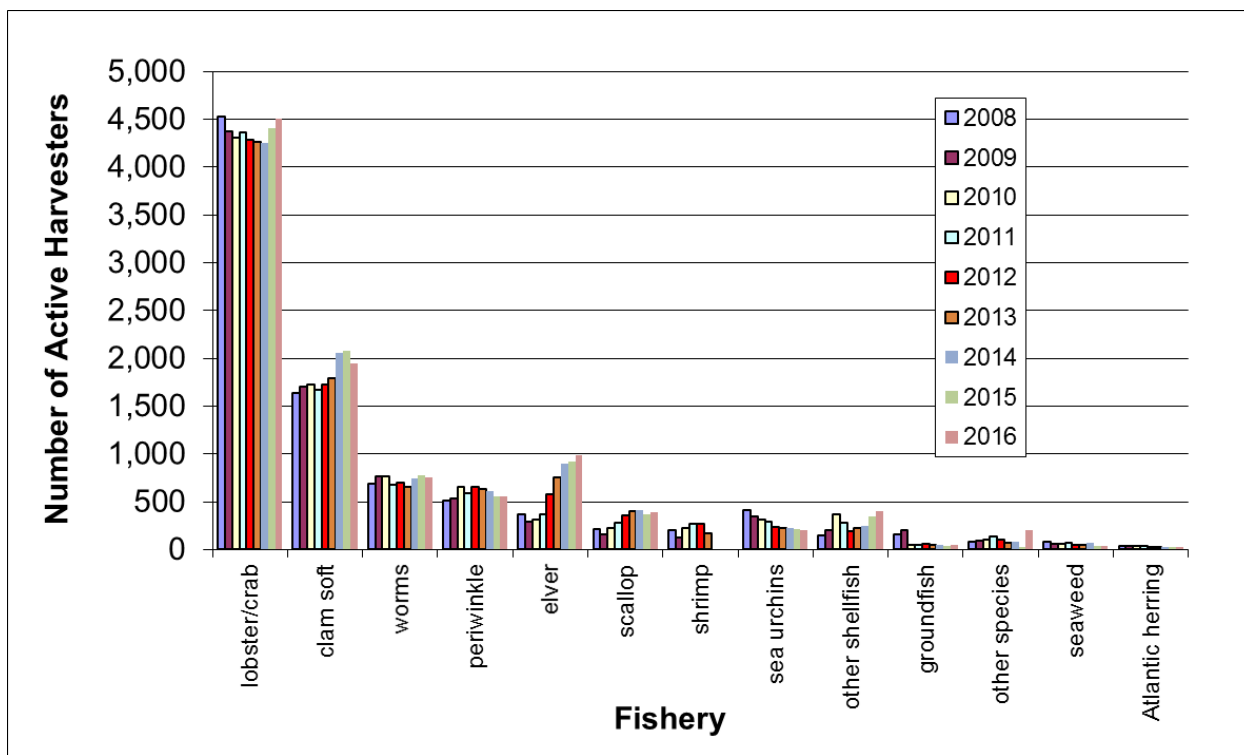


Figure 3: Number of Active Harvesters Reported in Dealer Data

This grant will allow MEDMR to complete an 11th year of mandatory trip level reporting for all dealers. More data auditing and follow up with dealers will help to ensure the data reported are as accurate as possible. MEDMR continues to encourage more dealers to move from paper reporting to electronic reporting as dealers become more comfortable with trip level reporting, and will continue to mandate electronic swipe card reporting in the elver and sea urchin fishery. The MEDMR participated in a collaborative effort that created a complete swipe card program with MADMF, NOAA GARFO, ACCSP and HarborLight Software LLC that was used for sea urchin reporting in September, 2016. The MEDMR expects other fisheries will eventually be required to use the swipe card program. MEDMR is already uploading data reported to MARVIN to ACCSP every six months and intends to start uploading every three months; which benefits all partners.

Metadata for the dealer 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 have also benefited from the technologies built and lessons learned from the elver dealer swipe card/mobile app project that was rolled out to elver dealers in 2014 and utilized again in 2015 and 2016.

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 dealers to report trip level landings to MEDMR. Meet with dealers individually as needed to explain reporting procedures, load software, troubleshoot problems with reporting, and explain consequences for failing to report.
- Review reports submitted for completeness and log the submissions in the compliance database. If reports are incomplete, MEDMR will contact industry to correct reporting mistakes. If a dealer cannot be contacted by phone, the report will be returned for correction.

- Complete suspension notices monthly to those dealers 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 dealers that are delinquent enough to meet the minimum notification criteria as outlined in the suspension law (Attachment 4).
- MEDMR will suspend dealer 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 will be entered into MARVIN. Staff will file upload all data through the SAFIS interface for those “state-only” dealers who choose to report from their own accounting systems.

3. Encourage electronic reporting

MEDMR staff will encourage dealers reporting on paper to report using one of the three electronic reporting methods (SAFIS key entry, Trip Ticket, or file upload). Currently only certain species are required to report using swipe card technology so this report type is not counted above. MEDMR staff will train “combo” dealers who are required to report electronically according to NMFS regulation to upload their own data and will help them maintain their conversion tables so the correct fishermen, vessels, ports and species-grade-market-unit combinations are reported. MEDMR staff will install Trip Ticket at those dealer locations where file uploading is not an option. Staff will also customize the Trip Ticket program so that only the correct harvesters, vessels, species, ports and gears pertinent to the dealer can be chosen.

MEDMR believes the electronic reporting can benefit many in the industry as much as it benefits MEDMR by reducing the amount of key entry required of staff. Starting with the 2014 elver season and continuing with the 2015, 2016 and 2017 seasons, the MEDMR required all elver dealers report daily using the “VESL” (formally the “Elver System”), which was created by Bluefin Data LLC. The MEDMR required VESL to be used to record and report all harvester to dealer transactions. In 2015, 2016 and 2017, the Elver System and VESL also tracked dealer to dealer transactions. The MEDMR paid for and supplied each dealer with an Elver System or VESL (for 2017) program and swipe card reader and training. There were a total of 24 buying stations that could have purchased directly from harvesters in 2017, 22 in 2016 and 27 in 2015. Starting in September, 2016 MEDMR required that all sea urchin dealers use eDR Mobile (created through collaborative effort with MEDMR, MADMF, ACCSP, NOAA GARFO and Harborlight Software) to purchase sea urchins directly from harvesters. Fifteen sea urchin dealer locations were set up and required to use swipe card technology to purchase sea urchins from licensed harvesters. While the initial roll-out did not come without glitches, by the middle of November most of the issues had been addressed. The use of the swipe cards in the elver and sea urchin fishery has eliminated the need of MEDMR staff to manually enter approximately 10,000 transactions between both fisheries while also providing staff with the most up to date data available. Dealers were required to report daily which allowed the MEDMR to monitor each harvester’s individual quota (elver only) and the overall quota (elver only).

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

MEDMR staff will continue to work with dealers to explain the purpose and benefits of this reporting system. Staff will attend the annual Maine Fishermen’s Forum and present a Landings Program poster explaining the importance of accurate reporting as well as displaying preliminary data by fishery. 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 new 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 dealer data submitted.

Staff will audit data submitted on a monthly basis. Paper data will be audited twice per month; electronic audits sent via email from SAFIS will be corrected weekly. SAFIS audits for “state-only” dealers will be corrected via an ODBC connection to a view of the Maine data. Audits concerning “combo” dealers will also be vetted through the NMFS Northeast Region. MEDMR staff audit data submitted by “combo” dealers because these dealers submit data in order to also fulfill MEDMR reporting requirements. MEDMR performs basic audits of records to catch potential oversights from NMFS audits, audits data exempted from the federal reporting rule (e.g. softshell clams, razor clam, mussels, oysters, quahog, elver, and worm data), and performs additional audits that NMFS does not. For example, MEDMR audits all records to flag those harvesters selling without a license for that species. MEDMR also compares dealer-reported landings with harvester-reported landings and identifies dealers with discrepancies. In all of these audits, MEDMR contacts dealers when discrepancies are discovered and works to correct records or recover missing data.

6. Transmission of dealer data to ACCSP.

MEDMR will upload dealer data from MARVIN to the ACCSP data warehouse once every three months. In each data feed, the following fields are uploaded to the warehouse according to ACCSP protocols: supplier dr id, supplier dealer id, supplier trip id, supplier cf id, supplier vessel id, unload year, unload month, unload day, state code, county code, port code, primary gear, data source, data supplier, reported quantity, live pounds, dollars, disposition code, grade code, unit measure, species ITIS, market code, supplier action flag, dr seq id, fishing mode. 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 Elver System are sent directly to SAFIS daily during elver season.

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. In addition, quahog and Bluefin tuna data are loaded into the warehouse and not into SAFIS, so all Maine dealer data would still reside in the warehouse and not SAFIS.

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 dealer compliance	X	X	X	X	X	X	X	X	X	X	X	X
2. Data enter dealer reports	X	X	X	X	X	X	X	X	X	X	X	X
3. Encourage electronic dealer reporting	X	X	X	X	X	X	X	X	X	X	X	X
4. Industry outreach to promote dealer buy-in	X	X	X	X	X	X	X	X	X	X	X	X

5. Audit dealer data	X	X	X	X	X	X	X	X	X	X	X	X
6. Upload dealer data to ACCSP			X			X			X			X
7. Report metadata to ACCSP												X
8. Semi-annual reports						X						X
9. Annual reports												X

Project Accomplishments Measurement:

Goal	Measurement	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*	2017*
Enforce Dealer Compliance	Number of dealer licenses rejected due to failure to report	43	155	48	56	66	81	16	35	15	115	407	-	-	-
Enforce Dealer Compliance	Frequency of referrals to Marine Patrol due to missing reports	-	-	-	-	-	4X per yr	4X per yr	4X per yr	4X per yr	4X per yr	4X per yr through 6/1/14	-	-	-
Enforce Dealer Compliance	Number of compliance calls to delinquent dealers	-	-	-	-	166	297	259	451	523	420	269	208	45	11
Enforce Dealer Compliance	Number of suspension letters to delinquent dealers	-	-	-	-	-	-	-	-	-	-	407	567	177	552
Enforce Dealer Compliance	Number of dealers suspended for failing to report timely	-	-	-	-	-	-	-	-	-	-	27	57	38	0
Dealer Data Entry	Number of trip records by year landed in data warehouse	15,858	27,455	121,981	163,516	448,646	447,373	477,891	477,032	480,910	493,291	468,897	471,667	478,748	0
Dealer Data Entry	Number of positive trip records by year landed in MARVIN	15,868	31,532	61,971	77,702	202,013	162,579	146,070	124,449	105,760	98,195	84,004	67,820	65,220	6,856
Dealer Data Entry	Number of positive trip records by year landed in SAFIS	21,045	22,632	53,456	88,597	250,093	286,456	329,358	348,461	371,185	391,169	381,423	401,501	417,966	61,061
Encourage Electronic Reporting	Number of dealers submitting positive reports in SAFIS	69	78	99	142	204	230	274	291	312	328	342	330	338	251
Transmit Dealer Data to Data Warehouse	Frequency of data submitted by year landed	Yearly	Yearly	Yearly	Yearly	yearly to twice per month	twice per month	twice per month	twice per month	twice per month	twice per month	bi-monthly	once every 6 months	once every 6 months	once every 6 months
Outreach	Number of custom data requests	-	11	95	155	204	269	275	281	302	419	434	569	806	424

*2016 and 2017 data are incomplete at the time of proposal submission

Cost Summary: FY18 Managing Mandatory Dealer Reporting in Maine				
10/1/2018 - 9/30/2019				
Personnel ^A		Description	Cost	
1 Specialist I (Eileen Greenleaf)		full time position for 12 months	\$42,795	
1 Office Associate I (Susan Kelley)		full time position for 12 months	\$35,383	
			Subtotal	\$78,178
Fringe Benefits ^A				
1 Specialist I (Eileen Greenleaf)		Includes health, dental, workers comp, FICA, life insurance and retirement	\$27,515	
1 Office Associate I (Susan Kelley)		Includes health, dental, workers comp, FICA, life insurance and retirement	\$23,656	
			Subtotal	\$51,171
			Total Personnel	\$129,349
Travel				
1 seasonal vehicle ^B		1 car * \$108.65/mo * 12 mo	\$1,304	
Mileage fee		1 car * 1,000 mi per mo * \$.12/mi * 12 mo	\$1,440	
Toll allowance		Estimated	\$74	
5 Overnight stays ^C		5* \$100/night	\$500	
Per diem (includes extended days)		(5 overnights + 5 extended days) * \$50/day	\$500	
			Total Travel	\$3,818
Supplies				
Filing Supplies		folders, folder labels, year labels	\$500	
Other				
Printing and binding of dealer report forms		500 logbooks * \$2.50 per logbook	\$1,250	
Postage for logbooks		Mail 500 logbooks * \$4.75 per logbook	\$2,375	
Postage for info packets and letters		(.48*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)	\$1,726	
Telecommunication charges ^D		4 phones * \$55/mo * 12 mo	\$2,640	
			Total Supplies	\$8,491
Contractual				
Trip Ticket 1 yr maintenance (Software support and upgrades)		\$600/mo fee * 12 mo	\$7,200	
			Total Contractual	\$7,200
			Subtotal	\$19,509
Total Direct Costs			\$148,858	
Indirect Costs (30%)			\$44,657	
Total Award to DMR			\$193,516	

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 dealers how to electronically report to DMR and/or NMFS.

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

Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$15,975
Scientist III (50% time)	\$45,971
Scientist II (50% time)	\$51,397
Specialist II (75% time)	\$60,558
Office Associate I (15% time)	\$10,768
Office Associate II (100%)	\$76,148
Elver Mobile Swipe Card Project	\$12,000

Total **\$272,816**

Budget Narrative for FY2018 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf and the Office Associate I is Susan Kelley. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees 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. The increase in Personal and Fringe benefits reflects one of these staff members decision to collect the State of Maine medical and dental benefits whereas the previous employee in the position elected not to take these benefits.

Travel: The Specialists are the employees who will be travelling. The travel is for visiting dealers for the purpose of installing reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software in order to submit their landings information.

The monthly fee for the **seasonal** 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 Chevy Cobalt car 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 dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY17 Managing Mandatory Dealer Reporting in Maine			
Personnel^A	Description	Cost	
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$42,806	
1 Office Associate I (Currently Vacant)	full time position for 12 months	\$31,772	
			Subtotal
			\$74,578
Fringe Benefits^A			
1 Specialist I (Eileen Greenleaf)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$25,756	
1 Office Associate I (Currently Vacant)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$12,575	
			Subtotal
			\$38,331
			Total Personnel
			\$112,909
Travel			
1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo	\$1,304	
Mileage fee	1 car * 1,000 mi per mo * \$.12/mi * 12 mo	\$1,440	
Toll allowance	Estimated	\$75	
5 Overnight stays ^C	5* \$100/night	\$500	
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day	\$500	
Supplies			
Filing Supplies	folders, folder labels, year labels	\$500	
Contractual			
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$500/mo fee * 12 mo	\$6,000	
Other			
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250	
Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook	\$2,375	
Postage for info packets and letters	(.465*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)	\$1,708	
Telecommunication charges ^D	4 phones * \$55/mo * 12 mo	\$2,640	
			Subtotal
			\$18,292
Total Direct Costs			\$131,201
Indirect Costs (25%)			\$32,800
Total Award to DMR			\$164,001
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 dealers how to electronically report to DMR and/or NMFS.			
D: One cell phone for each of the two specialists and one each for the two scientists working on the project.			

FY 2017 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,392
Scientist III (50% time)	\$61,576
Scientist II (50% time)	\$38,861
Specialist II (75% time)	\$51,402
Office Associate I (15% time)	\$6,911
Office Associate II (100%)	\$61,438
Elver Swipe Card Program	\$11,950

Budget Narrative for FY2017 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Greenleaf and the Office Associate I is Susan Kelley. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees 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 Specialists are the employees who will be travelling. The travel is for visiting dealers for the purpose of installing reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software in order to submit their landings information.

The monthly fee for the **seasonal** 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 Chevy Cobalt car 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 dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialist I does not have an office phone, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY16 Managing Mandatory Dealer Reporting in Maine			
Personnel^A	Description	Cost	
1 Specialist I (Eileen Greenleaf)	full time position for 12 months	\$42,806	
1 Office Associate I (Rebecca Barter)	full time position for 12 months	\$32,084	
	Subtotal	\$74,890	
Fringe Benefits^A			
1 Specialist I (Eileen Burk)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$26,285	
1 Office Associate I (Rebecca Barter)	Includes health, dental, workers comp, FICA, life insurance and retirement	\$12,454	
	Subtotal	\$38,739	
	Total Personnel	\$113,629	
Travel			
1 seasonal vehicle ^B	1 car * \$108.65/mo * 12 mo	\$1,304	
Mileage fee	1 car * 1,000 mi per mo * \$.1254/mi * 12 mo	\$1,505	
Toll allowance	Estimated	\$75	
5 Overnight stays ^C	5* \$100/night	\$500	
Per diem (includes extended days)	(5 overnights + 5 extended days) * \$50/day	\$500	
Supplies			
Filing Supplies	folders, folder labels, year labels	\$500	
Contractual			
Trip Ticket 1 yr maintenance (Software support and upgrades)	\$450/mo fee * 12 mo	\$5,400	
Other			
Printing and binding of dealer report forms	500 logbooks * \$2.50 per logbook	\$1,250	
Postage for logbooks	Mail 500 logbooks * \$4.75 per logbook	\$2,375	
Postage for info packets and letters	(.49*1200 compliance letters)+(5.75*200 certified letters to delinquent dealers)	\$1,738	
Telecommunication charges ^D	4 phones * \$55/mo * 12 mo	\$2,640	
	Subtotal	\$17,787	
	Total Direct Costs	\$131,416	
	Indirect Costs (25%)	\$32,854	
	Total Award to DMR	\$164,270	

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 dealers how to electronically report to DMR and/or NMFS.
 D: One cell phone for each of the two specialists and one each for the two scientists working on the project.

FY 2016 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,392
Scientist III (50% time)	\$51,363
Scientist II (50% time)	\$44,599
Specialist II (75% time)	\$51,402
Office Associate I (15% time)	\$6,911

Office Associate II (100%)	\$61,438
<hr/>	
Total	\$232,105

Budget Narrative for FY2016 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Burk and the Office Associate I is Rebeca Barter. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees 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 Specialists are the employees who will be travelling. The travel is for visiting dealers for the purpose of installing reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software in order to submit their landings information.

The monthly fee for the seasonal 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 Chevy Cobalt car 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 dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialist I does not have an office phone, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 3 for the Negotiated Indirect Cost Agreement.

Cost Summary: FY15 Managing Mandatory Dealer Reporting in Maine			
Personnel^A		Calculation	Cost
1 Specialist I (Eileen Burk)		full time position for 12 months	\$42,382
1 Office Associate I (Currently Vacant)		full time position for 12 months	\$37,063
		Subtotal	\$79,445
Fringe Benefits^A			
1 Specialist I (Eileen Burk)		Includes health, dental, workers comp, FICA, life insurance and retirement	\$22,928
1 Office Associate I (Currently Vacant)		Includes health, dental, workers comp, FICA, life insurance and retirement	\$21,989
		Subtotal	\$44,917
		Total Personnel	\$124,362
Travel			
1 seasonal vehicle ^B		1 car * \$108.65/mo * 12 mo	\$1,304
Mileage fee		1 car * 1,000 mi per mo * \$.1525/mi * 12 mo	\$1,830
Toll allowance		Estimated	\$75
5 Overnight stays ^C		5* \$100/night	\$500
Per diem (includes extended days)		(5 overnights + 5 extended days) * \$50/day	\$500
Supplies			
Filing Supplies		folders, folder labels, year labels	\$500
Contractual			
Trip Ticket 1 yr maintenance (Software support and upgrades)		\$350/mo fee * 12 mo	\$4,200
Other			
Printing and binding of dealer report forms		500 logbooks * \$2.50 per logbook	\$1,250
Postage for logbooks		Mail 500 logbooks * \$4.75 per logbook	\$2,375
Postage for info packets and letters		(.48*680 compliance letters)+(.48*680 letters explaining compliance enforcement)+(5.75*200 certified letters to delinquent dealers)	\$1,803
Telecommunication charges ^D		4 phones * \$50/mo * 12 mo	\$2,400
		Subtotal	\$16,737
Total Direct Costs			\$141,099
Indirect Costs (25%)			\$35,275
Total Award to DMR			\$176,373
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 dealers how to electronically report to DMR and/or NMFS.			
D: One cell phone for each of the two specialists and one each for the two scientists working on the project.			

FY 2015 Partner Contribution – For ACCSP Purposes

Scientist IV (15% time)	\$16,240
Scientist III (50% time)	\$47,597
Scientist I (50% time)	\$42,565
Specialist II (75% time)	\$48,937
Office Associate I (15% time)	\$9,240
Office Associate II (100%)	\$60,591

Budget Narrative for FY2015 proposal:

Personnel and Fringe Benefits: The Specialist I named in the grant is Eileen Burk and the Office Associate I position is currently vacant and open for recruitment. These positions are funded full time (100%) by this award and they are Department of Marine Resources' employees. Salaries and benefits for these employees 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 Specialists are the employees who will be travelling. The travel is for visiting dealers for the purpose of installing reporting software, training dealer staff how to electronically report or troubleshooting reporting problems. Staff provides dealers with one-on-one training on these reporting systems and helps troubleshoot electronic reporting problems. Travel occurs throughout the coast of Maine, although trips to the interior are not unusual if the dealer headquarters is located inland. These dealers must be trained in the use of electronic reporting and in some cases given reporting software in order to submit their landings information.

The monthly fee for the **seasonal** 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 Chevy Cobalt car 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 dealer appointments to these remote areas are made for the same day, or appointments are made for consecutive days, overnight travel may be necessary.

Supplies: Filing supplies are needed each year. The MEDMR does not require paper dealers to use the supplied bound logbook. Many of our paper dealers download the electronic version of their form from our website. We do accept forms via email, fax or U.S. mail. The bound logbook includes a carbon copy that dealers use for their records, or to resend should the original gets lost in the mail. Many dealers like this carbon copy feature, which is one of the main reasons why we choose to continue to purchase these bound logbooks.

Contract: The Trip Ticket reporting software is custom-made software only available from Bluefin Data LLC and was purchased in a previous grant. This is the only vendor that can provide the software support and maintenance and this is the only outside vendor providing these services to ACCSP and NMFS as well as MEDMR. In this grant segment, this award will pay for a maintenance contract for Bluefin Data LLC to provide backup support, to be available for troubleshooting software problems and provide program upgrades as needed. This program is essential, as seafood dealers in Maine use the software to comply with MEDMR regulations. The information is used by MEDMR, National Marine Fisheries Service and other state agencies for fisheries management.

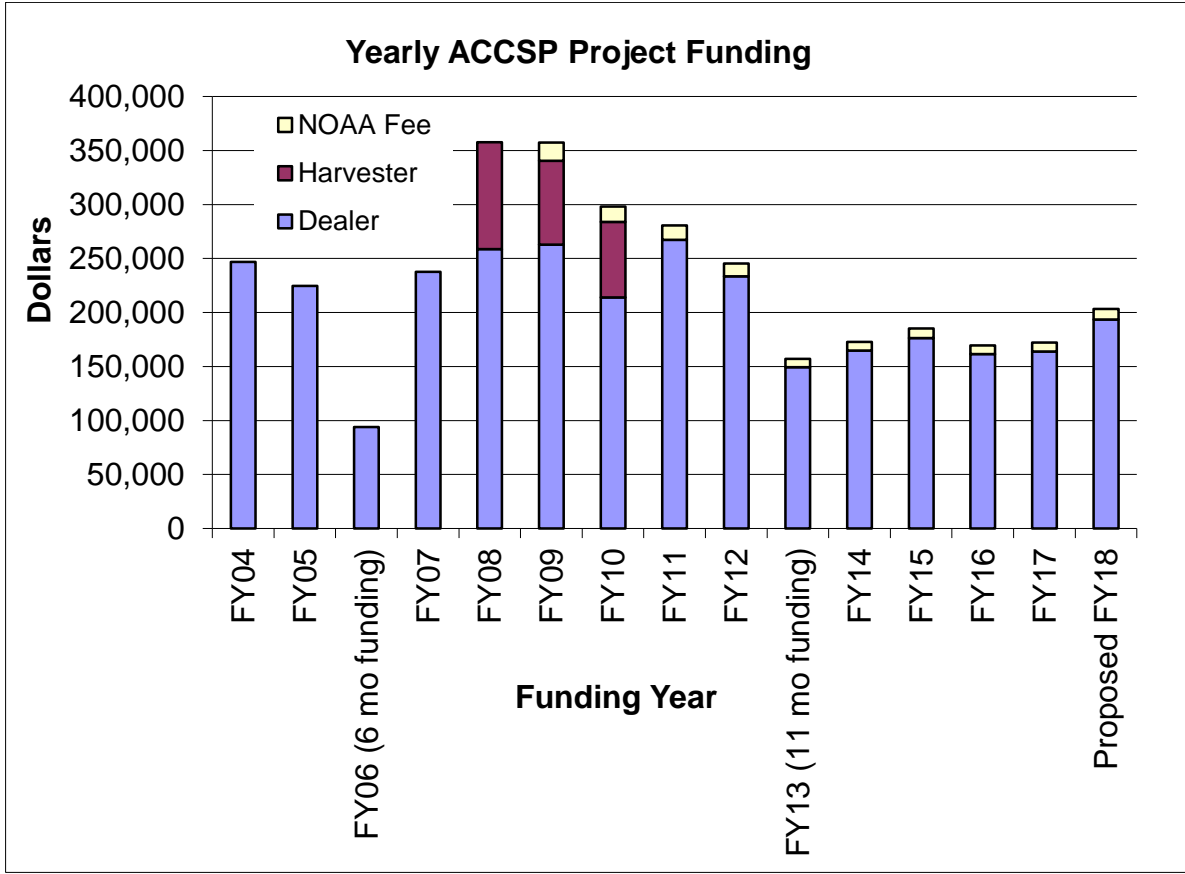
Other: Cell phones for the Specialists and the Scientists are necessary for communication and safety when on travel to dealer locations. The Scientist positions are not mentioned in the personnel costs because the positions are paid for with state money (not grant money), although staff members travel while working on this grant award. Staff often needs to call NMFS or Bluefin Data LLC when installing software or troubleshooting reporting issues at the dealer locations. The Specialists do not have office phones, so the cell phones also serve as the only phone through which dealers can contact them with questions.

Dealer reporting logbooks are printed every year and distributed to those who opt to report on paper. Some dealers use many logbooks per year, depending on the logbook type they choose and the number of harvesters with which they do business.

Attachment 1: Project History

Fund Year	Title	Cost	Extension through	Actual dates funding covered	Results
2004	Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	246,965	Apr-06	Jul 2004-Apr 2006 (extension required when Ops Committee asked MEDMR not to hire Office Associate I with this grant and salary savings when Specialist I quit)	Established Reporting Advisory Committee; drafted trip level reporting regulation; extensive outreach with industry including 10 state-wide meetings and 11 industry-specific meeting; worked with SCBI to develop and deploy "Trip Ticket" to state dealers; 1174 dealer visits; recruited dealers to report voluntarily; defeated a legislative bill to stop MEDMR's reporting program; see Completion Report for more info.
2005	Continuation of Implementation of a Mandatory Dealer Reporting System for Maine Commercial Landings According to ACCSP Standards	224,749	Jun-07	May 2006-Jun 2007 (extension required because FY04 was extended and a Specialist I was promoted in MEDMR, leaving vacant position for a number of months)	Worked with ACCSP to make SAFIS usable for Maine state dealers; began file uploading voluntary dealer data; began collecting voluntary paper trip tickets; 380 dealer visits; 67 dealers actively reporting; worked to modify report options in "Trip Ticket" software to benefit dealers; began phasing out duplicative reporting by dealers; passed comprehensive trip level reporting regulation for all dealers in June 2007 which will give momentum to project.
2006	Interim Support for Mandatory Dealer Reporting in Maine	94,093	Dec-07	Jun 2007-Dec 2007	Worked to get remaining 404 dealers set up with a trip level reporting method. Notified dealers to begin reporting trip level data as of Jan 1, 2008. Began uploading harvester license & vessel data weekly to SAFIS.
2007	FY07 – Mandatory Dealer Reporting for Maine Commercial Landings	237,548	8-Oct	Jan 2008 -Oct 2008	Began enforcing trip level reporting; begin audit dealer data; began monthly compliance calls to delinquent dealers; encouraged more electronic reporting; staff entering paper data from 433 dealers and uploading electronic data from 58 dealers.
2008	FY08- Managing Mandatory Dealer and Harvester Reporting in Maine	357,574	9-Oct	Nov 2008-Sept 2009	Complete 1 st year of mandatory dealer reporting regulation; enter, audit and transmit data to ACCSP; year 1 of 10% lobster and dogfish harvester reporting; begin to implement scallop harvester reporting.
2009	FY09 – Managing Mandatory Dealer and Harvester Reporting in Maine	357,415	10-Nov	Oct 2009-Sept 2010	Complete 2 nd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 2 of 10% lobster and dogfish harvester reporting; year 2 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2010	FY10- Managing Mandatory Dealer and Harvester Reporting in Maine	298,129	11-Nov	Oct 2010-Oct 2011	Complete 3 rd year of mandatory dealer reporting; enter, audit and transmit data to ACCSP; year 3 of 10% lobster and dogfish harvester reporting; year 3 of scallop harvester reporting. Enter, audit and transmit data to ACCSP.
2011	FY11- Managing Mandatory Dealer Reporting in Maine	280,605	12-Nov	Aug 2011 – July 2012	Complete 4 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Work on more audits, including dealer data vs. harvester data submitted.
2012	FY12 – Managing Mandatory Dealer Reporting in Maine	245,303	13-Nov	Aug 2012-July 2013	Complete 5 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted.
2013	FY13- Managing Mandatory Dealer Reporting in Maine	156,966	14-Oct	Aug 2013-June 2014	Complete 6 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Expanding audits, including dealer data vs. harvester data submitted for different fisheries.
2014	FY14- Managing Mandatory Dealer Reporting in Maine	164,663		July 2014 – Sep 2015	Complete 7 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for elver dealers.
2015	FY15- Managing Mandatory Dealer Reporting in Maine	176,373		Oct 2015 – Sep 2016	Complete 8 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and help develop new swipe card program for multiple fisheries.
2016	FY16- Managing Mandatory Dealer Reporting in Maine	161,558		Oct 2016 – Sep 2017	Complete 9 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and implement new swipe card program for sea urchin dealers.
2017	FY17- Managing Mandatory Dealer Reporting in Maine	161,001		Oct 2016 – Sep 2017	Complete 10 th year of mandatory dealer reporting; enter, audit and transmit data to ACCSP. Enforce timely reporting with license suspension and continue swipe card reporting for sea urchin and elver dealers.

Attachment 2: Yearly Breakdown of ACCSP Funding



Attachment 3: Negotiated Indirect Cost Agreement

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 February 7, 2017 to establish indirect cost billing rates for July 1, 2016 through June 30, 2017 are allowable in accordance with the requirements of the federal awards to which they apply and OMB Circular 87, "Cost Principles for State, Local, and Indian Tribal Governments". 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 36.16%, 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, 2015 thru June 30, 2016 to obtain a federal indirect cost billing rate for fiscal year beginning July 1, 2016.

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.

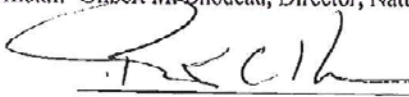
Organization Name: State of Maine, Department of Marine Resources

CFO Signature:

 Date: 2/14/17

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

Dept Head Signature:

 Date: 2/14/17

Name/Title Authorized Official: Patrick Kelihher, Commissioner



Department of Marine Resources

INTEROFFICE MEMORANDUM

TO: FILE
FROM: PATRICK KELIHER, COMMISSIONER
SUBJECT: RATE USED FOR COST ALLOCATION
DATE: 5/30/17

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 2017 ending June 30, 2017. The indirect cost rate proposal is 36.16%. I am authorizing the use of the lesser rate of 30% to be used during this period.

ACCSP
FY18 Managing Mandatory Dealer Reporting in Maine
\$193,516
(October 1, 2018 – September 30, 2019)

A handwritten signature in black ink, appearing to read "P. Keliher". The signature is written over a horizontal line.

Patrick Keliher, Commissioner

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

Primary Program Priority and Percentage of Effort to ACCSP modules:

Catch and Effort (10 points): 100% of licensed dealers must report trip level information on 100% species they purchase from harvesters.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS on a daily basis. All data reported on paper reports are 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 elver swipe card/mobile app reporting project. MEDMR contracted to have a mobile app built for dealers to use in conjunction with swipe card technology, and rolled it out to industry for use for the 2014 season. MEDMR is paying for all start-up costs associated with this project, but will share findings with ACCSP.

Funding transition plan (4 Points): through MEDMR's recent reorganization, the cost of one of the positions was absorbed by state and MEDMR is no longer asking for funding for salary and benefits. MEDMR also funds the new Office Associate II that is responsible for license suspensions for those who fail to report, and all costs associated with that additional position. MEDMR paid for the development of a "limited species" version of the Trip Ticket software and a mobile app that will be used in conjunction with harvester swipe cards for elver dealers to report with swipe card technology. MEDMR will pay for the ongoing monthly maintenance fee associated with this program. Currently, the MEDMR does not have any plans to require electronic reporting for all fisheries. Geographical restrictions prevent all dealers from having reliable high-speed internet access at this time.

In-kind Contribution (4 Points): the partner contribution is listed on page 12.

Improvement in Data Quality/Timeliness (4 Points): MEDMR is able to audit data at a more detailed level, including checking dealer reported data against harvester reported data. MEDMR encourages reporting timeliness through outreach with dealers and is working with Marine Patrol to ensure industry understands the importance of submitting accurate and timely information. The Maine State Legislature also passed a new law that authorizes license suspensions for those who fail to report on time which will improve the timeliness and quality of the data submitted. MEDMR mandated electronic reporting through a swipe card system for the elver fishery starting with the 2014 season and in 2015 started requiring dealer to dealer transactions. In 2016 MEDMR required sea urchin dealers to report through swipe cards, which improved timeliness and data quality.

Potential secondary module as a by-product (in program priority order) (0-4 points): This project has led to the development of swipe card reporting which has proven to be a great data collection tool. This project helped develop eDR mobile which was used to successfully collect timely data and change how the MEDMR manages a fishery.

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 (5 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Merit (5 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.

Maintenance Project Special Ranking:

Project Goals (3 points): The MEDMR has always achieved the goals they have outlined in their proposals. Current goals for this grant cycle have been clearly outlined and how MEDMR intends to achieve have been discussed within this proposal.

Data Delivery Plan (2 Points): All electronic data are submitted into SAFIS on a daily basis. All data reported on paper reports are 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): The MEDMR are asking for more than in previous years because of staffing costs (contractually obligated raises and benefit increases), indirect cost increases and other items increase in cost. With these cost increase, the MEDMR still has a larger in-kind contribution than what is being asked for in this grant proposal.

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

June, 2017

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.
- Maintains dealer and harvester auditing databases.
- Oversees Maine's Interactive Voice Response (IVR) reporting program.
- Oversees Maine's Environmental Monitoring Program.
- Serves as key contact for Maine commercial landings information.
- Promotes Maine's partnership with Atlantic Coastal Cooperative Statistical Program (ACCSP), serving on the Commercial Technical Committee, Information Systems Technical 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.

Lessie White Jr.
Maine Department of Marine Resources
(207) 633-9412
lessie.l.white@maine.gov

June, 2017

PROFILE:

- Knowledge of tracking systems and applications to retrieve fishing intensity.
- Knowledge of and working relationship with many fishing industries in Maine.

EDUCATION:

M.S. Marine Biology, University of Maine/Orono Campus, Orono, ME 2000

B.S. Marine Science/Biology, Long Island University/Southampton Campus, Southampton, NY 1997

EMPLOYMENT EXPERIENCE:

Jul 2016 – Present **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.

Jul 2000 – Jul 2016 **Marine Resource Scientist I**
Maine Department of Marine Resources
West Boothbay Harbor, ME

- Implemented the RockSeven tracker project; Tracked boats using GPS trackers to determine fishing activity; Worked with Rock Seven to develop application to show fishing intensity at different speed ranges; Managed the funds;
- Participated in Locus Traxx project; Tracked boats using GPS trackers to determine daily movement and fishing activity; Checked for daily trip reports of fishing activity; Called fishermen to confirm fishing activity; Constructed a spreadsheet to show the performance of the on board reporting system.
- Responsible for implementation of the sea urchin and shrimp port sampling programs; Coordinating sampling schedule; Supervised employee during winter months; Conduct interviews; Collect samples; Process samples in the field and in the lab; Run data quality checks; Maintaining sampling gear; Train other scientists in urchin and shrimp procedures for working up sample; Data analysis on Maine, Massachusetts and New Hampshire’s shrimp data; Participate in the stock assessment for shrimp.

- Participated in scallop, quahog and sea cucumber port sampling program; Sample catches at the docks; Interview the vessel captains for fishing and effort information; Process samples.
- Participated in a Fishing Gear Technology Working Group trying to look at all gear technology advancements for all fisheries; my primary focus was shrimp and lobsters.
- Participated in a Trawl Gear Workshop entitled “Working Together to Improve Fishing Technology”. This workshop looked at different ways to improve otter trawl selectivity through technological advances in materials and trawl designs.
- Participated in Bycatch in Northeast Fisheries: Moving Forward Workshop, where I participated at observing the roadblocks facing researchers and fishermen in trying to get new gear technology into fisheries management.
- Was responsible for shrimp logbook program; Distributing logbook forms; Developing a database to track compliance; Direct contact with fishermen to obtain correct entries; Answer any question the fishermen may have related to the logbook program.
- Participate in lobster sea sampling and ventless survey trips; Measure carapace length; Determine sex; Determine cull code; Determine V notch code; Determine egg classification code; Determine molt; Determine shell disease prevalence; Interviewing the vessel captains for fishing and effort information; Enter data into database.
- Participate in the summer shrimp trawl survey as lead shrimp biologist to assess the status of the stock; Train other scientists in shrimp identification, sex and stage identification, and procedures for working up samples; Work on a limited basis with FSCS (Fisheries Scientific Computing System).
- Implemented whiting gear research; supervised two contract positions; Observed and sorted the catch; Processed catch; analyzed data.
- Acted as DMR liaison and lead scientist on the NEC New Generation Trawl groundfish gear project. This included supervising four contract positions and two observer positions, overseeing data collection, collecting data, data entry, data checking, data analysis and writing the final report.
- Implemented the shrimp combination grate and cod end research; Sorted, identified, and measured the catches; Data analysis; Partial report writing; used underwater camera to video shrimp grate in action. Supervised one contract position.
- Participated as a member of the New England Fishery Management Council’s Plan Development Team for deep-sea red crabs; Assisting in the initial development of a Fishery Management Plan for deep-sea red crabs.
- Participated as an observer in the experimental Atlantic halibut fishery; conducted a literature search on the tagging methods in the halibut fishery.
- Implemented a green crab trapping experiment looking at catchability, retention and cost of five different traps; Looked at converting current gear with the least amount of effort and cost; Set up sampling schedule and area; obtained the equipment; ran the experiments; partial data analysis.

Oct 1997 – Dec 2000

**Graduate Student Research
University of Maine/Orono Campus
Orono, ME**

- Graduate research project on cod energetics; Ran a small closed water aquaculture system; Raised larval and juvenile cod; Raised live food for larval cod; Conducted water quality tests; Gave presentations; Analyzed data; Did minor repairs and cleaned system; Gave tours.

Erin L. Summers
Maine Department of Marine Resources
(207) 633-9556
erin.l.summers@maine.gov

June, 2017

Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: **Marine Resource Scientist IV**
 Maine Department of Marine Resources
 West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagics group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: **Marine Resource Scientist II**
 Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: **Adjunct Faculty**
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: **Marine Mammal Research Specialist**
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking baskings sharks off the coast of New England

Sept 2002 – Feb 2004: **Research Technician**
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: **Laboratory Technician**
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work



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

PAUL R. LEPAGE
GOVERNOR

PATRICK C. KELIHER
COMMISSIONER

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

August 10, 2017

We are pleased to submit the revised proposal entitled **“Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries”**

This is a maintenance proposal which has not changed its scope from the previously funded project in 2017. The top priority is the biological sampling of the Atlantic herring commercial fishery because the information derived has critical value that shows the health of the east coast herring meta population.

We have addressed all the general comments (below). Changes from the original proposal are highlighted in yellow as directed. In addition, specific comments were made (below). Our responses to these comments are also included.

Dr. Matthew Cieri and Erin Summers

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland Street, Suite 200A-N
Arlington, VA 22201

Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Total Cost: \$25,974

Submitted by:

Dr. Matthew. Cieri
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
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(207) 633-9520

Erin L. Summers
Maine Department of Marine Resources
P.O. Box 8, McKown Point Road
West Boothbay Harbor, ME 04575
Erin.L.Summers@maine.gov
(207) 633-9556

General comments that should be reviewed by all Principal Investigators (some may apply and some may not)

- Please review the [2018 Funding Decision Document](#) (please outline using the ranking criteria, especially if a transition plan is needed) to make certain that all guidelines have been followed.
- **Done**
- Do not calculate the 5% overhead for NOAA (i.e., if you have included this in your proposal, remove it).
- **Done**
- Make certain to explicitly label the percentage amount the project covers for each module (e.g., *This project aims to cover the catch and effort (45%), biological (30%) and bycatch (25%) modules*).
- **Done**
- For all proposals seeking funds for the catch and effort modules, if you haven't done so
 - Identify a timeline or process by which you expect to implement regulations mandating electronic reporting for all and
 - If this is not happening what is preventing those requirements? (This would be appropriate under funding transition plan.)
- **NA**
- Indicate (bold, underline, within the text, etc) where your proposal hits various ranking criteria. This is especially important for new projects to note.
- **Done**
- Highlight all changes from initial proposals.
- **Done**
- For all maintenance proposal submissions, clearly, identify any changes made to the scope of work since the most recent accepted proposal submission.
- **NA**
- Please include a narrative of the budget
 - If it is a maintenance proposal, please also include the budget from the most recent accepted proposal submission following the current year's proposed budget.
- **Done**
- Please provide a summarized ranking criteria.
- **Done**
- For new proposals, make sure there is a funding transition plan if one is not already included.
- **NA**
- Some proposals indicated start dates in early 2018. The Principal Investigators (PIs) should be aware that funds may not be available that early in 2018.
- **NA**
- Keep all curriculum vitae to a 2-page maximum.
- **Done**
- Be diligent in properly preparing and proofreading your proposal (i.e., making certain there are no typographical errors, pages are numbered, and no language is simply carried over from a previously submitted proposal or an example proposal).
- **Done**
- Spell out all acronyms the first time they are used.
- **Done**

- For all maintenance proposals funded from 2016, we'd appreciate if your project reports have not been sent to ACCSP, please email them to elizabeth.wyatt@accsp.org by **August 28, 2017**.
- **NA**
- FY16 end of the year report files
- For all proposal submissions that collect age structures (otoliths and/or live tissue) or other samples,
 - Clarify what processing techniques (how they are to be processed and by whom) are lined up for the future. ACCSP requests that you be specific as possible. It may be understood that you are requesting funds for the collection, but ACCSP is more likely to fund projects with details planned out for the future clearly outlined.
 - In particular, for all maintenance proposals that include ageing structures, please include a review of the status of samples collected from the most recent accepted proposal submission. A statement of intent from the organization overseeing the processing of the samples would also be recommended.
- **Done**
- Please ensure to include a data delivery plan AND the metrics you plan to use. This is a new component to the FY18 Funding Decision Document.
- **Done**

“Portside Commercial Catch Sampling and Comparative Bycatch Sampling for Atlantic Herring, Atlantic Mackerel and Atlantic Menhaden Fisheries”

Maine Department of Marine Fisheries

- There is no proposed sampling for menhaden, why is it in the title?
- **Have added verbiage for clarity and have highlighted where menhaden sampling and bycatch sampling were included. Please see highlighted sections**
- Pg 5: Continued bycatch sampling, 1st paragraph indicated an issue with lot sampling, 2nd paragraph talks about a new method of lot sampling. Please clarify the difference.
- **Have added text for clarity**
- The 2016 landing information has not been updated.
- **Done**
- Please be sure to review all general comments as well.
- **Done**

Applicant Name: Maine Department of Marine Resources (MEDMR)

Principal Investigator: Matthew Cieri, Marine Resource Scientist

Project Title: Portside commercial catch sampling and bycatch sampling for Atlantic herring (*Clupea harengus*), Atlantic mackerel (*Scomber scombrus*), and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Project Type: Maintenance Project

Requested Award Period: One year after receipt of funds

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the previously funded project in 2017. The overall cost is slightly higher than the FY17 final award amount due to a change in the overhead rate.

Objectives:

To maintain and expand the biological sampling of primarily the Atlantic herring commercial fishery including Atlantic menhaden and mackerel and other incidentally retained species of interest.

A secondary objective is to continue the portside bycatch sampling for trips targeting Atlantic herring.

Need:

Each of the species involved in this study has been declared not overfished and not subject to overfishing. However, each of these principle pelagic fisheries has recently become the focus of management action because of their status as forage species and because of potential bycatch problems associated with the directed fishery. In particular, Atlantic herring and Atlantic menhaden have been the focus of the emerging trend towards ecosystem management. Additionally, the commercial catch sampling portion of this project covers four important species listed in ACCSP FY 2017 Biological Sampling Priority Matrix; River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*)

Atlantic herring (*Clupea harengus*), Atlantic menhaden (*Brevoortia tyrannus*) and Atlantic mackerel (*Scomber scombrus*) are three of the most ecologically and economically important fish species in the western Atlantic. All three are high volume, low value species utilized for bait, reduction, or human consumption. The three species are oceanic plankton-feeding fish that occur in large schools, inhabiting coastal and continental shelf waters from Labrador to Florida. With an estimated complex-wide biomass of 1.8 million metric tons (mt) of herring, 1+ million mt of mackerel, and 2.5+ million mt of menhaden, these species provide a significant forage base for other fish species, marine mammals, and birds. Additionally, they support the first, second and third largest commercial fisheries on the east coast in terms of volume. Atlantic herring landings in 2016 (the last year that NMFS data was available) were reported at approximately 65,000 mt with an estimated value in excess of \$37 million. In addition to the direct economic contribution of herring landings, this fishery supports a domestic value-added industry worth approximately \$65 million and the North Atlantic lobster fishery estimated at over \$500

million. Atlantic mackerel landings in 2016 were reported at approximately 5,300 mt with an estimated value in excess of \$4 million. The domestic value added industry (frozen whole fish) for mackerel, based in Cape May, NJ, and Fall River, New Bedford and Gloucester, MA, is estimated at \$20 million. The Atlantic menhaden 2016 catch was ~180,000 mt valued at ~\$50 million. Generally 25-30% of all menhaden are landed for bait

This study will continue the biological commercial catch sampling of Atlantic herring, Atlantic mackerel, and Atlantic menhaden. Additionally, other species of interest, such as dogfish, both river herring species, and shad will be sampled as they are routinely encountered in this study.

This proposal will also continue to survey bycatch during trips targeting Atlantic herring using the protocols developed over the last decade of sampling.

Approximately seventy percent (70%) of project resources are needed to carry out the first and prime objective (or module) of the concurrent sampling portion of the project while thirty percent (30%) of resources are needed for the bycatch module.

Commercial catch sampling of Atlantic herring, Atlantic mackerel and Atlantic menhaden

MEDMR has collected and processed Atlantic herring commercial catch samples since 1960. A significant focus of this proposal is a continuation of the commercial catch sampling program for Atlantic herring along the east coast. MEDMR maintains primary responsibility for fishery dependent sampling of the east coast Atlantic herring fishery. Duties include, processing biological samples, compiling catch data, and constructing the catch at age matrix for the age structured model. Currently, staffing and financial limitations prevent MEDMR from providing adequate commercial catch sampling coverage without ACCSP support. Furthermore, NMFS has reduced port agents and other staff, such that biological sampling of herring has become a lower priority. In an effort to improve the commercial catch sampling program, MEDMR has supported a dedicated northeast herring sampler.

The Atlantic herring fishery has recently undergone significant management changes as a result of federal and state action. Recent implementation of River herring and Shad bycatch quotas will dramatically change fleet behavior, which in turn may alter size and location of where fish are caught. Also, a recent update to the Atlantic herring assessment has revealed the re-immersion of a retrospective pattern. Such a pattern for Atlantic herring tends to overestimate spawning stock biomass and under estimate fishing mortality in the terminal year. While changes to selectivity and natural mortality may be the cause of this pattern, age discrepancies between fishery dependent and commercial catch sampling may also play a role. As such continued commercial catch sampling will be vital in potential resolution of this issue

Without ACCSP support, samples would not be collected or aged, resulting in no catch-at-age information for the assessment. Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species, and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are currently adequately sampled and are not scored by ACCSP. Given the most recent management changes, changes in the most recent stock assessment, ongoing litigation, and the importance to both state and federal partners, Atlantic herring would have scored very high in the process had it been part of the scoring.

Although ACCSP has not identified Atlantic mackerel as a priority, commercial catch sampling should be important given recent changes to the Squid, Mackerel, and Butterfish Plan as implemented by the Mid-Atlantic Council. Like Atlantic herring, fleet behavior may change markedly, as a result of bycatch quotas recently implemented for River herring. Traditionally the commercial mackerel catch was sampled by NMFS; however, due to the closure of port offices and limited personnel, current mackerel sampling is limited. With the existing and predicted growth in the domestic mackerel harvest, additional sampling is necessary to adequately cover the fishery.

Recently (since 2016) Atlantic menhaden have been increasing in numbers in Maine state waters. As a result of this, and a lack of herring being landed from Georges Bank, Maine landings have increased for this important baitfish. Because of this, Maine has increased its biological sampling program for this species to both fulfill ASMFC sampling objectives and to provide valuable fishery dependent data for the stock assessment.

Continued commercial catch sampling has been put forth as an imperative research need in the most recent menhaden assessment. Further importance has been placed on increased commercial catch sampling in the northern portions of the stock's range and in the bait fishery in general. This is particularly important as the menhaden assessment team analyzes the possibility of a dome, rather than the existing logistic function in selectivity for the northern bait fishery.

Because the Atlantic herring, Mackerel, and Menhaden fisheries encounter bycatch, this project also samples all species encountered during either the bycatch or commercial catch sampling modules. In particular, four species River herring (*Alosa sp.*), Atlantic menhaden (*Brevoortia tyrannus*), Spiny dogfish (*Squalus acanthias*), and Shad (*Alosa sapidissima*), are routinely encountered and samples for length, weight, and otolith/scales are forwarded to other institutions for age analysis. These four species represent 20% of the top quartile of ACCSP's FY 2016 Biological Sampling Priority Matrix.

Continued bycatch sampling

During at-sea operations NMFS observers use basket sampling to document occurrence of other species during targeted Atlantic herring and mackerel trips. These non-target species are then included in the data as retained or "Kept" (http://www.nefsc.noaa.gov/fsb/manuals/2013/NEFSC_Observer_Program_Manual.pdf). Normally, ten 50 lb. basket sub-samples are taken at regular intervals during the pumping process from net to hold. These samples are then checked for bycatch and the results expanded. Because the Atlantic herring fishery is a high volume fishery much of the bycatch is retained during the pumping process, particularly for co-occurring pelagic species such as river herring.

Until the spring of 2011 MEDMR port sampling procedure measured bycatch using a "lot" (~40,000 lbs) approach. Lot sampling involves looking intensively at a portion of a vessel's landings, and then extrapolating those results to the entire offload. This sort of sampling contrasts that done by NMFS and MADMF, which takes regularly spaced basket subsamples during pumping.

Analysis of more than ten years (2005-2014) of both portside and at sea bycatch data and results from the DMR, DMF and NMFS databases revealed that "lot" sampling, as MEDMR had been

conducting it, was not useful when comparing the portside and at-sea programs. The reasoning behind this stems from variability of catch composition in vessels with multiple fish holds. Fish being partitioned into separate holds may be from the same, different, or a mixture of multiple tows or sets. While lot sampling has provided valuable spatial and temporal insights to bycatch distribution and frequency, it is unable to resolve variability between vessel holds. Sampling entire vessel offloads allows that variability to be reflected in the data.

In an attempt to more closely align our data with both the at-sea observer data and DMF portside data, we (DMR) have moved away from the practice of “lot” sampling in 2011 and instead now use a protocol similar to DMF and NMFS.

In 2012 MEDMR, with ACCSP funding, implemented concurrent sampling of Atlantic herring trips portside that had also been sampled by at sea observers. After 4 years, MEDMR had the required number of trips, by gear, area season, and year, to analyze the data and statistically determine if portside and at-sea sampling give similar results. Further analysis will be provided in the FY2016 completion report, but preliminary analysis suggests that since institution of lot sampling by MEDMR, results between portside and at-sea sampling are statistically similar for small bodied species in high volume fisheries.

Given the encouraging, but preliminary results, MEDMR is now proposing to use this newly revamped protocol and during routine portside bycatch monitoring of the Atlantic herring fishery. DMR’s efforts, coupled with ongoing work by MA DMF and the NEFOPS program will help to increase sample sizes for determining bycatch amounts in the Atlantic herring fishery. While neither MEDMR or MA DMF portside programs are used to monitor bycatch quotas for haddock or River herring, data from both programs were used to set the River herring quotas by gear type (<http://s3.amazonaws.com/nefmc.org/160301-2016-2018-Herring-Specs-Formal-Submission.pdf>)

Results and Benefits:

Commercial catch sampling

This program collects all the Atlantic herring directed samples from the U.S East coast fishery and a portion of all the collected mackerel and menhaden samples use in assessments of the stocks and management of the fisheries. Regarding the need for the work as stated above, if this project was not funded there are currently no other resources that would or could be shifted to collect samples of Atlantic herring, Atlantic mackerel, or Atlantic menhaden. There are also limited resources to perform Atlantic herring, Atlantic mackerel, or Atlantic menhaden bycatch studies. The catch at age analysis for all three species would lack coverage for the full range of the fishery without this project.

Annually collected samples of Atlantic herring from the commercial fishery provide the cohort catch at age data for the SARC’s periodic assessment of the herring population and are used to predict and define the ASMFC’s (Atlantic States Marine Fisheries Commission) rolling spawning area closures and give evidence of overall health of the Coastal Stock Complex. All Atlantic herring sample data is uploaded to the ACCSP data warehouse. Commercial catch sampling can also provide insight into the biological and management processes that drive the stock and fishery. Recently an analysis was performed to examine changes in length at spawning for Atlantic herring. Results were presented to the ASMFC Atlantic Herring Section that is in the process of finalizing spawning relationship changes to account for a decrease in herring length at full maturation.

Maine DMR processes all commercial catch herring samples for the east coast fishery. DMR maintains a lab facility with the equipment and staffing necessary for processing more than 200 commercial herring samples a year. In addition, DMR provides staff oversight of the field sampling program and scientific analysis of the data generated from the program which is then fed directly into the assessment. Without the ACCSP funded program, samples would not be collected or aged, resulting in no catch-at-age information to inform the assessment. As such, Atlantic herring would move from an age-structured stock assessment to one developed for data-poor species, and would be categorized as a data-poor species in need of sampling. Because ACCSP has funded this project, however, Atlantic herring are currently adequately sampled and are not scored by ACCSP.

In addition to sampling Atlantic herring and mackerel for the purposes of developing catch-at-age matrices, this program has provided biological samples for multiple research projects. Herring have been collected for the Gulf of Maine Research Institute acoustics project, the NEFSC's (North East Fishery Science Center) morphometrics study, genetics studies, and most recently stomach and fat content samples have been provided to various organizations to examine the role of climate change in nutritional content of herring. The commercial catch samples also provide the basis for determining the start date for the three Atlantic States Marine Fisheries Commission herring spawning closure areas (two along the Maine coast and one along the NH/MA coast).

Atlantic menhaden were added as a sample species in 2010. Menhaden can be collected as bycatch during herring operations as well as from a growing purse seine directed fishery for lobster bait in the Northeast. While the bulk of this fishery occurs in the Mid-Atlantic, there is a growing interest in menhaden as a result of recent management changes in the Atlantic herring fishery. Bait landings of menhaden in Southern New England and the Mid-Atlantic have tripled in the past two years. Even more recently, Maine landings have risen sharply as the stock has entered state of Maine waters. Because menhaden stratify in latitude by age, a more complete sampling of the menhaden catch in the northern parts of its range may improve our understanding of the population dynamics of this important forage species.

The commercial catch sampling program funded historically by ACCSP has proven extremely successful and has provided important information to the fishery managers. The biological information on size, age, and maturation of herring feeds directly into the stock assessments for Atlantic herring, Atlantic mackerel, and Atlantic menhaden. ASMFC has routinely used the data collected from this project to implement management changes to herring spawning regulations, as well as to make other decisions with regards to allocation of quota among management areas.

Bycatch sampling

The data collected through the bycatch survey supplements the federal at-sea observer coverage program, as well as the MA DMF River Herring Avoidance Program, and has vastly increased the amount of information available on bycatch in the herring fishery. This project will maintain and expand an effective and scalable method for the long-term monitoring of bycatch in the Atlantic herring fishery. A portside bycatch sampling methodology has been developed and tested, and has demonstrated the ability to observe high volumes of landed herring catch. Portside efforts will complement but not replace the NMFS at-sea observer coverage. This proposed bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way.

Beyond the immediate benefit to the NMFS, MA DMF, and MEDMR bycatch sampling in this fishery, the proposed project may provide guidance to other bycatch sampling programs in other fisheries. More importantly DMR's proposed portside sampling will augment the MA DMF and NEFOP efforts allowing for better estimation of River herring, haddock, and potentially other species caught as bycatch in the directed Atlantic herring fishery

Review of Previous Results:

This proposal is a continuation of an ACCSP funded herring sampling and combined portside bycatch survey. The project has evolved over the past several years in order to maximize the use of funds. Project history is shown in Attachment 2 and explains the evolution of the project, including the transition to an emphasis on portside bycatch sampling in conjunction to biological sampling along with a review of project costs. The Project for FY 2016 has just ended so full analysis has yet to be completed, but the most recent semi-annual report is in Attachment 3.

Approach:

Commercial catch sampling of Atlantic herring, Atlantic mackerel and Atlantic menhaden

Commercial catch sampling will be conducted at herring and mackerel pumping and processing sites along the east coast. As a general rule commercial catch sampling occurs such that there is at least one sample per statistical area, per week, per gear type and generally meets NMFS protocols of one sample per 500 mt.

The samplers will follow the existing protocol developed for commercial catch sampling of Atlantic herring (Attachment 4). This protocol complies with the guidelines laid out by ACCSP. Sample will be processed and aged by in-house staff, primarily Lisa Pinkham. Samples are processed for length; weight, maturity, and aged according to NMFS protocols (please see www.nefsc.noaa.gov/publications/crd/crd0406/crd0406.pdf Page 22). This information is uploaded to the ACCSP warehouse and is used for the assessment of Atlantic herring.

The same vessels that harvest Atlantic herring primarily pursue Atlantic mackerel on the east coast. Traditionally, when markets are available the pelagic fishing fleet transfers some of their effort from herring to mackerel in the winter and early spring. The samplers funded by this grant can easily collect mackerel by keeping in touch with the herring vessels that enter the mackerel fishery. Most of the ports where significant mackerel landings occur overlap with major herring ports; this is largely due to the fact that herring processing facilities are also capable of freezing mackerel. Sampling will follow the existing NMFS protocol for mackerel and the guidelines established by ACCSP (Attachment 4).

Atlantic menhaden sampling

Support for port sampling for Atlantic menhaden (*Brevoortia tyrannus*) is also requested. Currently, there have been increased menhaden catches in the New England Area when compared to previous years, and this trend is expected to continue. National Marine Fisheries Service in Beaufort, North Carolina has requested commercial samples from the northern extent of this stock's range (north of Cape Cod). Such sampling of the "snapper rig bait fishery" (Northeast purse seine) is also listed as a priority research initiative in the most recent menhaden assessment. Such samples are critical to the assessment process for Atlantic menhaden and in accurately estimating the catch at age. During our normal sampling of the Atlantic herring bait fishery, we will collect Atlantic menhaden samples

primarily from purse seines using the protocols outlined by NMFS, Beaufort (Attachment 4) and forward scales and measurements for use in the next assessment. Sampling targets for menhaden could not be derived because of the exploratory nature of this sampling and the uncertainty in the effort placed on this stock north of Cape Cod; where our sampling effort will be directed.

Bycatch sampling

The herring industry has changed tremendously in the last five years resulting in a much more centralized distribution structure. Generally, the herring used for bait goes through a wholesale dealer to smaller dealers and lobster wharfs along the coast. The wholesale dealers have facilities where they sort, barrel, freeze and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study. Herring is also landed at larger centralized processing plants which may process for a food grade market for export or for direct sale into the regional bait market.

The sampling takes place at centralized processing plants and bait dealers. A goal of observing 2 trips per month January through May and one or two trip per week during the June-Oct time period (when the fishery is most active) is proposed. Trip selection will be hap hazard, with an overall goal of sampling multiple gears and management areas each month and to scale bycatch sampled trips with the activity of the fishery.

The samplers will quantify bycatch from individual off-loadings that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch will be recorded along with species identification, total species weight, individual lengths and weights of all fish or a representative sub-sample. The total estimated bycatch weight by species will then be compared to census sampling by MA DMF and/or at sea basket sampling conducted by NEFOP as appropriate.

Using existing MEDMR protocols (Attachment 5) and in close concert with NMFS observers and MA DMF portside samplers, staff will directly target trips that have been observed by either of those two programs. Where possible, and as practicable, staff will also conduct a full census of landed bycatch from full offloading events (trips) which have also been sampled at-sea; thereby allowing a direct analysis and validation of current at-sea bycatch monitoring methods. Particular emphasis will be placed on sampling those trips, using current MEDMR methods that had both NMFS and MA DMF bycatch sampling.

Once the data are collected, they will be housed and archived in a MEDMR relational database. Data requests and queries will be performed to assist in monitoring quotas, should the need arise, as well as to provide bycatch information to the NEFMC Plan Development Team, NMFS, and other interested parties.

Geographic Location and Temporal Distribution of Effort:

Sampling will occur in ports from Prospect Harbor, ME to Cape May, NJ, and reflect landings and effort from NC, through ME. Efforts will be coordinated with the NMFS NEFMC in Woods Hole, NMFS, Beaufort, NC, MA, MA DMF, NH F&G, and RI, DEM, and other state agencies throughout the range of the herring and mackerel fisheries. Staff will be based out of the MEDMR Boothbay Harbor lab facility. Because of herring and mackerel availability to the fishery, market conditions, and

other factors, it is difficult to pinpoint where the fleet maybe landing at any given time. Sampling will thus occur after direct contact with vessel captains and plant managers to identify were sampling should take place.

In general herring, biological and bycatch sampling is primarily conducted spring, summer, and fall, with some effort during winter months. Mackerel sampling occurs primarily in the winter months; and it's anticipated that menhaden sampling will occur in the late summer to early fall. Bycatch sampling and commercial sampling become more infrequent in the winter months, while travel to get to the landing sites increases. Report writing and data analysis occur between regular commercial and bycatch sampling.

Data Management:

Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through Quality Assurance/ Quality Control (QA/QC) routines to insure accurate reporting.

Metadata will be created with ArcCatalog in order to conform to the (Federal Geographic Data Committee (FGDC) standards and specifications. Created metadata will be available in text and XML formats.

Milestone Schedule:

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Catch Sampling-HERR	x	x	x	x	x	x	x	x	x	x	x	x
Catch Sampling-MACK	x	x	x	x	x							x
Bycatch Sampling-co-occurring NMFS	x	x	x	x	x	x	x	x	x	x	x	x
Analysis	x	x	x	x	x	x	x	x	x	x	x	x

* - Upon request, MEDMR will provide bycatch sampling data on a state by state basis three times a year.

Project Accomplishment Measurement

Commercial Catch Sampling

Atlantic herring

At Least 10% sampled trips by gear type and month

Atlantic mackerel

At Least 10% sampled trips by gear type and month

Bycatch Sampling

Atlantic herring

At least 40 trips sampled by area, gear type and quarter

FY 2018 Budget & Narrative

FY2018 Budget (State FY20)

7/1/18 - 6/30/19

Cost Summary: Portside bycatch sampling

<u>Personnel Services</u>	Description	ACCSP
No Personnel Services		
<u>All Other</u>		
Travel Expenses		
PROJECT VEHICLE 12 months	\$295/mo	\$ 3,600.00
Mileage fee	31000 @ \$.21/mi	\$ 6,510.00
Toll allowance		\$ 150.00
35 Overnight stays	\$102/night	\$ 3,570.00
Per diem (includes extended days)	\$50/day	\$ 2,750.00
		\$ 16,580.00
Office Supplies & Minor Equipment		
2 Cell Phones	2 @ \$50/month	\$ 1,200.00
1 air card	1 @ \$75/month	\$ 900.00
Sampling Gear		\$ 800.00
Lab Supplies		\$ 500.00
		\$ 3,400.00
Total Direct Costs		\$ 19,980.00
Indirect Costs (30%)		\$ 5,994.00
Award to DMR		\$ 25,974.00

Partner Contribution – For ACCSP Purposes

Scientist IV (10% time)	\$10,000
Scientist III (25% time)	\$15,000
Specialist II 100% time)	\$84,000
Specialist I (25%)	\$12,000
<u>Total</u>	<u>\$121,000</u>

Future Project Needs:

This project is designed to benefit all states from Maine to New Jersey, ASMFC and federal management agencies including the NEFMC and NMFS. While accessory funding is available for FY 18 to cover all personnel costs, MEDMR continues to pursue long-term and permanent funding for this project through a commitment made by the participating states and the federal government. Additionally, the New England Fishery Management Council is examining industry funded at-sea observer monitoring in herring and other fisheries. Part of the discussion has included the possibility of industry funding port-side monitoring. MEDMR is engaged in these discussions.

Budget Narrative:

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either the Specialist II (James Becker) or the Specialist I (Lisa Pinkham) as we have in past years. This represents shift in the project from mostly ACCSP funded, to mostly State funded.

Travel and vehicles

Travel is requested for 35 trips overnight. The exact number of trips will depend of fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. Current request reflects a recent policy change by Central Fleet to charging less per month, but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is requested for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pin point landing events.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, water proof paper, sample boxes, safety equipment, and other items

Indirect costs: The Department of Marine Resources has an indirect cost rate of 30%. See Attachment 6 for the Negotiated Indirect Cost Agreement. Note this is a 5% increase from FY2017

Attachment 1: FY 2017 Budget & Narrative

As proposed

Cost Summary: Portside bycatch sampling

Personnel Services	Description	ACCSP
 All Other		
Field Equipment		
PROJECT VEHICLE 12 months	295/mo	\$ 3,600
Mileage fee	31000 @ \$.21/mi	\$ 6,510
 Travel Expenses		
Toll allowance		\$ 150
35 Overnight stays	\$102/night	\$ 3,570
Per diem (includes extended days)	\$50/day	\$ 2,750
 Office Supplies & Minor Equipment^A		
2 Cell Phones	2 \$50/month	\$ 1,200
1 air card	1 \$75/month	\$ 900
Sampling Gear		\$ 800
Lab Supplies		\$ 500
	Subtotal	\$ 19,980
Total Direct Costs		\$ 19,980
Indirect Costs (25%)		\$ 4,995
Award to DMR		\$ 24,975

A: The state specifies that its employees have all IT expenses and support managed by the Office of Information Technology. Fees are non-negotiable.

Partner Contribution – For ACCSP Purposes

Scientist IV (20% time)	\$20,000
Scientist III (25% time)	\$15,000
Specialist II 100% time)	\$84,000
Specialist I (25%)	\$12,000
<u>Total</u>	<u>\$131,000</u>

Budget Narrative: 2017

Personnel and Fringe Benefits: Because of state funding resources, we are not requesting to fund either the Specialist II (James Becker) or the Specialist I (Lisa Pinkham) as we have in past years. This represents shift in the project from mostly ACCSP funded, to mostly State funded.

Travel and vehicles

Travel is requested for 35 trips overnight. The exact number of trips will depend of fleet activity and port of landing. A small utility 4x4 truck is proposed for safety reasons during winter sampling in remote locations, as well as to haul equipment from time to time. Central fleet for the State of Maine stipulates rates, and private rentals are prohibited by state policies. Current request reflects a recent policy change by Central Fleet to charging less per month, but increasing the mileage rate for trucks.

Office Supplies & Minor Equipment

Two cell phones and an “Air card” are requested. One cell phone is for the sampler to contact vessels and to coordinate with NEFOP and MA DMF personnel. A second phone is request for the supervisor to provide direction if needed and to allow for communication in case of an emergency. An air card is also requested which allows the user to connect to the State network from any location with cell phone coverage. Air cards allow for the efficient entry of data while waiting for vessels to land, along with allowing access to the VMS system to better pin point landing events.

Other Lab and Sampling supplies include baskets for sampling, scale calibration, rain gear, water proof paper, sample boxes, safety equipment, and other items

Indirect costs: The Department of Marine Resources has an indirect cost rate of 25%. See Attachment 6 for the Negotiated Indirect Cost Agreement.

Attachment 2: Project history

YEAR	TITLE	COST	Rational/Emphasis	RESULTS
2001	Commercial catch sampling of Atlantic herring	\$52,299	catch sampling, herring	expanded sampling of herring
2002	Commercial catch sampling of Atlantic herring	\$67,168	catch sampling, herring	herring and mackerel sampling
2003	Commercial catch sampling of Atlantic herring and other northeast fisheries	\$67,168	catch sampling, herring	herring, mackerel and halibut
2004	Commercial catch sampling and bycatch survey of the northeast Atlantic herring fishery	\$70,441	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2005	Commercial catch sampling and bycatch survey of two pelagic fisheries	\$69,949	catch sampling, herring and mackerel	herring, halibut, mackerel and pilot portside bycatch sampling
2006	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$104,633	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level and catch sampling
2007	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$108,891	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level
2008	Portside bycatch sampling and commercial catch sampling of the Atlantic herring and Atlantic mackerel fisheries	\$116,300	portside bycatch survey herring and mackerel catch sampling	herring and mackerel portside bycatch at 5% level

2009	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$105,985	portside bycatch survey herring menhaden and mackerel catch sampling	herring and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2010	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$84,451	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2011	Portside bycatch sampling and commercial catch sampling of the Atlantic herring, Atlantic mackerel, and Atlantic menhaden fisheries	\$174,778	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2012	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$0	portside bycatch survey herring menhaden and mackerel catch sampling	Funds were not requested because of previous cost saving measures; allowing for the continuation of the previous work with no added costs.
2013	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$113,774	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2014	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$130,599	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level
2015	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$136,306	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level. Final analysis Ongoing
2016	Portside commercial catch sampling and comparative bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$23,606	portside bycatch survey herring menhaden and mackerel catch sampling	herring menhaden and mackerel portside bycatch and commercial catch sampling and bycatch at 5% level. Final analysis Ongoing
2017	Portside commercial catch sampling and bycatch sampling for Atlantic herring (<i>Clupea harengus</i>), Atlantic mackerel (<i>Scomber scombrus</i>), and Atlantic Menhaden (<i>Brevoortia tyrannus</i>) fisheries	\$24,975	portside bycatch survey herring menhaden and mackerel catch sampling	Ongoing

Proposed ACCSP Ranking

Proposal Type: Maintenance

Primary Program Priority and Percentage of Effort to ACCSP modules:

Biological Sampling (8 Points): Although Atlantic herring is missing from the top quartile of the Biological Matrix a correct scoring would certainly adjust it to that level. The score would rise to the top of the matrix with the elimination of biological sampling.

Bycatch/Species Interaction (6 Points): Mid-Water trawl gear targeting Atlantic herring and mackerel is currently the most scrutinized for bycatch of river herring and groundfish. Amendment 5 of the Atlantic herring FMP is calling for added increase in bycatch monitoring.

Metadata (2 Points): will be created with ESRI ArcCatalog 10 in order to conform to the FGDC standards and specifications. Created metadata will be submitted to ACCSP in text and XML formats.

Project Quality Factors:

Regional Impact (5 Points): all partners will benefit, as the all data collected will be uploaded to ACCSP. Regional management organizations, such as ASMFC, will benefit from the biological and bycatch information from the proposed project.

Funding transition plan (4 Points): MEDMR will continue to seek alternative sources of funding in order to further transition from ACCSP grant money.

In-kind Contribution (4 Points): the partner contribution is listed below the budget.

Improvement in Data Quality/Timeliness (4 Points): Data collected through this study are regularly entered into the MARVIN biological database housed at MEDMR. Data are first entered into MARVIN and run through QA/QC routines to insure accurate reporting. The biological sampling data is uploaded to the ACCSP data warehouse on a regular basis.

Potential secondary model (4 Points) Data collected through this proposed project is used in assessment and management of river herring, Atlantic herring, Mackerel, and menhaden as outlined to the expected benefits section

Impact on Stock Assessment (3 Points): Regional management organizations which carry out stock assessments would benefit from the detailed biological sampling and bycatch data. This information could be used in stock assessments for many species that are managed by regional agencies.

Properly Prepared (5 Points): MEDMR followed ACCSP guidelines and pertinent documents when preparing this proposal.

Attachment 3: FY2016 semi Report

Maine Department of Marine Resources
Bureau of Resource Management
West Boothbay Harbor, Maine

Atlantic Coastal Cooperative Statistics Program
Grant No. NA14NMF4740360
(DMR#4077)

Portside Bycatch Sampling and Comparative Sampling
for Atlantic Herring (*Clupea harengus*), Atlantic
Atlantic Mackerel (*Scomber scombrus*),
and Atlantic Menhaden (*Brevoortia tyrannus*) fisheries

Semi-annual Report

July 1, 2016 – December 31, 2016

Submitted by:

James Becker
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P.O. Box 8, 194 McKown Point Road
West Boothbay Harbor, ME 04575
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(207)-633-9545

January 15, 2017

Project Background

The Atlantic herring (*Clupea harengus*) (Linnaeus, 1758) is one of the most biologically and economically important species in the Northwest Atlantic. With an estimated biomass of one million metric tons, Atlantic herring (hereinafter “herring”) are an important food source for many species of fish, mammals, and seabirds, and therefore play a crucial trophic role as a forage fish (Power and Iles, 2001; TRAC, 2009).

Herring are a migratory species, which aggregate in large schools, feed on plankton, and are found between Labrador and Cape Hatteras along coastal and continental shelf waters (Colette and Klein-MacPhee, 2002). Migration patterns are seasonally based with adults (≥ 3 years) moving south during the autumn from the Gulf of Maine (GOM) spawning grounds to spend the winter off southern New England and the Mid-Atlantic states. During the spring, adult herring return to the GOM, where they spend the summer months (Kanwit and Libby, 2009).

Since the 17th century juvenile herring have been part of a significant commercial fishery from New Brunswick to Massachusetts. During the 1980s the emergence of a large-scale fishery occurred on Georges Bank (GB), in the GOM, southern New England and Mid-Atlantic waters (Overholtz, 2002). Commercial landings are currently around 70,000 metric tons annually with 90 percent supporting the lobster (*Homarus americanus*) bait market. Herring is the primary bait of the approximately \$600 million per year New England lobster industry (National Marine Fisheries Service, 2016).

The Maine Department of Marine Resources (DMR) has collected and processed herring commercial catch samples since 1960. Sampling was historically carried out with the cooperation of processors (canneries) and the National Marine Fisheries Service (NMFS). This system of sampling the commercial catch resulted in incomplete coverage of the fishery and insufficient collection of population data. Therefore, DMR secured funding to hire a dedicated sampler in an effort to improve the commercial catch sampling program.

After the completion of a successful pilot study in late 2003, the DMR initiated an exploratory portside bycatch survey of the herring fishery in 2004. This project was created in response to the lack of bycatch data available for the directed herring fishery. Moreover, in 2004, NMFS received funding to expand their at-sea observer coverage of the herring fishery. Interestingly, in 2008 following in suit, Massachusetts Department of Marine Fisheries (MADMF) began their own portside bycatch program. Still, in a large volume fishery statistically significant sampling levels are hard to achieve. The Maine DMR portside bycatch program now complements both the MADMF portside program and the NMFS at-sea observer program by providing expanded coverage of the herring fishery, and validation of the at-sea observer data via co-occurring trip analysis.

In an attempt to more closely align our data with MADMF’s portside bycatch program and NMFS at-sea observer data, we moved away from the practice of “lot” sampling, or looking intensively at a

portion of a vessel's landings. The reasoning behind this stems from variability of catch composition in vessels with multiple fish holds. Fish being partitioned into separate holds may be from the same, different, or a mixture of multiple tows or sets. While lot sampling has provided valuable spatial and temporal insights to bycatch distribution and frequency, it is unable to resolve variability between vessel holds. Sampling entire vessel offloads eliminates that variability.

In accordance with these changes, our sampling efforts have shifted to sampling direct vessel offloads, targeting sites with suitable infrastructure and accessible dewatering boxes or offload pipes (used to distribute fish into a processing facility). This was problematic at first, as few sites offered adequate working space, and concerns over safety eliminated some options. We currently have 11 sampling sites.

In Maine, sites are in Jonesport, Prospect Harbor, Rockland, Phippsburg, and Portland, in Massachusetts, sites are in Gloucester, New Bedford, and Fall River, in Rhode Island, two sites are in Point Judith, and in New Jersey, a site is in Cape May.

Due to the mandate of river herring bycatch quotas within the herring fishery via the New England Fishery Management Council (NEFMC), an analysis and comparison between overlapping trips from the at-sea Northeast Fisheries Observer Program (NEFOP) and portside observed trips (co-occurring trips) was added in 2012, looking exclusively for significance of the presence of river herring and to a minor extent Haddock. This test and comparison was also useful to examine methodologies between the two programs and addressing which methods could be aligned to better document bycatch of many species.

Objectives

1. Continuation of the portside bycatch survey
 - a. Expand the coverage of landed herring, mackerel, and menhaden monitored for bycatch.
 - b. Increase the number of co-occurring sampling trips between ME DMR's portside bycatch sampling and the NMFS at sea observer sampling program.
2. Continuation of commercial catch sampling and species collection upon request

Methods

All bycatch sampling events were arranged with the participating sites along with a request of their processing schedule. A sampling event started when the fish were delivered either by boat, or on occasion truck, to the dewatering tower and or facility. As the fish were sorted, the bycatch was removed and set aside. Each boat load was processed separately, with the collection of catch amount, gear type, NMFS Statistical Area, date of capture, presence/absence of an observer, and the VTR number.

After the bycatch was sorted, all species were identified and separated. Each species was then weighed and a random sub-sample (n=50) was taken if necessary. All individuals (of the entire sample or sub-sample) were measured and recorded on a length frequency log.

It is important to note that for the purpose of this progress report all non-targeted species (i.e. anything but Atlantic herring) are referred to as bycatch. This includes species such as shad, alewives and

blueback herring (river herring), Atlantic mackerel, and squid that are classified as incidental catch in the herring fishery.

Atlantic herring commercial catch samples that were collected during either portside bycatch surveys or directly from the fishing vessel's hold were transported to DMR where they were processed for length, weight, age (using otoliths), sex, gonad stage/maturity, and stomach contents/weight. Data are then entered into a database and are available for statistical analysis as part of an ongoing NOAA interstate fisheries grant.

For the analysis and comparison of the co-occurring trips three methods were initially used, (for more detail, see the 2016 proposal for ACCSP Grant No. NA13NMF4740203) however, after accessing the data and the sampling protocol for the at-sea program, it became evident that Method 3 was the most statistically sound approach for determining significance between programs of bycatch estimates.

Typically at-sea sampling requires 10 bushel baskets to be systematically collected per haul (tow) per trip. Bycatch species are removed and weighed, and then the proportions of each species are multiplied by the estimate of each haul weight. The overall bycatch estimate per trip is the sum of each bycatch estimate per haul. Due to the variance associated with each individual haul, Method 3 offered the most viable approach for comparing bycatch estimates between co-occurring trips.

Portside sampling requires the collection of a bushel basket from the offload delivery system (dewatering box or pre-graded assembly line) every 5 minutes until the entire catch has been pumped from the vessel. Bycatch species are sorted and weighed from each basket, and the overall proportion is multiplied by the total haul weight of the catch.

Method 3 involved calculation of composition and variance of bycatch species per haul, per at-sea trip, combining the individual variances into a single array representing the entire catch, then conducting a modified two tailed t-test to look for significance between both programs ($P < 0.05$). Since this particular method needed a customized significance test to compensate for the individual haul compositions at-sea per trip, the sample means and variances were replaced with the total estimated bycatch per trip (w), and the variance of those estimates ($V(w)$) written as:

$$t = \frac{w_1 - w_2}{\sqrt{V(w_1) + V(w_2)}}$$

With

$$H_0: w_1 - w_2 = 0$$

$$H_A: w_1 - w_2 \neq 0$$

Calculations for the pooled degrees of freedom for each at-sea trip were written as:

$$\text{Pooled At-sea DF} = (N_1 - 1) + (N_2 - 1) + (N_3 - 1) = (N_1 + N_2 + N_3) - g$$

Where N_i is the total haul weight/ average basket weight per haul, and g is the number of hauls per trip, in this case 3 (<https://www.isixsigma.com/topic/degree-of-freedom-pooled-estimate-of-variance/>).

Calculations for the degrees of freedom for each portside trip were written as:

$$\textit{Portside DF} = N - 1$$

Where N is the total trip haul weight/ average basket weight.

In both cases, N is estimated and scaled up to establish the number of possible baskets that could be taken from the entire catch.

For this analysis of co-occurring trips three universal criteria were used. The first was used if a specific bycatch species was absent in the sample baskets between both programs for the same trip. For example, if a certain trip lacked alewife in the sample baskets for the portside data and the at-sea data, then the results would state there was no significant difference between the two trips, noted as (-,-) or called a “zero” trip. The second was if a bycatch species was found only in one of the programs, noted as (+,-) for presence at-sea only, and (-,+) for portside only, deeming that specific trip significantly different. Lastly, on occasion a scenario arose where the at-sea program was unable to identify what type of river herring species was landed (either an alewife or blueback herring), therefore nullifying the possibility of a comparison, noted as (NK,+) NK standing for “not known”.

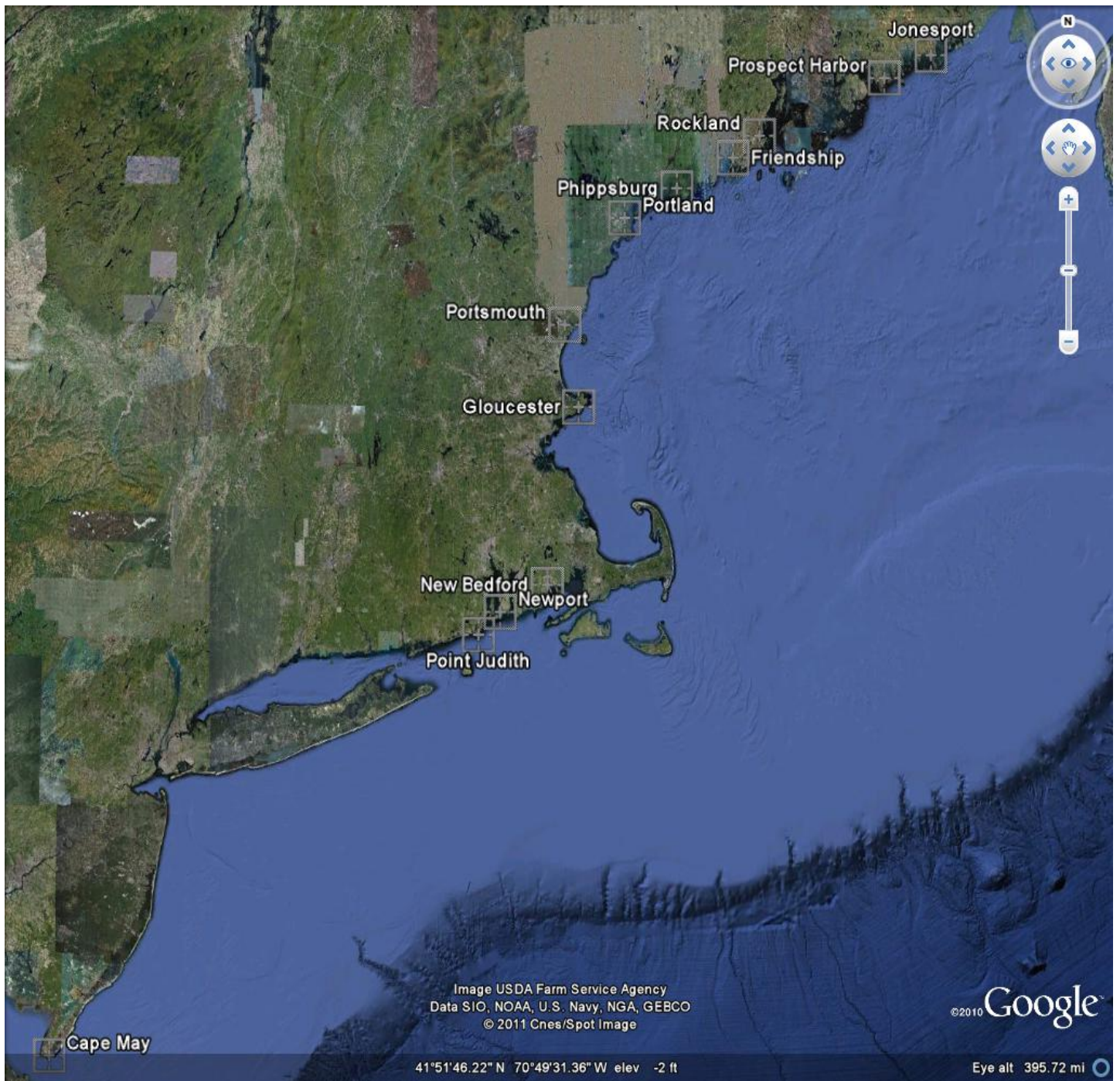


Figure 1: Range and locations of sampling and portside bycatch studies.

Results

Objective 1a: Portside Bycatch sampling of Atlantic Herring, Mackerel and Menhaden

Atlantic herring

Seven portside bycatch studies were conducted on US Atlantic herring landings from July 1, 2016–December 31, 2016. Four were completed on small mesh bottom trawlers (SMBT), 2 were on purse seiners (PS), and 1 was on a single mid-water trawler (Figure 2). For this specific time period the US Atlantic herring fishery landings were approximately 39,232 t (NOAA Quota Monitoring Website 2016) and a total of 417 t of herring was sampled for bycatch, equating to about 1.06% sampling coverage (Table 1a). The total weight of documented bycatch was 17.25 t. The total percent of documented bycatch was 4.13%. The overall mean percentage of bycatch per individual study was 8.88%, with a standard deviation of 16.71%, a minimum of 0.13% and a maximum 46.33% (Table 1b). Thirteen species of bycatch were documented (Table 2).

Four NMFS Statistical Areas were sampled for Atlantic herring bycatch for this particular timeframe. Area 539, in Block Island Sound contained the largest portion of bycatch, approximately 39.17% of the total documented bycatch. Area 512 off mid-coast Maine contained the least, about 1.06% (Figures 3 and 6).

Atlantic mackerel (*Scomber scombrus*) made up the bulk of the documented bycatch, about 42.03% and about 1.74% of the sampled herring landings (Table 2.)

Haddock (*Melanogrammus aeglefinus*) comprised about 24.18% of the bycatch, and 0.99% of the total sampled herring (Table 2).

Spiny Dogfish (*Squalus acanthias*) accounted for approximately 20.80% of the bycatch, and about 0.86% of the sampled herring (Table 2).

Silver hake (*Merluccius bilinearis*) accounted for approximately 7.45% of the total documented bycatch, and about 0.31% of all the Atlantic herring sampled (Table 2).

River herring (RH) a category of anadromous fish containing both Alewife (*Alosa pseudoharengus*) and Blueback herring (*A. aestivalis*) made up about 1.34% of the bycatch and 0.06% of the total sampled Atlantic herring (Table 2).

American shad (*Alosa sapidissima*) accounted for approximately 1.21% of the total bycatch and 0.05% of the herring sampled (Table 2).

Atlantic menhaden (*Brevoortia tyrannus*) made up 1.07% of the bycatch composition and about 0.04% of the herring sampled (Table 2).

Species that individually comprised less than 1.00% of the total bycatch were pooled together into a category called “All other species”, which combined made up the remaining 1.92% of the total bycatch and about 0.08% of the entire sampled herring (Table 2).

Note that spatial information, and all length frequencies for all species other than squids will be provided in the next annual report.

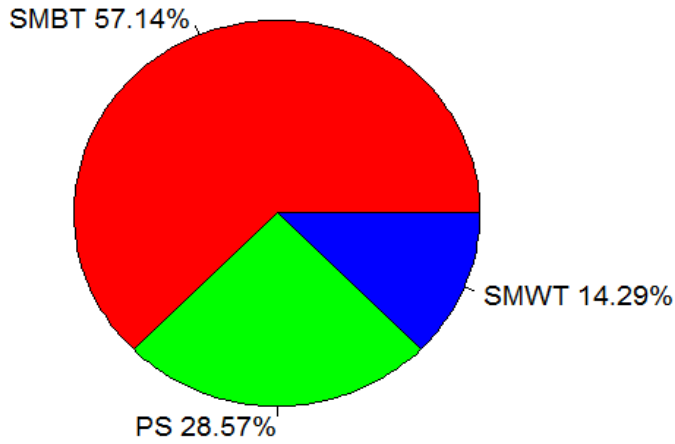


Figure 2. Percentage of herring bycatch studies by trip, per gear type, July 1, 2016–December 31, 2016.

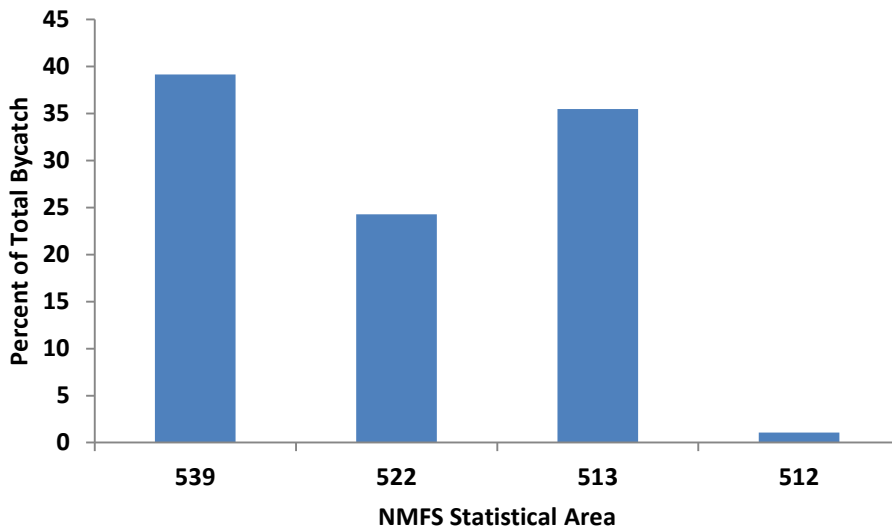


Figure 3. Percentage of bycatch by NMFS Statistical Area.

Table 1. Atlantic herring bycatch data, July 1, 2016–December 31, 2016.

a. Bycatch Data by Total Landings and Total Sampled	
Total Landings (t)	39,231.71
Total Sampled (t)	416.75
% of Total Landings Studied	1.06
Total Bycatch (t)	17.23
% Bycatch in Total Sample	4.13
b. Bycatch Data per Sampling Event	
Mean % Bycatch	8.88
Maximum % Bycatch	46.33
Minimum % Bycatch	0.13
Standard Deviation	16.71

Table 2. Documented herring bycatch including incidental species, July 1, 2016–December 31, 2016.

Species	Total Weight (kg)	% Total Bycatch	% Bycatch in Herring
Atlantic Mackerel	7,240.68	42.03	1.737
Haddock	4,165.16	24.18	0.999
Spiny Dogfish	3,583.20	20.80	0.860
Silver Hake	1,283.22	7.45	0.308
*River Herring	230.14	1.34	0.055
American Shad	207.85	1.21	0.050
Atlantic Menhaden	184.64	1.07	0.044
**All Other Species	331.41	1.92	0.080
Totals	17,226.31	100.00	4.133

*A category of anadromous fish containing both Alewife (*Alosa pseudoharengus*) and Blueback herring (*A. aestivalis*).

**A combination of species whose individual total bycatch was <1.00%.

Atlantic mackerel

The Atlantic mackerel season is a winter fishery that usually starts in December and ends in the late spring. It is important to note that over the past ten years US Atlantic mackerel landings have been significantly low (Fisheries of the U.S, NMFS, 2015). Thus, due to the time frame of this report and historically low mackerel landings, one portside bycatch study was conducted between July 1, 2016 and

December 31, 2016 (Figure 4). For this specific time period the US Atlantic mackerel fishery landings were approximately 4,478 t (NOAA Quota Monitoring Website 2016) and a total of 13.61t of mackerel was sampled for bycatch, equating to about 0.30% sampling coverage (Table 3). The total weight of documented bycatch was 2.57 t, about 18.91% of the total mackerel sampled. This bycatch study was conducted on a SMBT that fished in Area 539, in Block Island Sound (Figure 6).

Atlantic herring comprised the bulk of the documented bycatch, about 96.91% and approximately 0.71% of the mackerel sampled (Table 4).

RH made up about 1.83% of the total bycatch and about 0.01% of the mackerel sampled (Table 4).

The remaining species were pooled into “All Other Species”, and combined comprised about 1.26% of the bycatch and about 0.09% of the mackerel sampled (Table 4).

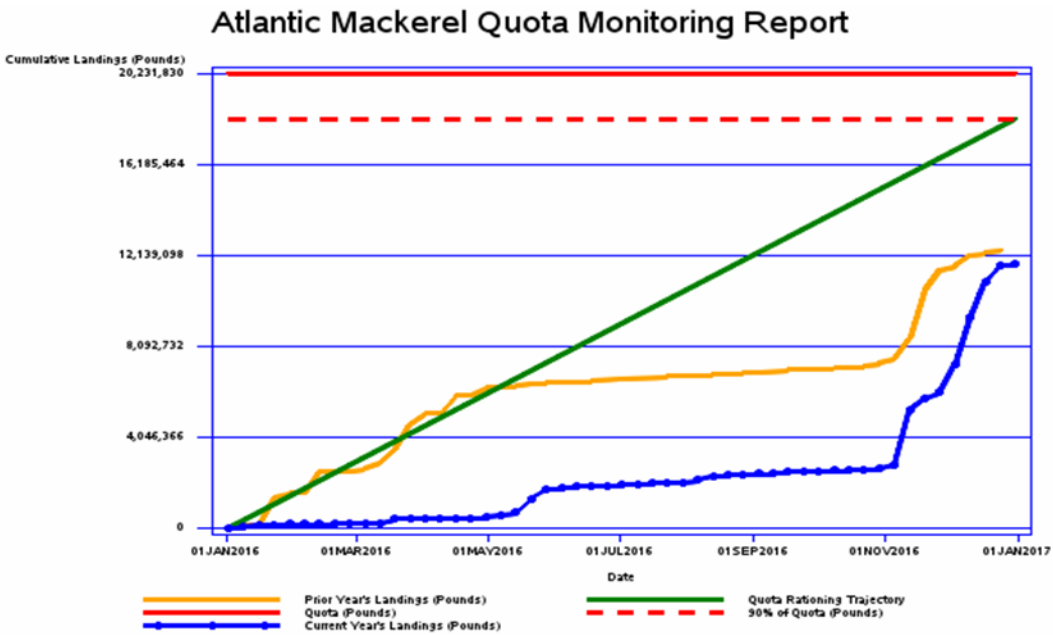


Figure 4. Atlantic mackerel landings for the 2016 fishery.

Table 3. Atlantic mackerel bycatch data, July 1, 2016–December 31, 2016.

Bycatch Data by Total Landings and Total Sampled	
Total Landings (t)	4478.15
Total Sampled (t)	13.61
% of Total Landings Studied	0.30
Total Bycatch (t)	2.57
% Bycatch in Total Sample	18.91

Table 4. Documented mackerel bycatch including incidental species, July 1, 2016–December 31, 2016.

Species	Total Weight (kg)	% Total Bycatch	% Bycatch in Mackerel
Atlantic Herring	2,493.82	96.91	18.323
River Herring	47.11	1.83	0.346
All Other Species	32.39	1.26	0.238
Totals	2,573.31	100.00	18.908

Atlantic menhaden

Four bycatch studies were executed on menhaden trips; all conducted on PS, all from the GoM in Area 513 (Figure 6). For this specific time period the Maine Atlantic menhaden landings were approximately 1,948 t (ME DMR Landings, 2016) and a total of 218 t of menhaden was sampled for bycatch, equating to about 11.18% sampling coverage (Table 5a). The total weight of documented bycatch was 0.12 t. The total percent of documented bycatch was 0.05%. The overall mean percentage of bycatch per individual study was 0.06%, with a standard deviation of 0.08%, a minimum of 0.00% and a maximum 0.17% (Table 5b). Three species of bycatch were documented (Table 6).

American lobster (*Homurus americanus*) comprised the bulk of the bycatch, about 60.84% and about 0.03% of the sampled menhaden (Table 6).

Atlantic mackerel made up about 22.77% of the overall bycatch and 0.01% of the sampled menhaden (Table 6).

Blueback herring comprised about 16.38% of the bycatch and about 0.01% of the sampled menhaden (Table 6).

Table 5. Atlantic menhaden bycatch data, July 1, 2016–December 31, 2016.

a. Bycatch Data by Total Landings and Total Sampled	
Total Landings (t)	1,947.78
Total Sampled (t)	217.72
% of Total Landings Studied	11.18
Total Bycatch (t)	0.12
% Bycatch in Total Sample	0.05
b. Bycatch Data per Sampling Event	
Mean % Bycatch	0.06
Maximum % Bycatch	0.17
Minimum % Bycatch	0.00
Standard Deviation	0.08

Table 6. Documented menhaden bycatch including incidental species, July 1, 2016–December 31, 2016.

Species	Total Weight (kg)	% Total Bycatch	% Bycatch in Menhaden
American lobster	74.81	60.84	0.028
Atlantic mackerel	28.00	22.77	0.010
Blueback herring	20.14	16.38	0.007
Totals	122.95	100.00	0.045

Objective 1b: Co-occurring trips

Only preliminary at-sea bycatch data for 2016 is currently available and will be analyzed once all the necessary data is released by NEFOP. Therefore, the results for the time frame for the co-occurring trip analysis span from 2010-2016.

Results

To meet the necessary criteria for this type of analyses, i.e., a co-occurring trip that contained the presence of the same species both at-sea and portside, a filtering process was implemented which limited and reduced the useable data (see the 2016 proposal for ACCSP Grant No. NA13NMF4740203). Thus, sixty one co-occurring trips were conducted, of which 38 were accessed for significance testing (Table 7 and 8). Currently seven trips were used for statistical comparisons, and within three of these specific trips analyses were conducted on more than one species. This resulted in 13 individual statistical analyses conducted to date. Eight out of the 13, or 62% of the analyses revealed that bycatch estimations between programs were not statistically different ($P < 0.05$). Trips that were significantly different were highlighted in red. Note a full supplementary report of the co-occurring trip analysis will be released with the next annual report in 2017.

Table 7. Overall co-occurring trip information, 2010-2016.

Summary of Co-occurring Trips	
Total Co-occurring Trips	61
Sampled via 5 min intervals	43
Full Boat Studies	38
Fit Criteria for Significance Test	12
Trips Statistically Analyzed to Date	7
*Total Applied Significance Tests	13

*Some individual trips contained multiple studies within the catch analyses.

Table 8. Co-occurring trips with statistical analyses of bycatch species estimations, 2010-2016.

Year	Gear	Area	Hail Lbs	Spe	Prtsd Ws lbs	AtSea Ws lbs	Prtsd Bskts	AtSea Bskts	All hauls spld	Prtsd V(Ws)	AtSea V(Ws)	Sig	Tval	Tcrit
2016	SMBT	539	44,127	Ale	738	1,128	6	12	Yes	41,251	28,193	No	1.481	1.964
				BB	98	405				1,920	4,195	Yes	3.933	1.964
				RH	836	1,533				51,267	20,878	Yes	2.598	1.964
2013	SMBT	539	34,998	Ale	795	560	5	16	Yes	33,340	8,443	No	-1.147	1.964
2013	SMWT	522	79,996	Had	5,637	2,149	10	15	Yes	1,805,154	576,741	Yes	-2.260	1.962
2013	SMWT	561	520,011	Had	25,928	28,582	37	58	No	10,063,307	22,714,397	No	0.464	1.960
2013	SMBT	539	21,773	Ale	1,332	1,617	5	10	Yes	17,006	491,560	No	0.040	1.966
				BB	348	310				10,017	9,648	No	-0.275	1.966
				RH	1,681	1,927						No		1.966
2012	PMWT	522	469,908	Had	2,881	1,151	36	18	No	472,957	219,789	Yes	-2.078	1.960
				Ale	0	59				NA	3,484	Yes	NA	NA
				Mack	7,003	9,474				532,343	1,651,887	No	1.695	1.960
2011	PMWT	522	520,528	Had	110	246	26	22	Yes	11,972	590,226	No	0.176	1.960

Objective 2: Commercial catch sampling of herring, mackerel and menhaden

Atlantic Herring Sampling

Sixty one samples were collected from July 1, 2016–December 31, 2016 from catches in the GoM, offshore on GB, and off southern New England. Approximately 77% of the herring samples were acquired from Maine ports, 8.20 from NH, 8.20 from RI, and 6.56 from MA (Figure 5). These samples were transported to DMR where they were processed for length, weight, age (using otoliths), sex, gonad stage/maturity, and stomach fullness.

Note that length, weight, and age structures will be provided in the next annual report.

Sampling for the Atlantic herring fishery occurs routinely during the course of bycatch sampling at many of the same locations, in addition to sites specific for the collection of commercial catch samples only. Data are then entered into a database and are available for statistical analysis as part of an ongoing NOAA interstate fisheries grant.

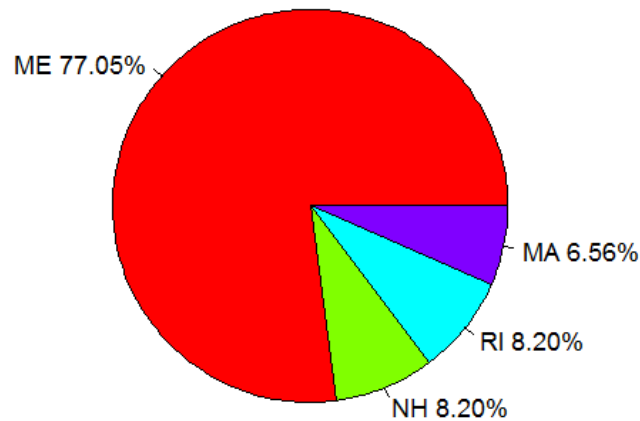


Figure 5. Percentage of herring samples collected by state, July 1, 2016–December 31, 2016.

Atlantic Mackerel Sampling

The DMR has sampled mackerel for the last ten years for the NMFS Northeast Fisheries Science Center (NEFSC) because the most recent stock assessment uncovered a severe lack of large mackerel in their biological samples. This expansion of mackerel sampling will continue as requested by the NEFSC to provide broader coverage of this resource in time and space. Due to the extremely low amount of Atlantic mackerel landings in 2016 and the time frame of this report, two samples were collected, both from SMBT fishing in Area 539 (Figure 6).

Atlantic Menhaden Sampling

As requested by the NMFS office in Beaufort, NC, menhaden samples are to be collected when this particular species is landed in significant numbers within the GoM. During the time frame of this report seven samples were collected, all from PS fishing in Area 513 (Figure 6).

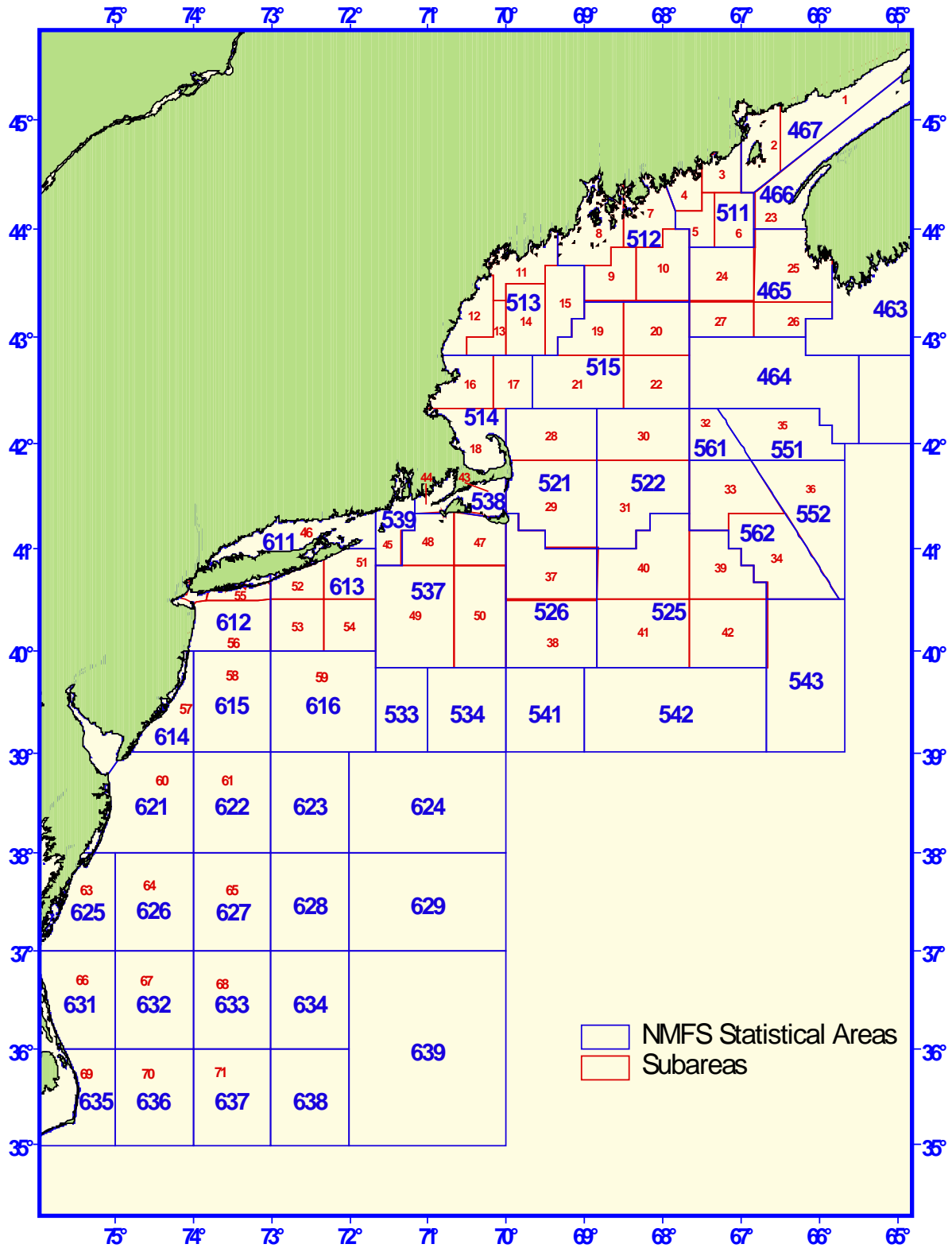


Figure 6. NMFS Statistical Areas.

Conclusions

The portside bycatch survey has continued to prove very successful since its inception in August of 2003. The results of this survey have revealed extremely small levels of bycatch in the directed herring fishery, minor levels of bycatch in the Atlantic mackerel and menhaden fisheries for all gear types sampled. The results of this project are useful in quantifying and understanding the extent of retained bycatch in the Atlantic herring fishery and should prove as useful in the Atlantic mackerel and menhaden fisheries. However, the species encountered as bycatch varied spatially by NMFS Statistical Area, and conclusions drawn from this regarding the spatial nature of the bycatch encountered should be interpreted cautiously due to the small sample size. It is important to remember that bycatch in the herring fishery can be episodic, and can be isolated to one fishing event in one specific spatial location.

Atlantic herring, mackerel, and menhaden are harvested as large volume fisheries, which results in mass handling techniques like pumping the catch from the nets into the vessel holds and again into the processing facilities. Because of the nature of these fisheries there are limited opportunities to observe and/or sample bycatch at-sea. However, vessels can discard some or all of the catch at-sea and there are some methods of sorting out large bycatch i.e. mammals before or during the pumping process. For these reasons the portside component is not designed to quantify all bycatch in these fisheries, but only retained and landed bycatch.

Since the spring of 2011 the portside bycatch sampling protocol shifted towards analyzing entire boat loads only and eliminating partial boat or lot sampling. This new approach and the preliminary results of the co-occurring trip analyses have revealed that aligning portside data between Maine DMR, Massachusetts DMF, and the NEFOP at-sea data more statistically useful for comparing bycatch estimates and to increase the coverage of landed herring. These efforts will complement and supplement, but not replace the NEFOP at-sea observer coverage. This bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way.

The data collected from both the Portside Bycatch Program and Commercial Catch Sampling Program were useful for the Atlantic herring stock assessment in June of 2011 and the most recent update during 2015. In particular the Atlantic herring samples used for the catch-at-age matrix helped to determine spawning stock biomass, the 2014 and 2015 area fishing quotas, and spawn closure management changes in 2016. In addition, portside bycatch data from this project was used in conjunction with the at-sea data to calculate the river herring and haddock bycatch quotas for the 2015/2016 Atlantic herring fishery. As of Sept 2015, data from both MA DMF and ME DMR portside bycatch sampling were used in the ongoing specifications for Atlantic herring for 2016-2018.

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TRAC. 2009. Gulf of Maine-Georges Bank Herring Stock complex,
TRAC Status Report 2009/01.

Instructions for Sampling Atlantic Menhaden from the Maine Bait Fisheries

Acquiring the 'Sample'

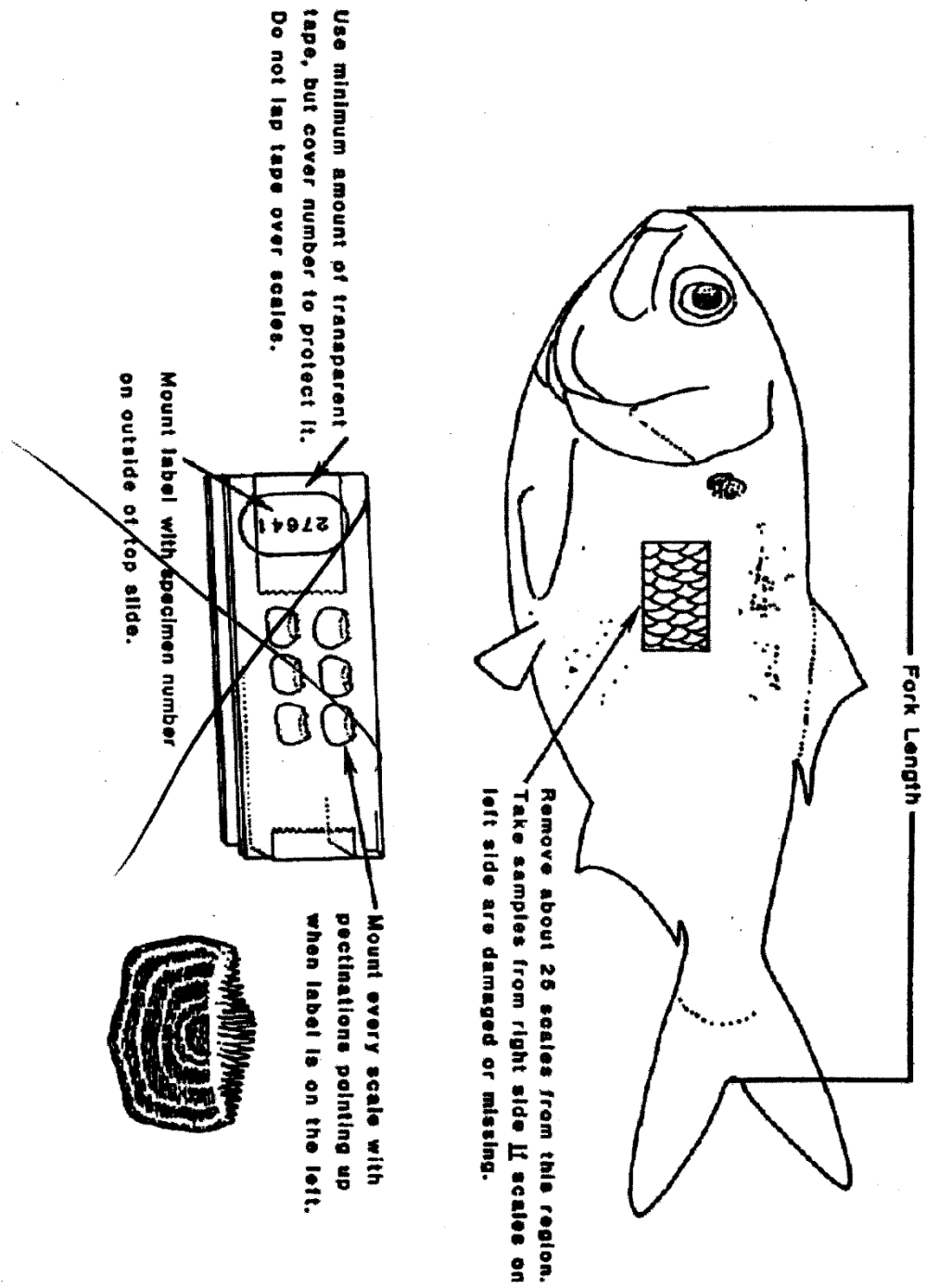
- Ideally, scoop a bucket of menhaden at random from the top of the fish hold.
- If the menhaden have already been packed out in flats or fish boxes, take 15-20 fish at random from the container.
- If available, record date of capture, location of capture, and vessel name. Usually we write this info on a waterproof tag and toss it in with the bagged menhaden sample.

Processing the 'Sample'

- Select a data sheet from the top of the pile. Write-in pertinent sample info on left half of data sheet:
 - Year Caught - last two digits
 - Vessel Name - just a name; we'll assign a vessel number at Beaufort
 - Location Caught - write location above the boxes; we'll assign a location code at Beaufort
 - Month and Day
 - LEAVE BLANK - Species and Scale Reader
 - Initial the data sheet (bottom right), and write any miscellaneous comments in the 'Remarks' box of the data sheet, eg, gear type, port of landing.
- Before you begin to handle the fish for lengths and weights, lay out ten coin envelopes on the counter-top and label each on the back with the unique 5-digit 'Specimen Number' found on the right side of the data sheet.
- From the plastic bag, bucket, etc. holding the menhaden sample, randomly draw out 10 fish. Process each of these 10 fish for fork length (in mm), weight (to the nearest whole gram), and remove a scale patch. Write fork lengths and weights for each of the 10 sample fish in the appropriate boxes on the right side of the data sheet.
- Scale patches are removed from mid-body, just below the start of the dorsal fin. See illustration in sampling manual.
 - Place scale patches in the appropriately labeled coin envelope, ie, scale patch from the first fish in the sample goes in the coin envelope labeled with the specimen number ending in '1'; scales from second fish go in coin envelope ending with specimen number ending in '2', etc.
- Re-bind ten coin envelopes with a rubber band. Paper-clip the coin envelopes to the top of the data sheet.
- Mail data sheets and coin envelopes to Beaufort via Dr. Matt Cieri.

Questions?? - Call Joseph W. Smith, NMFS Beaufort, 252-728-8765

FIGURE 2



Attachment 5

**COMMERCIAL
PORTSIDE BYCATCH
SURVEY PROTOCOL**



EXPLANATION:

The bycatch survey represents a unique opportunity to collect data in an inexpensive but efficient and accurate way. The program takes advantage of normal processing plant operations by quantifying bycatch that enters the facilities. Processing plants have to manually remove other species from the production line before the fish are sorted and cut or frozen. In normal operations, bycatch removed from the product is segregated into xactix bins or totes and removed from the processing floor at the end of each lot. Plants process one lot (fish caught by one vessel on a particular trip, delivered by truck or boat) at a time and then reset the plant in preparation for the next lot. Therefore, the bycatch removed from each lot can be documented and assigned to a catch location, gear type, date and a total lot amount. Additionally, the plants generally buy herring from vessels throughout the fishery and therefore cover multiple gear types, vessel sizes and individual fishing practices.

The bait industry has changed tremendously in the last five years resulting in a much more centralized distribution structure. Generally the herring used for bait goes through a large wholesale dealer to smaller dealers and lobster wharfs along the coast. The wholesale dealers generally have facilities where they sort, barrel, freeze and store bait for redistribution. It is at these sites where effective bycatch surveys can also be done, thereby including the bait sector in this study.

The sampling takes place at processing plants and bait dealers in Maine, New Hampshire, Massachusetts, Rhode Island and New Jersey. Sampling sites are selected by targeting Tier 1 locations first and then relying on Tier 2 locations to meet weekly goals. A sampling level of five percent of the entire herring fishery is targeted (Table 1). The mackerel fishery will be sampled if the target levels for the herring fishery are being reached or when herring samples are not available. This scenario is most likely to occur in the winter months when many of the herring vessels switch to the mackerel fishery. The samplers quantify bycatch from individual lots that enter the processing and bait plants according to a NMFS specified protocol. The total weight of any observed bycatch are recorded along with species identification, total species weight, individual lengths and weights of all fish or a representative sub-sample.

From 2004 thru 2008 the average annual herring landings were 91,803 metric tons. Over this five year period, April averaged the lowest landings of 2,033 metric tons, yielding about 2% of the annual landings (Figure 1). August averaged the highest landings of 13,438 metric tons, and yielded about 15% of the annual landings.

Table 1: Target sampling levels for herring

Month	5% Herring landings
January	319.82
February	270.91
March	144.92
April	101.63
May	346.8
June	355.3
July	544.18
August	671.9
September	502.18
October	646.28
November	386.65
December	299.61
Totals MT	4590.18

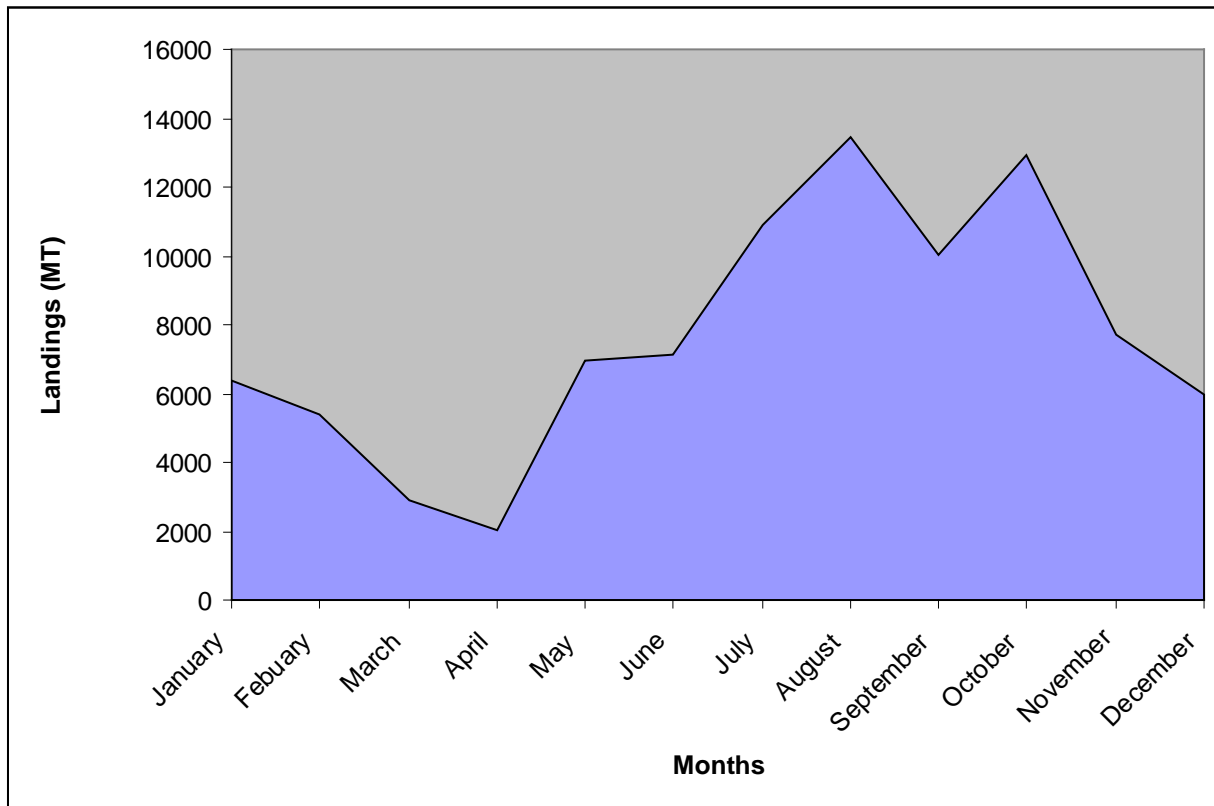


Figure 1: Five year average (2004-2008) of monthly herring landings

COMPLETE SAMPLING PROTOCOL:

The samplers collect and quantify all bycatch from individual lots of fish (transported by trucks or vessels) that enter the processing facilities. Samplers position themselves at the point of entry into the facility along an assembly line or at the base of the hoppers where the fish are unloaded. Sampling is conducted before grading or sorting of the catch occurs. All bycatch is removed from the assembly line or hopper and placed in bushel baskets or buckets specific to each species. Species identification is accomplished by examination and the use of identification keys when appropriate as outlined in NMFS and NEFOP protocols. The total weight of any observed bycatch is recorded along with species identification, total species weight, individual lengths and weights of all fish according to a NMFS and ACCSP specified protocol. If there is a large amount of one species, the total weight is recorded and then length frequencies and weight are gathered from a sub sample of n=50. The information collected for each bycatch study is recorded on the data sheets (see “Data Sheets” section of packet) and entered into the MEDMR biological database.

SUB-SAMPLING PROTOCOL:

A sub-sampling protocol is utilized when sampling a large volume of catch, determined as greater than 80,000 lbs (~40 mt). Instances where this is likely to occur include sampling sites where vessels land an entire catch (as much as one million pounds) to a single facility. Sub-sampling is also appropriate in instances when there is an overwhelming amount of bycatch and/or non targeted species mixed in with the lot of fish. In these cases it can be impossible to use the complete sampling protocol regardless of the amount inspected (< 80,000 lbs.). These situations are likely to occur when vessels are fishing mixed groups of herring and mackerel, some of which have a 50-50 composition.

Sub-samples are to be collected using bushel baskets at timed intervals during the pumping or unloading process following the NMFS at-sea observer sampling protocol. To accomplish this type of sub-sampling one needs to know the total lot weight and the duration of time it will take to unload the catch. After sampling the bushel basket of fish should be sorted by species, and total weight of each species and length frequencies should be recorded (sub sample n=50, for length frequencies if more than fifty of any species occurs).

Example:

Lot size = 120,000 lbs (3 Trucks)

Pumping or unloading time = 3 hours (180 minutes)

If a sample basket is to be collected for every 10,000 lbs of fish, then **12 sample baskets** need to be collected over the entire pumping or unloading process.

$$120,000 \text{ lbs} / 10,000 \text{ lbs} = 12$$

If the entire pumping or unloading process takes an estimated 180 minutes, than **a basket sample needs to be taken every 15 mins.**

If the catch composition from the bushel baskets is 99% Atlantic herring, than one can extrapolate that out of the 120,000 lbs unloaded, then 118,800lbs is Atlantic herring.

$$99\% \text{ Atlantic herring} = 120,000 \text{ lbs} \times 0.99 = 118,800\text{lbs of Atlantic herring}$$

If the remaining 1% of the catch composition is Atlantic mackerel, then one can extrapolate that out of the 120,000 lbs unloaded, 1,200lbs is Atlantic mackerel

$$1\% \text{ Atlantic mackerel} = 120,000\text{lbs} \times 0.01 = 1,200\text{lbs of Atlantic mackerel}$$

Attachment 6: Negotiated Indirect Cost Agreement

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M.S.	Biology (Marine Ecology), Rutgers University	1995
Ph.D.	Oceanography, University of Maine	1999

PROFESSIONAL EXPERIENCE

Marine Resource Scientist , Maine Department of Marine Resources	2/01-present
Post-Doctoral Scientist , The Ecosystem Center, Marine Biological Laboratory	9/99-2/01
Graduate Research Assistant , School of Marine Science, University of Maine	5/95-9/99
Research Technician , Cranberry/Blueberry Research Laboratory, Rutgers /USDA	5/95-9/95
Graduate Teaching Assistant , Department of Biology, Rutgers University	9/93-9/95
Graduate Research Assistant , Institute of Marine Sciences, Rutgers University	10/93-4/94
Animal Laboratory Technician , Department of Natural Sciences, Stockton College	10/92-9/93

CURRENT DUTIES

Atlantic Herring: New England Fishery Management Council (NEFMC) and Atlantic States Marine Fisheries Commission (ASMFC)

- Oversee catch and landings reporting. Use of VTR (Vessel Trip Reports), Dealer Reports, & IVR (Interactive Voice Reports) to analyze and report landings and catch data to NMFS (National Marine Fisheries Service) regional office, NEFMC, and ASMFC
- Monitor IVR system: Query IVR database and report landing weekly to interested parties. Design and execution of a catch and effort model to predict appropriate “Days Out” needed to extend the fishery in some areas
- Commercial and Bycatch Sampling: Oversee the collection, inventorying, processing, and ageing of herring samples, also verify data entry. Make data available to interested parties. Supervise two full-time and one part-time technician. Produce compliance reports for ASMFC
- Monitor Herring spawning condition: Analyze biological sample data to determine spawning activity status. Indicate when areas should be closed to fishing to protect spawning herring
- Herring PDT (Plan Development Team) & Stock Assessment Subcommittee member (NEFMC & ASMFC): Participate in Stock assessments and analysis of catch and landings statistics for the Herring SAFE report. Develop the catch at age matrix for use in Virtual Population Analysis (VPA) and Age Structure Assessment Program (ASAP) models. Provide technical advice to management; Current Technical Committee Chair (ASMFC)

Whiting and Small mesh Multispecies (NEFMC):

- **PDT & Stock Assessment Subcommittee member (NEFMC):** Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Spiny Dogfish (ASMFC):

- Participated in stock assessment activities and management analysis; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Assessment Science Committee (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy board including; Sampling targets for fishery independent and dependent sampling; Workload and scheduling for ASMFC stock assessment and participating scientists; coordinate Advanced Stock assessment training workshops

Multispecies Technical Committee Chair (ASMFC):

- Provide stock assessment and technical advice to ASMFC Policy on predator/prey relationships; Update and Expand MS-VPA (Multispecies Virtual Population Analysis) model as appropriate; Assist in incorporating Predator/prey and natural mortality estimates in the Atlantic Menhaden Assessment. Current Chair

Atlantic Menhaden (ASMFC)

- **Stock Assessment Subcommittee:** Provide estimates of natural mortality and participate in general assessment activities.

Biological Review Panel (ACCSP):

- Provide recommendations of priority and scope of fishery dependent and independent sampling for East Coast Fisheries

PREVIOUS DUTIES

Monkfish

- **PDT & Stock Assessment Subcommittee member (NEFMC):** Participated in stock assessment activities; Revision of overfishing and biomass reference points; Analysis of catch and landings statistics; Provide technical advice to management.

Atlantic Menhaden (ASMFC)

- **Technical Committee Chair:** Writing consensus documentation from technical meetings; Provide analysis of catch and landings data; Analyze current assessment methods; Present findings to the Menhaden Management Board. Produced compliance reports for the state of Maine
- **Multispecies Subcommittee Chair:** Provide technical guidance on conceptualization and implementation of the Menhaden Multispecies ecosystem model; Report progress to the Menhaden Management Board.

American Eel (ASMFC)

- **Stock Assessment Subcommittee Chair:** Organized and lead meetings with both scientific and stakeholder participants. Writing consensus documentation from technical meetings. Provided analysis of catch and landings data. Analyzed assessment methods for use in the stock assessment. Presented results during ASMFC external peer review and Eel Management Board.

Erin L. Summers
Maine Department of Marine Resources
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Profile:

- Work collaboratively with state, federal, academic, conservation, and industry partners to reduce whale entanglements and mortality in marine mammals and sea turtles through bodies such as the Atlantic Large Whale Take Reduction team and Atlantic Large Whale Disentanglement Network.
- Build research programs to provide baseline data on large whale life history, ecology, and habitat use in Maine's coastal rocky bottom habitats. Design new and emerging methodologies to inform management decisions.
- Oversee research and monitoring programs within the Division of Biological Monitoring at DMR, including the lobster programs, surveys for scallops, sea urchin, shrimp, and herring, recreational fisheries program, inshore trawl survey, and the landings and reporting group.
- Represent the Department of Marine Resources in stakeholder meetings, including those for wind energy permitting, Natural Resource Damage Assessments, department wide research and priority setting, etc.
- Member of the Atlantic Scientific Review Group advising NOAA Fisheries on marine mammal stock assessments

Education:

MA Biology: Boston University Marine Program	Woods Hole, Ma. 5/02
BA Biology, Spanish minor: Truman State University	Kirksville, Mo. 5/00

Employment:

Jan 2017 – present: Marine Resource Scientist IV
Maine Department of Marine Resources
West Boothbay Harbor, Me

- Oversee Division of Biological Monitoring, including Commercial Landings Program, Benthic group (lobster, scallops, urchins), and Pelagics group (herring, groundfish, shrimp, and recreational fishing)
- Lead Scientist for DMR's Large Whale Conservation Program
- Member of the Atlantic Large Whale Take Reduction Team

Feb 2006 – Jan 2017: Marine Resource Scientist II
Maine Department of Marine Resources

- Lead scientist for DMR's Large Whale Conservation Program
- Secured grant funding, wrote reports, tracked budgets to support research projects
- Completed projects to support management decisions for the Atlantic Large Whale Take Reduction Plan, including tagging humpback whales, right whale habitat surveys, passive acoustic surveys, gear density surveys, testing alternative fishing gear, characterizing fishing practices, etc.
- Oil Spill Response Coordinator
- Assist with GIS coordination

Jan 2010 – May 2010: Adjunct Faculty
Unity College
Unity, Me

- Taught upper level course in the biology of Marine Mammals

Feb 2004 – Feb 2006: Marine Mammal Research Specialist
University of New England
Biddeford, Me

- Lead Research technician on project to track and predict right whale habitat use and distribution
- Analysis of remotely sensed data and right whale sightings in the Bay of Fundy Critical Habitat
- Assisted with report writing and budget tracking
- Completed project and published paper analyzing right baleen using stable isotope analysis
- Completed project and published papers satellite tagging and tracking baskings sharks off the coast of New England

Sept 2002 – Feb 2004: Research Technician
Cetacean and Sea Turtle Team, NOAA Fisheries Service
Beaufort, NC

- Lead technician tracking and analyzing movements of satellite tagged dolphins
- Perform field work including fishing gear and dolphin aerial surveys, boat based dolphin biopsy and photo-identification surveys, satellite tagging dolphins, responding to strandings, etc.
- Participate in necropsies as needed

Oct 2000 – June 2002: Laboratory Technician
Marine Biological Laboratories
Woods Hole, Ma

- Manage daily operations of the laboratory of marine veterinarian, Roxanna Smolowitz
- Run experiments and document methodologies and results
- Prepare media, samples, histology slides, and other lab bench work

**Proposal for funding made to the
Coordinating Council and the Operations Committee
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St., Ste. 200A-N
Arlington, VA 22201**

**FY18: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from
the State of Rhode Island**

Submitted By:
Nichole Ares
Rhode Island Department of Environmental Management
Division of Fish and Wildlife
Marine Fisheries
3 Fort Wetherill Rd
Jamestown, RI 02835
nichole.ares@dem.ri.gov

Applicant Name: Rhode Island Department of Environmental Management,
Division of Fish and Wildlife, Marine Fisheries

Project Title: **FY18: Maintenance and Coordination of Fisheries
Dependent Data Feeds to ACCSP from the State of Rhode
Island**

Project Type: Maintenance

Requested Award Amount: \$76,920

Requested Award Period: FY 2018 (August 1, 2018 to July 31, 2019)

Primary Program Priority: Commercial and Recreational Catch and Effort Module

Date Submitted:

Project Supervisor: Scott Olszewski, Supervising Biologist, scott.olszewski@dem.ri.gov

Principal Investigator: Nichole Ares, Principal Biologist, nichole.ares@dem.ri.gov

Project Staff: John Lake, Principal Biologist, john.lake@dem.ri.gov
Nicole Lengyel, Principal Biologist, nicole.lengyel@dem.ri.gov
Seasonal Interns

**Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal
for the State of Rhode Island 2018**

Objectives:

- Continue to provide new and existing Rhode Island (RI) seafood dealers with technical support to maintain and improve dealer electronic reporting to the Standard Atlantic Fisheries Information System (SAFIS) pursuant to RI Marine Fisheries Statutes and Regulations.
- Provide technical and analytical support to the RI Marine Fisheries Quota Monitoring Program as well as maintain dealer compliance monitoring protocols for both quota and non-quota managed species by utilizing commercial landings data from SAFIS.
- Continue to collect and enhance trip-level catch and effort data through the RI Marine Fisheries Commercial Harvester Catch and Effort Logbook Program and the RI Electronic Recreational Logbook (eLOGBOOK) Program, and continue to transition commercial fishermen's primary reporting method to electronic trip reports (eTRIPS) including the use of the eTRIPS-Mobile Application.
- Maintain and improve the existing data feed of RI supplemental fisheries data to the ACCSP data warehouse.

Need:

Beginning in 2006, the Rhode Island Division of Fish and Wildlife, Marine Fisheries Section (RIDFW) implemented the marine fisheries commercial data collection program. This program collects trip level landings data from all dealers licensed in RI through direct dealer entry into the eDR (electronic dealer report) SAFIS application. Catch and effort data are currently collected from 100% of the fishermen in the state for the finfish, squid, whelk, and crustacean sectors. RI meets the ACCSP standard by maintaining a one-ticket system for the shellfish fishery sector and a two-ticket system for the crustacean, squid, finfish, and whelk fishery sectors. In addition, crustacean dockside sales are collected through a supplementary paper logbook which captures daily data of all sales. Data are transferred to the ACCSP data warehouse in the proper format annually.

Maintenance and coordination of the SAFIS data entry is critical for successful fisheries management in RI. This data has been essential for the determination of commercial catch and effort statistics, establishing an efficient quota monitoring process, as well as tracking active verses latent license holders. Quota monitoring is one of the most important uses of SAFIS data, as RI ACCSP staff analyze trip level commercial landings data for quota managed species in RI on a daily basis. These analyses are used to make decisions regarding seasonal closures and possession limit changes.

RI ACCSP staff is also responsible for outreach and support of the voluntary eLOGBOOK program in RI. This SAFIS application is used to enter and house recreational catch and effort data and is used by RI fisheries managers to determine possession limits and minimum sizes of important recreational species.

Furthermore, RI ACCSP staff continues to provide data feeds for lobster at-sea and port sampling data via the Atlantic States Marine Fisheries Commission (ASMFC) Lobster Database

and supplemental horseshoe crab, aquaculture, and dockside data for the Fisheries of the United States via ACCSP. Data feeds for finfish sampling to the ACCSP warehouse will continue to be developed and RI ACCSP staff will need to maintain this data feed once it is active.

With these programs established and planned enhancements scheduled for 2018, the goal of this project is to maintain these data feeds to the ACCSP while continuing to improve data quality as well as maintaining outreach to dealers and fishermen. The plan detailed below is similar to the scope of work proposed for the past several years.

Results and Benefits:

Collecting high quality, comprehensive fisheries data is essential to successful fisheries assessment and management. This project allows the current level of oversight and coordination of the ACCSP to continue in RI by providing funding for the staff necessary to maintain the project. **The state relies on comprehensive SAFIS eDR and eTRIPS/RI Commercial Harvester Logbook data for fisheries management programs including quota monitoring, resource assessment, license tracking, and resource allocation. The state also relies on eLOGBOOK data as it enhances and adds to the existing MRIP dataset with regard to landings and discards,** and most notably it increases our understanding of the length frequency distribution of recreational harvest. This comprehensive and timely data allows RIDFW to establish higher latitude in management programs which is encouraged by the fishing industry. **Additionally, once in the ACCSP data warehouse, the catch and effort and biological sampling data provided by RI can be utilized by other partners and stock assessment scientists for regional scientific assessment of important fish populations.** Although the work outlined in this proposal is specific to RI, **the presence of RI ACCSP staff provides many benefits to regional partners. These benefits include increased coordination between state and federal program partners, increased technical assistance, as well as the sharing of data collection methodology and troubleshooting techniques.**

Data Delivery Plan:

All landings data and catch and effort data collected by RI is entered in SAFIS. Landings data is entered directly into SAFIS eDR by the dealer twice a week and immediately available to ACCSP. Catch and effort (logbook) data is entered into SAFIS eTRIPS throughout the year. For the past several years the previous year's catch and effort data has been entered into SAFIS by late March/early April of the following year. **Once entered, all of this data is immediately available to ACCSP and other program partners who utilize SAFIS and the SAFIS tables within the warehouse. This data is also incorporated into the warehouse tables during the yearly uploads.**

Additionally, RIDFW collects data on crustacean dockside sales, horseshoe crabs, lobster (sea, port, and ventless surveys), aquaculture, and finfish port sampling. **Currently, the dockside sale, horseshoe crab, lobster, and aquaculture data is converted into the proper flat file format and submitted to ACCSP during the spring upload.** The data feed for the finfish port sampling is still being developed. Once it is active, RI's data will be submitted.

Approach:

Currently all licensed seafood dealers in RI are electronically entering trip level data into SAFIS at least twice weekly (Monday and Thursday) (RIMF, 2016). Dealers that hold federal and/or state dealer permits are provided support and initial SAFIS training regarding the SAFIS eDR system. **Technical support is provided to dealers who call or walk-in on a daily basis for questions regarding licensing, possession limits and seasons, reporting, and other topics. Site visits are conducted if further support and training are necessary.**

In order to ensure data quality and proper SAFIS reporting, the RIDFW strictly monitors dealer compliance. Phone calls are made to dealers who fall behind in reporting, and in cases where dealers are found to be non-compliant, administrative action is taken. The Rhode Island Department of Environmental Management (RIDEM) Division of Law Enforcement becomes involved when a dealer has repeatedly violated compliance regulations. This model has been very successful in bringing problematic dealers into compliance and needs to continue in order to collect the highest quality data in a timely manner consistent with Marine Fisheries Regulations. To summarize a dealer's compliance performance, dealer "report cards" assigning qualitative grades are mailed quarterly to all dealers. It contains information regarding the number of reports made during a period, the number of reports that were submitted late, and the number of times RIDFW staff needed to contact the dealer regarding late reporting and reporting mistakes.

Landings entered by dealers are routinely checked for accuracy, both via SAFIS audit protocols daily, and through additional weekly manual audits. Any issues discovered during these audits are addressed with dealers and corrected via National Marine Fisheries Service (NMFS) JIRA or through eDR directly. **Licensing and commercial vessel data generated from RIDEM must be kept up to date in SAFIS tables, and these updates occur via the SAFIS Management System (SMS) during scheduled weekly updates.** These audits and updates are of great importance and are necessary to maintain high standards of data quality.

Quota monitoring relies solely on accurate and up to date SAFIS data. Data are downloaded from SAFIS on a daily basis and analyzed using a software program developed in the statistical package R (R core team 2016). Once state landings data are in the software program, the data are sorted and filtered to detail daily landings of fluke, scup, black sea bass, striped bass, tautog, menhaden, bluefish, and smooth dogfish. **This data is then used to make fisheries management decisions, possession limit changes, and early seasonal closure decisions. Non-confidential, graphical updates of cumulative RI landings are then posted weekly to the RIDFW webpage as public information.**

Data requests from fishermen, academics, the RIDEM Licensing Division, and other stakeholders are also completed. **These requests support fisheries science and management decisions and are necessary to maintain the level of support required by the RIDEM and other regional fisheries managers. The data obtained becomes available to support state and regional stock assessments, economic analyses, and research.** All requests include only non-confidential data unless confidential access is granted through ACCSP channels. RI ACCSP staff are needed both to complete these data requests and handle confidential data access requests originating from ACCSP.

In addition to monitoring SAFIS landings data, metadata and socio-economic data are also collected by RI ACCSP staff. Examples of **metadata** include but are not limited **information regarding weather events** (i.e. wind data), **possession limits, and closed fishing seasons.** **Socio-economic data collected comes primarily from dockside sales of crustaceans from the state dockside sales logbook.** Economic data entered by the dealers are used in monthly summaries for RI's two largest ports, Point Judith and Newport. The data are used to justify funding for port improvements and maintaining shoreside operations that enhance commercial fisheries. Data are also used to highlight seafood availability and provide the basis for public outreach promoting local seafood consumption and improving the state's economy through support of the fishing industry.

Catch and effort data for all fisheries are essential for the RIDFW to provide efficient and effective management. **Harvesters in all commercial fisheries are required by RI law to submit catch and effort data to the RIDFW. Currently, all finfish, crustacean, squid, and whelk commercial fishermen are required to submit catch and effort information to the RIDFW.** Shellfish fishermen are not required to submit catch and effort logbooks because the data is captured via a one-ticket system.

There are approximately 1600 commercially licensed fishermen in RI. RI fishermen with a reporting requirement fall into two main categories: fishermen with a federal VTR requirement, and fishermen without a federal VTR requirement. Additionally, fishermen without a VTR requirement can elect to report either via the state paper logbook, or electronically utilizing the SAFIS eTRIPS application. Due to the multiple reporting options, at the time of license renewal/purchase the **fishermen must declare a reporting method: federal VTR, state paper logbook, or eTRIPS. Fishermen who selected paper logbook are also required to purchase the paper logbook endorsement to help contribute to the printing, mailing, data entry, and administrative costs of the paper logbook program.**

Federal fishermen are exempt from the state logbook program to ensure there is not duplicate effort information being collected, however they are still required per RIDFW regulation to submit reports. Previously, state copies of the VTR were required to be submitted to RIDFW. With the development of online databases, this is no longer required. At the beginning of the year, all fishermen who declared VTR as their reporting method are mailed a "VTR Declaration Form." This form asks the fishermen to supply RIDFW with their vessel information and commercial fishing license number. **This information is then used to track compliance for the fishermen using the online NMFS database.** This system for VTR compliance eases the burden on both the fishermen and RIDFW staff. Fishermen are now only reporting their catch and effort information to a single source (NMFS), decreasing confusion and mailing costs. This also decreases staff time used to track VTR compliance, as individual paper VTRs are not being collected.

Fishermen without a VTR requirement must submit catch and effort information directly to RIDFW. **All fishermen who declare the logbook as their reporting method needs to submit quarterly catch and effort paper logbooks using the postage-paid envelopes provided by RIDFW** to ensure timely return of completed logbooks.

Since 2012, RI fishermen have had the opportunity to enter their catch reports directly into eTRIPS. Currently there are approximately 775 active eTRIPS accounts in RI issued to fishermen who declared eTRIPS as their reporting method; **this is equivalent to 51% of all fishermen with a reporting requirement, a large increase as only 26% of fishermen were utilizing eTRIPS in 2014.** To help continue the trend to electronic reporting, RIDFW staff offers support to fishermen who want to learn and use the program. **Training sessions are held regularly for eTRIPS to ensure fishermen are entering data correctly, training materials are also available on the RIDFW website; outside of training sessions staff answer phone calls, emails, and walk-in questions about eTRIPS.** RIDFW intends to continue outreach for eTRIPS and eTRIPS Mobile to continue to increase the number of fishermen using electronic reporting. Details regarding the change in reporting method, and drastic increase in fishermen reporting electronically can be seen in Figure 2: Reporting Method Breakdown.

In addition to eTRIPS, **RIDFW also began outreach and training for eTRIPS - Mobile Application in 2016 and plans to continue this in the future.** The application allows for both real time data entry as well as post-trip entry. Reports submitted through this application fulfill both state reports and NMFS Greater Atlantic Regional Fisheries Office (GARFO) VTRs. **Utilizing the mobile application and offering training on the program will allow fishermen to enter data in real time, resulting in more accurate and time sensitive entries.**

Data quality is checked for each logbook submitted and any missing or inaccurate information is corrected through contacting the fishermen. Any logbook not completed in full is returned to the fishermen for correction. **All reports directly entered by the fishermen through eTRIPS are audited; in the event an error is found, the fisherman is contacted and sent a report with any corrections that need to be made.** In addition to audit reports, a quarterly email is sent to all RI eTRIPS users detailing the common errors seen during the auditing process, and stresses the importance of accurate reporting. RI commercial licensees may not renew their licenses unless they have correctly completed their catch and effort logbooks or eTRIPS reports for the entire year. Additionally, **harvester license number, dealer, and sale date from the catch and effort data are used to match records with dealer reports for quality control and assurance of the landings data.**

In addition to the harvester catch and effort logbook, **fishermen who hold a RIDEM crustacean dockside sales endorsement must fill out a dockside sales logbook which details the quantity, market, grade, disposition, and price of all crustaceans sold at the dock and submit it to RIDFW quarterly.** This dockside sales logbook is mailed to the 274 dockside endorsement holders and must be completed before the licensee can renew their license for the following year. **The dockside sales data captures some of RI's economic data, such as detailed price information on all dockside transactions. This data is transmitted to the ACCSP as supplementary data for the Fisheries of the US data feed.** RI ACCSP staff is needed to oversee data entry, perform quality control checks, and transfer the dockside sale data to ACCSP in the proper format.

In 2018, RI will continue to utilize and promote the voluntary eLOGBOOK program. This data can be used for recreational effort estimates as well as for important management

decisions in RI. **RIDEM Marine Fisheries regulation 7.9.1-2 made the use of eLOGBOOK mandatory by all Rhode Island party and charter vessels participating in the tautog fishery. Due to the development of the eTRIPS Mobile Application, RI Party and Charter vessels are also allowed to enter their information using the application.** Compliance will continue to be monitored for party and charter fishermen in the tautog fishery in 2018. The eLOGBOOK data also contains lengths of both fish harvested and released. This data was useful for all partners in the most recent **bluefish stock assessment, as discard data from eLOGBOOK was used in the 2015 benchmark assessment.** RI ACCSP staff will continue the outreach on eLOGBOOK to ensure the same quality of data will be available for use in future stock assessments.

RIDFW has port and at-sea sampling programs for selected commercial fisheries within the state. **The port sampling program focuses on collecting biological samples required by ASMFC fishery management plans.** These species include striped bass, weakfish, tautog, bluefish, menhaden, and lobster. **RIDFW's at-sea lobster sampling program focuses on ASMFC management needs** as well as state specific data needs. **RIDFW provides the data feed of lobster port and at-sea sampling data to ACCSP via the ASMFC Lobster Assessment Database.** Neither the lobster sampling programs nor the finfish sampling programs receive funding from ACCSP.

RIDFW staff also sit on ACCSP committees including: Operations Committee, Biological Review Panel, Bycatch Prioritization Committee, Commercial Technical Committee, Information Systems Committee, Standard Codes Committee, and Recreational Technical Committee. RIDFW staff are heavily involved in all aspects of ACCSP and contribute in full to all partners' interest.

From 2002 through 2014, RI had a full-time state coordinator to manage and implement the ACCSP data collection program funded through ACCSP. The state coordinator's duties were to develop, monitor, and update ongoing and long-term programs relative to implementing the standards of the ACCSP in RI. In 2014 and 2015 a state FTE administrative officer was the ACCSP coordinator role at a 33% funding level through ACCSP. A Fisheries Specialist was hired in 2014 to assist the administrative officer, and eventually transition into the ACCSP Coordinator role. In February 2016 the Fisheries Specialist was hired by RIDFW as a full time employee, and continues the ACCSP Coordinator duties in the FTE position. Project staff will continue to provide support with processing and data entry of harvester logbooks, aiding with compliance monitoring and data auditing, quota monitoring and compliance issues relevant to SAFIS, SAFIS technical support and outreach, ACCSP committees, eTRIPS and eLOGBOOK outreach, grant management, and long term program development.

This proposal represents a recurring project funded by ACCSP for the past sixteen years. Figure 1 provides a graphical representation of the total budget of \$204,985, with 62% of the total cost being an in kind contribution from RIDFW. Table 1 provides a brief project history of ACCSP Implementation in RI. ACCSP has funded the majority of RIDFW's data collection to date. Cost details for fiscal year 2018 are outlined in the requested budget while last year's requested funding is presented in Appendix A.

In a RIDFW white paper, Gibson and Lazar (2006) documented the deficiencies of the Rhode Island Marine Fisheries program and argued that significant infusion of funding and staff is needed. The RIDFW Marine Fisheries section has undergone a peer reviewed evaluation and need assessment, which concluded that RIDFW Marine Fisheries requires more staff to effectively maintain its services (Boreman et al., 2006). However, like many other states on the Atlantic Coast, the state of RI is experiencing fiscal shortfalls. **RIDFW is starting to actively assume some of the costs of ACCSP programs by devoting more staff time to the project and continues to seek alternate funding sources for the project.** In 2010 the state of RI implemented the Rhode Island Recreational Saltwater License. **Funds from license receipts are dedicated to the salary of a recreational biologist as well as improving data quality. The recreational biologist sits on the ACCSP recreational technical committee and does outreach for eLOGBOOK, thus these funds now help support the ACCSP program. Encouraging commercial fishermen to transition from paper logbooks to the eTRIPS reporting method through incentives, training programs and regulations has already decreased and ultimately will eliminate some of the costs surrounding the distribution and data entry required for paper logbooks.** This will reduce the RIDFW's dependence upon ACCSP funds for maintaining timely and accurate data feeds and will be completed as funding and staff time allows. **Furthermore, the transition the ACCSP coordinator from a fisheries specialist ASMFC employee to an RIDEM FTE (Principal Biologist) shows RIDFW's dedication to covering the costs of the ACCSP program in the future, but asks for funding assistance during this transitional time.**

RIDFW also recognizes the recent changes made to maintenance proposals regarding funding opportunities. While RI does not have a concrete plan in place to take over the funding, **different options are being investigated including: the continued move to electronic reporting, licensing solutions, and other means to fund the program. However, nothing is confirmed at this point, so the final years of available funding is important to RI and its ACCSP program.**

Geographic Location:

The project will be administered out of the Rhode Island Division of Fish and Wildlife office in Jamestown, RI. The scope of the project covers all of RI and adjacent state and federal waters fished by RI license holders.

Program Accomplishment Measurement Metrics:

The success of the project will be measured by the following metrics:

- Quality controlled data feeds to ACCSP to be delivered on time and in proper format.
- Catch and Effort and Dockside Sales Logbook program maintained through the eTRIPS program. **Landings data maintained through the eDR program.**
- **Provide support to RI dealers to improve landings data collection and data quality.**
- Dealer landings from SAFIS effectively used to monitor quota species, track fishing license activity, and support management programs.
- Improved quality in data submitted to the ACCSP.

Goal	Metric	Accomplished
Data Delivery to ACCSP	Supplemental data complete and available for spring upload	Data delivered to ACCSP in March annually
Landings and Effort Data Delivery to ACCSP	Trips Entered in 2016 by application	eDR: 27,410 (62,967 including federal trips) eTRIPS: 30,584
Support to RI Licensed Seafood Dealers	Dealer trainings and site visits in 2016.	4 new dealers 2 additional site visits
Quota Monitoring	Number of possession limit changes and early closures during 2016 determined through SAFIS data	21 changes in possession or early season closures

Table 1. Project History.

Year	Title	Cost	Results
2000	Implementation of the ACCSP Program in Rhode Island	230,938	Planning and development of ACCSP commercial module implementation
2001	Implementation of ACCSP Continuation	20,000	Implementation of trip level reporting for all RI lobster harvesters, Commercial fishing license reconstruction
2002	Implementation of Phase 2 of ACCSP in the State of Rhode Island	133,084	ACCSP coordinator hired, planning and development of electronic dealer reporting system (RIFIS)
2003	Implementation of Phase 3 of ACCSP in the State of Rhode Island	131,760	Phased Implementation of RIFIS with focus on high volume dealers
2004	Continued Implementation of the ACCSP Program in the State of Rhode Island	159,716	Transition of RIFIS to SAFIS, implementation of federally permitted dealers
2005	Continued Implementation of the ACCSP Program in the State of Rhode Island	95,365	Quota monitoring system developed using SAFIS data, regulation created requiring all RI dealers to report landings via SAFIS
2006	Continuation of SAFIS and Finfish Logbooks in Rhode Island	150,365	Implementation of SAFIS completed, Development of harvester logbook for finfish and crustacean fishery sectors
2007	Coordination and Development of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	145,697	Implementation of harvester logbook for finfish and crustacean fishery sectors
2008	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	128,647	Implementation of Dockside Sales Logbook, work begun on feeding data to ACCSP, maintenance of Data collection programs
2009	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	142,075	Data feeds of Logbook data and lobster biological sampling developed.
2010	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	100,983	eREC developed and eTrips pilot program started , data feeds continued, Fluke sector monitoring database developed, dealer report card system developed
2011	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,584	Automatic data feed for catch and effort data established via eTRIPS, eREC maintained and developed, data feeds continued
2012	Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	99,379	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued
2013	FY13: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	91,416	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2014	FY14: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	85,408	RSA tracking improved, maintenance of automatic data feed for catch and effort data via eTRIPS upload, maintenance of eLOGBOOK, data feeds continued
2015	FY15: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,719	Maintenance of automatic data feed for catch and effort data via eTRIPS on a real time basis, maintenance of eLOGBOOK, data feeds continued. Improvements to party and charter industry tracking. eTRIPS user outreach and training
2016	FY16: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	79,736	Maintenance of automatic data feeds for catch and effort data via eTRIPS, maintenance of eLOGBOOK data feeds continued. Outreach of eTRIPS Mobile application. Continue eTRIPS user training and outreach.
2017	FY17: Maintenance and Coordination of Fisheries Dependent Data Feeds to ACCSP from the State of Rhode Island	78,420	Maintenance of automatic data feeds for landings catch and effort data via SAFIS, eLOGBOOK data feeds, and supplemental data feeds. Outreach of eTRIPS-Mobile. Continue SAFIS user training and outreach.

Table 2. Milestone Schedule

Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SAFIS Support to RI Dealers	X	X	X	X	X	X	X	X	X	X	X	X			
Quota Monitoring	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS support to industry	X	X	X	X	X	X	X	X	X	X	X	X			
eTRIPS logbook Data Entry	X	X	X	X	X	X	X	X	X	X	X	X			
Data Feeds to ACCSP	X	X	X	X	X	X	X	X	X	X	X	X			
Semi and Annual Report Writing							X					X	X	X	X

Bold Comments indicate sections that help with the ranking process

Highlighted text indicates changes from the first submission

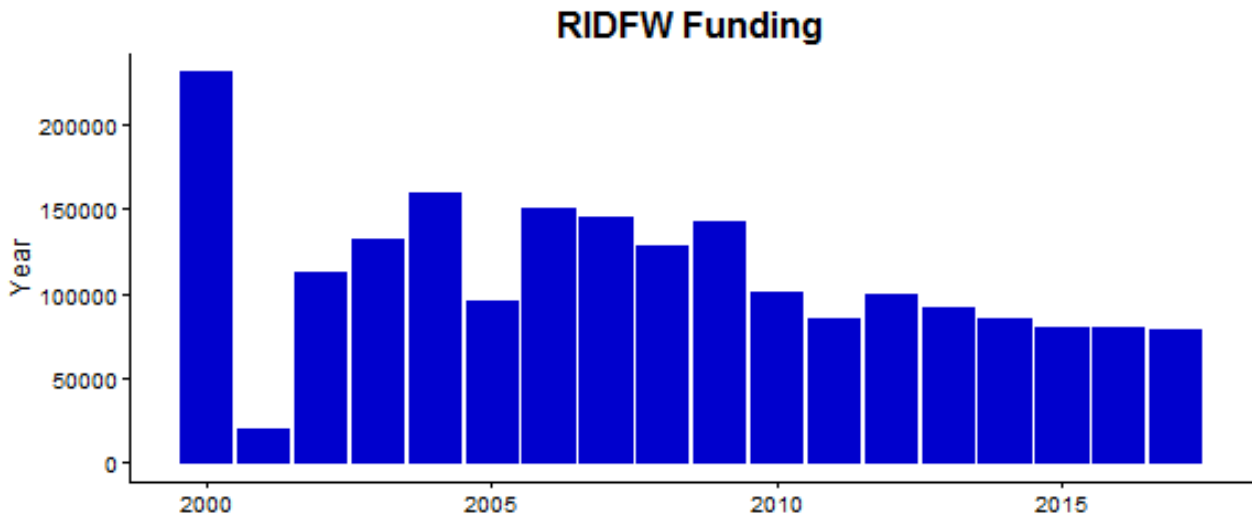


Figure 1. RIDFW past funding from ACCSP.

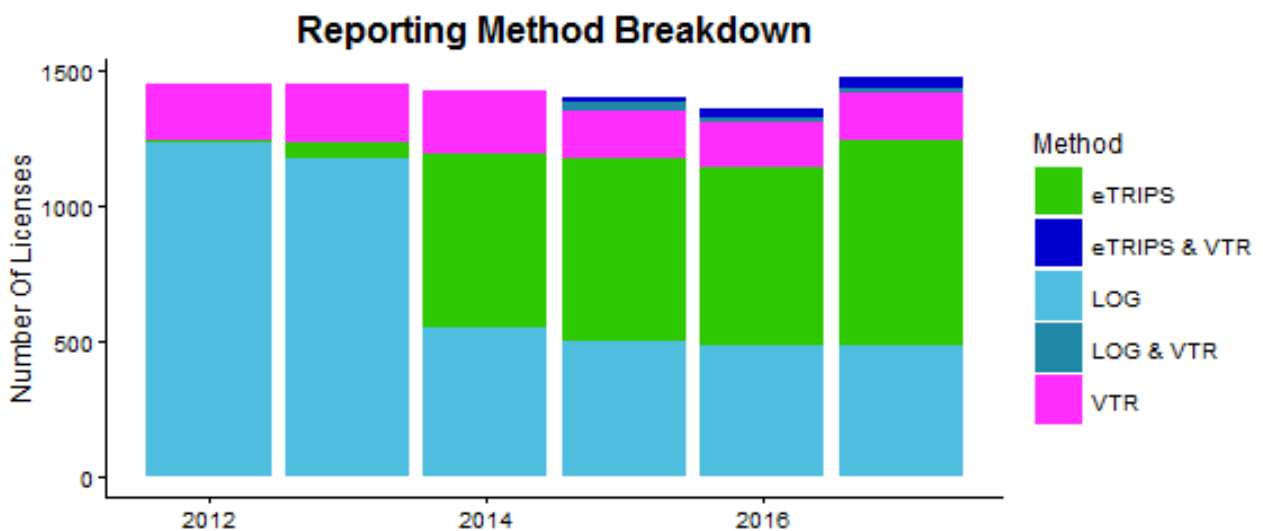


Figure 2: Reporting Method Breakdown

References:

Boreman, J., Diodati, P., O’Shea, and E. Smith. 2006. Assessment of the Rhode Island Department of Environmental Management’s Marine Fisheries Section. RIDEM Internal Document, October 2006.

Gibson M. and N. Lazar. 2006. Rhode Island Division of Fish and Wildlife, Marine Fisheries Section 2006: Current Activities, Funding, and an Appraisal of Future Needs. RIDEM Internal Document, August 2006.

Rhode Island Marine Fisheries Regulations (RIMFR), Part 7- Dealer Regulations, 2016

R Core Team (2016). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>.

Requested Budget FY 2018 (August 1, 2018 to July 31, 2019)

PERSONNEL COSTS:

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	\$0	\$12,312	\$12,312
Principal Biologist (FTE 60.5%)	\$0	\$50,159	\$50,159
Principal Biologist (FTE 49.5%)	\$39,315	0	\$39,315
Assistant Admin Officer (Contractual 40%/50%)	\$16,912	\$21,139	\$38,051
Seasonal Interns - 2 (RIDEM 50%)	\$10,692	\$10,692	\$21,384
Indirect Charges (RIDEM FTE 16%)	\$8,501	\$11,706	\$20,207
Total Personnel	\$75,420	\$106,008	\$181,428

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @ \$5.91 per logbook	\$0	\$3,546	\$3,546
Logbook Mailing @ \$4.75 per logbook	\$0	\$2,850	\$2,850
Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
Dockside Mailing @ \$5.91 per logbook	\$0	\$1,773	\$1,773
Business reply envelope printing	\$0	\$2,500	\$2,500
Business reply account	\$0	\$1,500	\$1,500
Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$1,500	\$1,500	\$3,000
Total Supply	\$1,500	\$22,057	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$76,920	\$128,065	\$204,985
Percentage	38%	62%	

Bold Comments indicate sections that help with the ranking process
Highlighted text indicates changes from the first submission

COST DETAILS:

Description of Budget categories and expenses for this project.

a. Salary

Each person spends a fraction of their time working on this grant in a team effort. The annual salaries for personnel and the percentage of their time spent on this project are as follows:

From ACCSP:

- i. **Principal Biologist/ ACCSP Coordinator:** 49.5% ACCSP funded position to act as support to the ACCSP Coordinator; 49.5% of salary for one year (\$58,011) = \$28,715.
- ii. **Seasonal Interns:** Support for 2 Seasonal Interns to assist with data entry 50% of annual salary (\$10,692) X 2 = \$10,692.

From RIDEM as match:

- i. **Supervising Biologist:**
Approximately 10% of annual salary (\$75,150) equals \$7,515.
- ii. **Principal Biologist:**
Approximately 40.334% of annual salary (\$58,011) equals \$23,398.
- iii. **Principal Biologist:**
Approximately 20.167% of annual salary (\$58,011) \$11,699.
- iv. **Seasonal Interns:**
Support for 2 Seasonal Interns to assist with data entry.
Approximately 50% of annual salary (\$10,692) X 2 = \$10,692.

b. Fringe benefits

Annual fringe benefits rates for all employees 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 Mercer - \$165/year

Assessed Fringe 4.25%

Retiree Health 6.75%

- Total annual fringe benefits for the Supervising Biologist are \$47,965. Fringe benefits for 10% of his time equals \$4,797.
- Total annual fringe benefits for Principal Biologist are \$24,897. Fringe benefits are divided 49.5% Federal / 40.334% match. Which equals \$12,324 Federal and \$10,041 match.
- Total annual fringe benefits for Principal Biologist are \$24,897. Fringe benefits for her time at 20.167% equals \$5,021.

c. Travel

\$1,500 used for mileage, tolls for site visits and meetings, and to subsidize vehicle usage by ACCSP staff as well as any incurred travel expenses for dealer visits; RIDEM will

assume half of the costs. These costs are based on historical used under the current award.

d. Equipment

No equipment will be purchased on this grant.

e. Supplies

From ACCSP:

- i. **Logbook Printing:** RIDEM will assume all costs of the printing.

From RIDEM:

- ii. **Logbook Printing:** 600 logbooks @ \$5.91/logbook – \$3,546.
- iii. **Logbook Mailing:** 600 logbooks @ \$4.75/book = \$2,850
- iv. **Dockside Printing:** 300 logbooks @ \$4.96/logbook - \$1,488
- v. **Dockside Mailing:** 300 logbooks @ \$5.91/logbook - \$1,773
- vi. **Business Reply Envelope Printing:** 20,000 Envelopes @ \$0.125/envelope = \$2,500.
- vii. **Business Reply Account:** \$100/month Mar-Nov; \$200/month Dec-Feb = \$1,500.
- viii. **Website Development and Updating:** Costs associated with maintaining current website and creating a website section dedicated to online reporting, including the creation of Online Training Videos and PowerPoint Tutorials. Estimated at \$2,400.
- ix. **Telephone and Fax usage** - \$500
- x. **Office Supplies** \$1,000
- xi. **Miscellaneous and outreach mailing:**
 - 1. **Compliance mailing:** 1,600*\$0.50 = \$800
 - 2. **License renewal mailing to notify license holders of renewal regulations and changes:** 3,000*\$0.50 = \$1,500
 - 3. **Dealer Report Cards:** 140*4*\$0.50 = \$280
 - 4. **Returned Logs:** ~2% per month of 1,600 = 32*12 = 384*\$0.50 = \$192
 - 5. **Miscellaneous/Outreach mailings:** ~\$228

f. Contractual

Contractual will include the time spent for a contractual employee: Assistant Administrative Officer. Contractual annual salary and administrative charges total \$42,279. The employee will be spending 40% of their time on this grant, and 50% will be supported by RIDEM and used as match. 40% equals \$16,912 and 50% is \$21,139.

g. Construction

There will be no construction as part of this grant.

h. Other

There is nothing in this category

i. Total Direct Charges

This is the sum of all direct charges to the grant, listed above.

j. Indirect charges.

Indirect charges are only calculated using RIDEM personnel charges. The negotiated Indirect Rate for fiscal year 2018 is 17%.

Summary of Proposal for Ranking

Proposal Type: Maintenance

Primary Program Priority: Catch and Effort (100%)

- 100% of dealers report trip level landings data for all species.
- 100% of commercial fishermen report trip level catch and effort data, which is entered into SAFIS (except federal permit holders that report on VTRs to NMFS) or via a 1-ticket system for shellfish entered at trip level by the dealer in the eDR.
- Metadata and socioeconomic that is detailed on page 6 are also collected to enhance and describe data sets that are important to RI's commercial fisheries.

Project Quality Factors:

Partners

- **Multi-Partner/Regional impact including broad applications** –To collect and manage catch and effort, landings, and recreational data in RI. However data on many regionally managed species, such as American lobster, striped bass, black sea bass, bluefish, tautog, and others is collected. As these species are regionally managed, the data collected are used in coastwide and regional stock assessments, therefore other partners benefit from having access to this data.

Funding

- **Contains funding transition plan** – This proposal contains a transition to funding plan on page 8-9. Changes in maintenance proposal funding has been addressed by RIDFW and the ACCSP Coordinator role has been transitioned to a Principal Biologist FTE. While RIDFW continues to ask for funds during this transitional period, it is understood there is a definite end date to the funds available to RI for this project.
- **In-kind contribution-** 62% of this project is funded by the RIDFW.

Data

- **Improvement in data quality/quantity/timeliness** – RI provides timely catch and effort data and landings data to the ACCSP. This is done by fully utilizing all ACCSP data entry products (eTRIPS, eDR, eLOGBOOK, and eTRIPS Mobile) as well as having standards backed up by Marine Fisheries regulations that require reporting that meets ACCSP standards. RI has successfully begun to push fishermen to using eTRIPS for direct data entry resulting in timelier data entry and is embracing eTRIPS Mobile for entry of data utilizing mobile devices. Additionally, all supplemental data (port and sea sampling, aquaculture, dockside sales, and horseshoe crab data) is provided to ACCSP annually in the proper format.
- **Potential secondary module as a by-product** – Social and economic data that is described on pages 6 is collected regularly and used in fisheries models to characterize and understand RI fisheries. This data has also been made available to regional partners upon request and has been used in groundfish disaster relief funding to determine how the money is to be distributed.
- **Impact on stock assessment-** Data collected in this program is regularly used for many “in-house” stock assessments done on local species such as whelk, quahog, and soft shell clam. This data also includes information on regionally or jointly managed species, and is used for their science and management programs as well. Partners, like surrounding states, the ASMFC, and the NOAA Fisheries can and do use this information for various stock assessments.

Bold Comments indicate sections that help with the ranking process

Highlighted text indicates changes from the first submission

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Appendix A: FY 2017 (May 1, 2017 to July 31, 2018)

PERSONNEL:

Item	ACCSP Share	Direct State Share	Total
Supervising Biologist (FTE 10%)	\$0	\$12,312	\$12,312
Principal Biologist (FTE 60.5%)	\$0	\$50,159	\$50,159
Principal Biologist (FTE 49.5%)	\$41,039	0	\$41,039
Assistant Admin Officer (Contractual 40%/50%)	\$16,912	\$21,139	\$38,051
Seasonal Interns - 2 (RIDEM 50%)	\$10,692	\$10,692	\$21,384
Indirect Charges (RIDEM FTE 16%)	\$8,277	\$11,706	\$19,983
Total Personnel	\$76,920	\$106,008	\$182,928

EQUIPMENT & SUPPLY:

Item	ACCSP Share	Direct State Share	Total
Logbook Printing @ \$5.91 per logbook	\$0	\$3,546	\$3,546
Logbook Mailing @ \$4.75 per logbook	\$0	\$2,850	\$2,850
Dockside Printing @ \$4.96 per logbook	\$0	\$1,488	\$1,488
Dockside Mailing @ \$5.91 per logbook	\$0	\$1,773	\$1,773
Business reply envelope printing	\$0	\$2,500	\$2,500
Business reply account	\$0	\$1,500	\$1,500
Website development and updating	\$0	\$2,400	\$2,400
Outreach mailing	\$0	\$3,000	\$3,000
Office supplies	\$0	\$1,000	\$1,000
Telephone & Fax Usage	\$0	\$500	\$500
Vehicle Usage and Travel	\$1,500	\$1,500	\$3,000
Total Supply	\$1,500	\$22,057	\$23,557

TOTAL:

Item	ACCSP Share	Direct State Share	Total
Total Direct Charges	\$78,420	\$128,065	\$206,485
Percentage	38%	62%	
Item	ACCSP Share	Direct State Share	Total

Bold Comments indicate sections that help with the ranking process
Highlighted text indicates changes from the first submission

Appendix B: Curriculum Vitae for Principal Investigator

Nichole L. Ares

Nichole.Ares@gmail.com

(978) 833- 4017

93A Mountview Rd, Narragansett RI 02882

Education

Roger Williams University
Bachelor of Science in Marine Biology
Minor in Mathematics

Bristol, RI
Dec. 2010
GPA: 3.212/4.0

Atlantic States Marine Fisheries Commission
Introduction to Stock Assessment

October 2015

Work Experience

Rhode Island Department of Environmental Management
Principal Biologist

February 2016-Present

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Reporting compliance for ~1500 RI commercially licensed fishermen. Including tracking compliance, training and support to fishermen on report submissions and utilization of the electronic reporting system. Supervise and train staff on data entry of collected catch and effort data. Audit data quality of submitted reports.
- Data accuracy and quality of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Correction of inaccuracies in data, training new seafood dealers, and retraining dealers with data entry issues.
- Serve on ACCSP committees, including Commercial Technical Committee, Information Systems Committee and Standard Codes Committee.
- Manage and operate the Narragansett Bay Juvenile Finfish Seine Survey.
- Assist in other field work as necessary including but not limited to otter trawl, ventless lobster pot, and ventless fish pot surveys.
- Write and submit project plans, compliance reports, and grant proposals.

Atlantic States Marine Fisheries Commission
Fisheries Specialist 1- ACCSP Coordinator

May 2014- February 2016

- Coordinate and improve the Atlantic Coastal Cooperative Statistics Program (ACCSP) in Rhode Island under the supervision of Rhode Island Division of Fish and Wildlife Marine Fisheries Section.
- Monitor commercial fishing quotas, lead quota management meetings and determination of seasonal closures and possession limit changes.
- Track reporting compliance for ~1500 RI commercially licensed fishermen. Train fishermen and seasonal staff on report submissions. Audit data quality of submitted reports.
- Audit and correct data of dealer reported landings data for the ~140 RI commercial licensed seafood dealers. Train new seafood dealers and retraining dealers with data entry issues.

Bold Comments indicate sections that help with the ranking process

17

Highlighted text indicates changes from the first submission

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- Write and submit project plans, compliance reports, and grant proposals.
- Member of various ACCSP committees, including Commercial Technical Committee and Information Systems Committee.
- Assist in field work as needed, including beach seine, lobster ventless pot, and otter trawl surveys.

East West Technical Services LLC Feb. 2012- May 2014
At-Sea Monitor and Scallop Observer

- Organize fishing trips with federal commercial fishermen of the North Eastern United States.
- Collect catch and discard data on groundfish (trawl, gillnet, and longline) and scallop dredge fishing vessels. Identify all species brought on board and take biological measurements and samples including; length, weight, scales, vertebrae, and otoliths.

Rhode Island Department of Environmental Management June. 2011-Dec. 2011
Division of Fish and Wildlife- Marine Fisheries Student Researcher April 2013-Oct. 2013

- Data and logbook entry using Microsoft Access, Microsoft Excel, SAFIS, and Telnet.
- Contact fishermen when questions arise with logbook submissions.
- Assist in field work sampling in beach seine, otter trawl, clam suction, clam dredge, lobster pots, fish pots, and finfish port sampling.
- Fish aging structure removal (operculum, scales, and otoliths) and preparation.

Research Experience

Roger Williams University June 2009- June 2011

- Project goals are to examine mercury bioaccumulation in fish tissues, examine selenium concentrations in tissues, and examine selenium mercury relationships.
- Includes sampling methods of rod & reel and otter trawl surveys, the extraction of muscle, liver, brain tissues, and otoliths. Preparing tissues samples for atomic absorption spectroscopy and inductively coupled plasma mass spectroscopy. Use of Microsoft Excel and SAS to analyze the data, PowerPoint to present data at conferences. Organize the laboratory and help keep scientific equipment running correctly.
- Mentor: Dr. David L. Taylor, Assistant Professor

Technology, Skills, and Certifications

- Proficient in Microsoft Word, PowerPoint, Excel, Access, and Picture Manager, SAFIS info systems, Telnet, HTML, Oracle Databases (SAFIS Interface and Business Objects), and R Studio
- Familiar with SQL.
- Large dataset management
- Certified PADI Open Water Scuba Diver
- RIDEM Certificate of Boating Safety Education
- U.S Coastguard Auxiliary Boating Safety Course
- Fisheries sampling techniques including fish and invertebrate identification, trawl, beach seine, lobster and fish pots, gillnets, and dissections.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

NATURAL & HISTORIC RESOURCES

DIVISION OF FISH & WILDLIFE

P.O. Box 420

MAIL CODE 501-03

Trenton, NJ 08625-0420

TEL. (609) 292-2965 FAX. (609) 984-1414

VISIT OUR WEBSITE WWW.NJFISHANDWILDLIFE.COM

CHRIS CHRISTIE
Governor

BOB MARTIN
Commissioner

KIM GUADAGNO
Lt. Governor

Atlantic Coastal Cooperative Statistics Program
Operation and Advisory Committee
1050 N. Highland Street., Suite 200 A-N
Arlington, VA 22201
August 21, 2017

I am pleased to submit the proposal titled "Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries". Please feel free to contact me with any questions or comments.

Sincerely,

Thomas A. Baum
Supervising Biologist
New Jersey Division of Fish and Wildlife
Marine Fisheries Administration Bureau of Marine Fisheries

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 North Highland Street, Suite 200 A-N
Arlington, VA 22201

Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries

Submitted by;
Tom Baum
New Jersey Division of Fish and Wildlife
P.O. Box 418
Port Republic, NJ 08241

Proposal for FY2018 ACCSP Funding

Updated August 21, 2017

Applicant Name: New Jersey Division of Fish and Wildlife
Bureau of Marine Fisheries
P.O. Box 418
Port Republic, NJ 08241

Project Title: Electronic Reporting and Biological Characterization of New Jersey Commercial Fisheries

Project Type: Maintenance

ACCSP Program Priorities: 1) Catch/Effort (55%), 2) Biological (45%)

Project Supervisor: Tom Baum, Supervising Biologist (NJDFW)
Chad Power, Biologist Trainee (NJDFW)

Principal Investigators: Jamie Darrow, NJ ACCSP Fisheries Specialist
Scott Stueber, NJ ACCSP Fisheries Specialist

Project Staff: Jamie Darrow, NJ ACCSP Fisheries Specialist
Scott Stueber, NJ ACCSP Fisheries Specialist

Requested Amount: \$164,356

Requested Award Period: September 1, 2018 to August 31, 2019

Revision Notes:

General comments are highlighted in **yellow**, numbered according to the order in which they appear in the advisory recommendations and are placed above the text (e.g. **xxxx**^{GC1}). Comments specific to NJ are treated similarly.

GC1: Reviewed	GC11: Reviewed
GC2: Reviewed	GC12: Reviewed
GC3: Reviewed	GC13: Reviewed
GC4: p. 16	GC14: Reviewed
GC5: Reviewed	GC15: Reviewed
GC6: Reviewed	GC16: pp. 7-8
GC7: p. 7	GC17: pp. 6-7
GC8: Reviewed	NJC1: p. 15
GC9: pp. 16-17	
GC10: N/A	

1. Objective

To continue New Jersey's trip level catch and effort data collection, dependent at-sea observer coverage, and biological characterization of commercial fisheries, a program started in 2001.

2. Need

Since 2001, several programs have been implemented by the New Jersey Division of Fish and Wildlife (NJDFW) through funds provided by the Atlantic Coastal Cooperative Statistics Program (ACCSP). These funds have been vital in proactive management of the marine resources in New Jersey (NJ). Loss of funding for these critical programs would result in a significant loss of commercial fisheries data collection for the State of NJ, the ACCSP, and the Atlantic States Marine Fisheries Commission (ASMFC).

NJ programs currently funded under the ACCSP grant include commercial trip level data collection via eTRIPS for all commercially important species including American eel, Atlantic menhaden, blue crab, and tautog; port sampling of the American eel, Atlantic menhaden, Atlantic croaker, weakfish, and American shad fisheries; at-sea observer coverage for American lobster off the NJ coast, and trip level dealer reporting and quota management through the Standard Atlantic Fisheries Information System (SAFIS) electronic Dealer Reporting (eDR). Four of the species that NJ collects biological data for occur in the upper quartile of the ACCSP Biological Priority Matrix. The major scope of work for the current FY2018 proposal has not changed from the accepted FY2017 proposal. As part of the ACCSP funding process, NJ has submitted all progress reports covering the FY2016 project to the ACCSP. The final FY2016 Report will be due on November 30, 2017. The NJ FY2017 project will begin on September 1, 2017.

2.A. Fisheries Dependent At-Sea Observer Program

NJ ACCSP staff has used at-sea observer coverage to describe fishing activities and aid in biological characterization of American lobster, and tautog. In addition, port sampling for tautog is also performed as a source of characterizing the commercial landings. The information collected is critical to accurate stock assessments and ultimately sustainable harvest practices for these species. Characterization of the NJ commercial tautog fishery began in 2007 and will continue through FY2018 to document sex ratios, length: weight relationships and age information. NJ ACCSP staff have been sampling federally and State permitted American lobster pot vessels since 2008 and will continue to do so based on Addenda VIII and X of the American Lobster Fishery Management Plan, which mandates at-sea observer coverage as a means of describing the fishing activities in southern New England. The ASMFC American Lobster Technical Committee encourages sampling at-sea as a way of monitoring commercial bycatch and discards in the fishery.

2.B. Biological Characterization of Commercial Fisheries

The NJ biological characterization sampling program provides accurate length, weight, age, and temporal data for stock assessment and management of commercial harvest for the NJDFW, ASMFC, and NMFS. Target sample sizes identified through the ASMFC's Fishery Management Plans (FMP) achieved from 2017 are found in Table 3 of the Appendix. Sampling is conducted through port of landings intercepts and will be continued in FY2018 for Atlantic menhaden, American eel, weakfish, Atlantic croaker, American shad, and tautog. NJ will continue sampling for black sea bass, summer flounder, river herring, and Atlantic croaker through independent sampling on the NJ Ocean Trawl Survey. Data collected will provide information on sex ratios/mean length/weight as identified by the Stock Assessment Review Committee (SARC) on June 20, 2008.

2.C. ACCSP Data Feeds

NJ is currently conducting several projects under the auspices of the ACCSP, most of which are mandates from the ASMFC and require compliance by the State of NJ to fulfill various ASMFC's FMPs. Equally important to the collection of fisheries dependent data is the assurance of accurate data entry and quality assurance before these data are used as fisheries management tools. The ACCSP has increasingly taken on more duties as the data depot starting with SAFIS and moving to Fisheries of the US for the NMFS. As such, it is advantageous to the success of not only the ACCSP, but to all 23 ACCSP partners that partner data be supplied to the ACCSP in a timely and accurate fashion facilitating the movement of data into fisheries management.

2.D. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports)

The importance of a standardized trip and dealer reporting system is clear. The effort put forth to use an all-inclusive standardized data entry program is critical for the NJDFW to provide a single location to find harvest data for multiple fisheries/species/years. Further, the importance of single source harvest data is similar to that for dealer data entry and warehousing: allowing managers and scientists to pull accurate landings data through a query database using common ACCSP data formats. The NJ ACCSP Fisheries Specialists provide support to federal/state permitted dealers facilitating weekly eDR reporting. Additionally, it is the responsibility of the NJ ACCSP staff to monitor landings through eDR, correct erroneous data when trip landings and dealer reports are inconsistent, and recommend closures when seasonal quotas are reached within the state. NJ has shifted to entering trip reporting data directly to SAFIS to increase efficiency in supplying the ACCSP and its partners with fishery dependent data. This was initiated in FY16 and will continue for FY18.

3. Results and Benefits

The ACCSP Coordinating Council approved NJ's proposal "Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ" for FY2017. Included again in the FY2018 proposal is the request for salary for staff on the project with a small amount of funds allocated towards aging summer flounder and black sea bass otoliths by the NMFS Woods Hole Laboratory. The FY2018 proposal will ensure that ongoing projects in NJ will continue to maintain NJ's participation in the ACCSP/ASMFC's mandated compliance programs. In kind state match, has averaged over 50% for the past six fiscal years (2010-2016) for the NJ ACCSP Program and continues to be the case for FY2018 (See page 15).

3.A. Fisheries Dependent Sampling Program

Lobster At-Sea Observer Coverage. In January 2008, at-sea sampling commenced aboard lobster vessels fishing in Lobster Conservation Management Areas (LCMA) 4 and 5 off the coast of NJ. Staff will continue at-sea observer coverage in FY2018 to characterize the NJ lobster fishery except during each LCMA closed seasons occurring April 30 - May 31 in LCMA 4, and February 1 – March 31 in LCMA 5. All data collected resulting from this program will be delivered to the ACCSP for inclusion into the Lobster Database. As this is the only at-sea observer program in LCMA 4 and 5, it is imperative to continue at-sea sampling.

3.B. Biological Characterization of Commercial Fisheries

Biological sampling for black sea bass, Atlantic menhaden, American eel, weakfish, Atlantic croaker, American shad, summer flounder, tautog and river herring was a maintenance project for FY 2017. Sampling targets were near 100 % of set goals during the first 10 years (2006-2016, Table 1) and will be similar for FY2018.

Commercial American eel, Atlantic croaker, weakfish, tautog, and American shad samples collected are processed at the NJDFW Nacote Creek aging facility in Port Republic, New Jersey. Atlantic menhaden bait samples collected from the NJ commercial purse seine, pound net, and gillnet fisheries are processed at the NJDFW Nacote Creek facility and forwarded to the NMFS Beaufort Laboratory, Beaufort, North Carolina for aging. Summer flounder and black sea bass collections made on the NJDFW Ocean Trawl Survey are processed for length, weight, and sex at the NJDFW facility, hard parts are collected and sent to the NMFS Woods Hole Laboratory for processing and age determination. Future samples collected will be processed and aged using the same protocol as in previous years. A current summary of species processed and aged by the NJDFW staff in support of this proposal are found in Table 1 of the Appendix.

A NJDFW Biological Characterization data entry system was developed in 2006 to warehouse all data collected under the biological characterization program. The NJ

biological database consists of trip level effort information from which the samples were taken and biological data taken from each individual sample. To date, all biological data collected for tautog, weakfish, Atlantic croaker, American shad, American eel, Atlantic menhaden, black sea bass, and summer flounder have been entered, processed for QA/QC, and are available for assessment purposes.

The ACCSP and ASMFC have established species specific biological sample size goals for each partner state based on the total annual landings for each specific species. Sampling targets for species not based on commercial landings were developed by NJDFW staff at the initiation of this project and may exceed what is mandated by ASMFC through species specific FMPs. All data entry is standardized in the ACCSP format and queried when needed by NJDFW staff members for inclusion in technical reports, stock assessments, etc.

4. Data Delivery Plan (GC17)

4.A. ACCSP Data Feeds

The NJDFW/NJ ACCSP staff provides the ACCSP with support tables to facilitate timely and accurate landings for all species in which trip level data are collected. FY2016 initiated the direct entry of trip level data into SAFIS. This will ensure a more efficient process for quality assurance and quality control performed by NJ ACCSP staff. It will also allow for a smooth transfer of data for the “End of the Year” Fisheries of the U.S. report submission.

4.B. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports)

The ACCSP and the State of NJ have accumulated a significant amount of commercial landings data while improving accuracy and efficiency through the use of eTRIPS and eDR. The eTRIPS program encourages fishermen to enter their own catch and effort data providing each fisherman the ability to review data without staff involvement. Commercial trip level reporting is mandatory for American eel, blue crab, tautog, and menhaden in NJ. Additionally, commercial trip level data are available to authorized NJDFW staff for query purposes used in harvest compliance, and stock management. NJ has gained a significantly larger amount of commercial landings data through eDR for tautog, eel, menhaden, and blue crab. NJ ACCSP staff remove duplicate reports from multiple sources (paper, e-TRIPS) prior to ACCSP data uploads, ensuring accurate landings. Continuation and maintenance of eDR is imperative for the improvement of NJ’s commercial fishery landings data collection. SAFIS eDR is the exclusive method of quota monitoring in NJ and has proven itself as a central management tool for monitoring fisheries status in NJ.

A major goal from the onset of the NJ ACCSP program was to develop and implement an all-encompassing commercial trip and dealer reporting system for the NJDFW. This goal was accomplished by NJ ACCSP staff on January 1, 2016, through the New Jersey

Commercial Harvester Trip Reporting Program. The New Jersey Harvester Trip Reporting Form was created to help standardize all trip level data collected, and provide fishermen with a single comprehensive reporting form for all issued commercial licenses. The New Jersey Harvester Trip and Dealer Reporting Forms collect both catch and effort, and bycatch and discards data. A copy of the harvester trip form can be found in Figure 4. A summary of New Jersey Division of Fish and Wildlife commercial trip reporting since the NJ ACCSP project's initiation is described in Table 2.

The New Jersey Commercial Harvester Trip Report Database was developed and is the primary database for New Jersey Trip Harvester Trip Reports submitted by fishermen. In combination with SAFIS eTRIPS, the New Jersey Commercial Harvester Reporting Form will comprehensively characterize the commercial fisheries within New Jersey State Waters. All paper reporting forms are entered into SAFIS, reviewed for quality assurance, and are available to the ACCSP immediately.

5. Approach

5.A. Fisheries Dependent Sampling Program 30% Allocated Funds

Lobster At-Sea Observer Coverage. The primary location of commercial lobster landings during the past 5 years off NJ takes place in LCMA 4 with some landings occurring in LCMAs 3 and 5. Therefore, at-sea observer sampling will consist of 13 trips per year in LCMA 4 (GC7). During each sampling effort, every lobster brought aboard the vessel is measured for carapace length in addition to biological observations including sex, egg development on females, cull status (number of claws), shell condition (diseased or not), and shell hardness.

Tautog At-Sea Observer Coverage. NJDFW will continue to collect filleted fish (racks) from the recreational hook and line fishery. Data collected include sex, length, weight, area fished, and effort data. Sampling targets can be found in Table 3 of the Appendix. Data from the commercial fishery will be entered through the ACCSP SAFIS eTRIPS application along with at-sea and port sampling of commercial fisheries.

5.B. Biological Characterization 15% Allocated Funds

Sampling of black sea bass, Atlantic menhaden, American eel, weakfish, Atlantic croaker, American shad, summer flounder, and river herring (alewife and blueback) will continue in 2018 based on 2017 annual landings of each species. Four of the species sampled by NJ are ranked in the top quartile of the biological sampling priority matrix. Effort, either at-sea or dockside, is assigned in accordance with guidelines defined in the ASMFC's FMPs for each species. NJ ACCSP staff and NJDFW seasonal technicians will continue to collect biological samples. Staff will process (cut and/or mount) all hard structures to be aged. The full-time staff of Principal Biologist, Biologist Trainee, and

Fisheries Specialists' at the NJDFW Nacote Creek facility in Port Republic NJ will age all hard parts collected, except menhaden, summer flounder, and black sea bass. Menhaden are sent to the NMFS aging lab in Beaufort, NC throughout the sampling year and are aged pro-bono. We have been providing samples for over 13 years and this has been beneficial to the coastwide stock assessment for Atlantic menhaden (Ray Mroch, Ray.Mroch@noaa.gov); summer flounder and black sea bass will be sent to the NMFS aging lab in Woods Hole, MA in early 2018 (Eric Robillard, Eric.Robillard@noaa.gov). For all other species, NJDFW and ACCSP staff have received the necessary training to process and read all the targeted otolith samples (Table 1 of the Appendix). NJ will coordinate with NOAA Fisheries-Greater Atlantic Regional Fisheries Office (GARFO) to avoid duplicate aging. (GC16)

Data collected from each sample is transferred to electronic format by NJ ACCSP staff (ACCSP Fisheries Specialists). After data are successfully entered and quality control measures have been performed, NJ ACCSP staff will send data feeds to the ACCSP for integration into the ACCSP Data Warehouse. This method will allow stock assessment committees, technical committees, and operations committees to view the status of the NJ biological sampling program. Species specific sampling and data collection methodology will follow previous sampling protocol. Species specific target samples sizes for 2017 can be found in Table 3 of the Appendix.

5.C. ACCSP Data Feeds 15% Allocated Funds

The NJ ACCSP Program supplies the ACCSP with data from multiple sources including paper/electronic landings data and biological characterization programs. Some NJ landings data are not collected via eTRIPS or eDR and must be converted from paper to electronic records. Included in paper reports are trip level landings of all commercially harvested fish by state permitted fishermen. Biological characterization data are collected for American lobster, black sea bass, American eel, tautog, weakfish, American shad, Atlantic croaker, summer flounder, and river herring. Following collection, the data are then input into SAFIS for future use and analyses by NJ and all other partners.

5.D. Commercial Trip and Dealer Reporting (eTRIPS, eDR, Commercial Harvester & Dealer Reports) 40% Allocated Funds

The continuation of SAFIS implementation includes components for web-based dealer reporting (eDR), web-based fishermen reporting (eTRIPS), paper-based data entry by NJDFW staff, report compliance monitoring, and site administration (user access, look-up tables, data correction, etc.). The NJ ACCSP Fisheries Specialists supervise the implementation of the NJ eTRIPS application. NJ ACCSP staff provide state permitted fishermen with user accounts, establish favorites lists and facilitate the usage of the eTRIPS application, a web based trip level reporting form. NJ ACCSP staff (Fisheries Specialists') develop and present training seminars for groups and conduct individual

meetings when necessary to support fishermen in the use and customization of the eTRIPS application. These training tools include Power Point presentations at local libraries, firehouses, and other public meeting venues. The NJ ACCSP project attempts to train multiple individuals at each meeting, however, there are frequently cases when individual attention and support is required outside of these announced seminars. In addition, NJ staff conducts compliance monitoring of reporting and perform QA/QC analyses of collected data. NJ ACCSP Fisheries Specialists identify and complete data gaps/user support for state-permitted dealers, fishermen, and managers. Cross validation for all species entered into eTRIPS with SAFIS eDR is completed during each reporting period to assure that duplicate reporting is not taking place by comparing electronic reports to those received in paper logbook format by the NJDFW for all commercial species. Compliance of fishermen monthly reports is facilitated using the eTRIPS program and the New Jersey Harvester Trip Reporting forms.

NJ ACCSP staff lends support to the majority of state permitted dealers, typically providing logistical information regarding quota status, vessel recognition, gear selection, and general state regulations. The NJ ACCSP staff will travel to commercial fishing facilities, provide assistance to permitted dealers pertaining to data entry for the eDR application as needed. All NJ ACCSP staff travel for dealer and fishermen support pertaining to SAFIS and eTRIPS data entry, meetings for the further development of NJ commercial fisheries landing statistics program, and training expenses incurred will be covered by the NJ ACCSP.

In addition to all trip and dealer reports entered electronically through SAFIS, NJ ACCSP Staff collect all paper trip reports submitted on the NJ Commercial Harvester and Dealer Reporting Forms. Harvester and Dealer Reports are due at the same frequency as electronic reports. Trip and dealer reports are entered into SAFIS and are processed for QA/QC. NJDFW staff enter all harvest data received by paper trip report forms directly into SAFIS to increase efficiency.

6. Geographic Location

The ACCSP Fisheries Specialists (2) will serve as the Principle Investigators. The project will be administered from the New Jersey Department of Environmental Protection (NJDEP), Division of Fish & Wildlife Nacote Creek Research Station in Port Republic, New Jersey.

7. Milestone Schedule: Month 1 following receipt of grant approval.

Description of Activity	Month														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Electronic Vessel Trip Reporting (monitor existing fishermen reports, train new fishers, rollout system for additional species, data entry of data collected via paper based reports)	X	X	X	X	X	X	X	X	X	X	X	X			
Biological Characterization of Commercial Fisheries (Collect lengths, weights and age structures from NJ's commercial fisheries. Process and age scales, opercula or otoliths collected)	X	X	X	X	X	X	X	X	X	X	X	X			
Lobster Landing Statistics (Lobster harvest data collection with components of eVTR, dealer data, at-sea sampling, port sampling)	X			X		X	X	X	X	X	X	X			
Tautog Landing Statistics (collection of commercial at-sea coverage data)	X	X	X	X	X	X	X	X	X	X	X	X			
ACCSP Data Feeds (data entry of all biological samples collected by the NJDFW, transmission of all data to the ACCSP through monthly data feeds, SAFIS support tables)			X			X			X			X			
Electronic Dealer Reporting (continue to perform quota monitoring and the online reporting of commercial fisheries landings data for summer flounder, black sea bass and scup)	X	X	X	X	X	X	X	X	X	X	X	X			
Semi-annual report 1							X								
Semi-annual report 2													X		
Final report															X

8. Project Accomplishment Measurements update

Project Component	Goal	Measurement
SAFIS Electronic Trip Reporting (eTRIPS) Phase I	Successfully collect data from fishermen reports, check for compliance, and perform quality assurance.	All data checked and compliance performed prior to the 10 th of the following month.
SAFIS Electronic Trip Reporting (eTRIPS) Phase II	Enter all received data submitted by fishermen, perform quality assurance measures.	All data entered and checked prior to the 10 th of the following month.
Biological Characterization of Commercial Fisheries	Meet all target sample sizes for length, sex, age for each species.	Number of samples collected.
Dependent Fisheries At-Sea Observer Program	Conduct the prescribed number of trips and collect target number of samples by species and management area.	Number of trips made and number of samples collected.
ACCSP Data Feeds	Supply the ACCSP with data feeds as described including participant, and landings data on the schedule described	Were the data feeds performed by the deadlines identified?
SAFIS Electronic Dealer Reporting (eDR)	Supply support to participating eDR dealers with NJ state dealer permits when requested. Perform report compliance monthly. Manage summer flounder, black sea bass, and bluefish quota as allocated to the State of NJ.	Was support provided and quotas managed?
New Jersey Commercial Harvester Trip Report	Create an all-encompassing reporting form for all state issued commercial marine fishing licenses.	All trip reports are entered and checked for quality assurance and accuracy.

9. FY 2018 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)

<i>Item</i>	<i>Total NJ DFW in-kind support</i>
Salaries (NJDFW)	
Supervising Biologist 5% in-kind (current FTE)	\$4,821
Principal Biologist-Lab Supervisor- 15% in-kind (current FTE)	\$12,739
Assistant Biologist- 50% in-kind (current FTE)	\$24,632
Biologist Trainee - 50% in-kind (current FTE)	\$22,527
Clerical 10%	\$2,600
Fringe benefits (46.35% on FTEs)	\$31,202
Hourly Technician (current PTE)	\$11,700
Fringe benefits (7.65% on PTE)	\$895
Supplies & Materials	
Scientific Equipment (Measuring boards, scales, calipers)	\$250
Materials for collection and preparation of scales, otoliths, opercula, etc.	\$350
purchase of samples (American eels)	\$600
Other	
NJDFW Trawl Survey (\$5,900 per day x 10 days)	\$59,000
Department Network account (OIRM)	\$4,000
NJ DFW indirect costs (20.29% of salaries)	\$23,601
Subtotal NJ funds	\$198,916
Append to ACCSP Administrative Grant	
Salaries (NJ ACCSP Staff)	
(a) 2 ACCSP Fisheries Specialists (ASMFC employees)	\$86,528
(b) Benefits 25%	\$21,632
Other	
(c) Travel (mileage and tolls)	\$4,000
(d) NMFS Contract; process and age summer flounder/black sea bass otoliths, (\$12.94/sample, 1,000 samples)	\$12,940
(f) * ASMFC Overhead (35%)	\$39,256
(g) ACCSP Admin Grant Project Costs	\$164,356
Total Project Costs (includes in-kind)	\$363,272

Budget Narrative

(a). Salaries; ACCSP Fisheries Specialists:

(2) NJ ACCSP Fisheries Specialists' annual salary.

(b). benefits of above employees

25% of the annual salary for the two NJ ACCSP staff.

(c). Travel (mileage and tolls):

The average number of miles traveled over the last three years to commercial docks, vessels, and instate meetings with industry representatives for the entire project = 7,477 miles / year.

$7,477 \times \$0.535 = \$4,000$ dollars.

(d). NMFS Contract:

For aging otoliths from summer flounder and black sea bass collected by NJ ACCSP Staff:

500 black sea bass otoliths x \$12.94 per otolith = \$ 6,470.

500 summer flounder otoliths x \$12.94 per otoliths = \$ 6,470.

1,000 total otoliths to be aged x \$ 12.94 per otoliths = \$12,940.

(e). ASMFC Overhead:

35 % of the sum of budget items a, b, and c.

(f). ACCSP Administrative Grant Project Costs:

Total of (a) through (f) does not include in-kind support. No funds are being directly received by the State of NJ.

The FY2018 budget is in two parts, the first part details the amount that is being provided as in-kind match by the NJDFW, while the second part is the amount to be amended to the ACCSP Administrative Grant. The \$164,356 covers the salaries for two Fisheries Specialist positions that were hired by the ACCSP and work out of the NJDFW's field office in Port Republic, NJ. This covers their fringe and indirect, the ASMFC's overhead, their travel for mileage, and tolls during port sampling and at-sea observer trips in addition to attendance at ACCSP Committee meetings. The ACCSP is also able to administer funds to have the summer flounder and black sea bass otoliths prepared and ages determined by the NMFS Northeast Fisheries Science Center staff.

The in-kind funding provided by the NJDFW includes; salaries for NJDFW full time employees under the titles of Supervising Biologist, Principal Biologist, Assistant Biologist, Biological Trainee, and Clerical; supplies for port sampling, aging laboratory materials, and purchasing eel samples; staff time for independent samples taken aboard the NJ Ocean Trawl Survey and processed at the NJDFW's Port Republic field station, as well Department network support for online reporting systems, and computer support for staff working under the ACCSP Project. Sources of in-kind funding come from the annual state appropriation for the NJ Bureau of Marine Fisheries and from the Atlantic Coastal Grant.

9.1 FY 2017 Budget (Letters in parenthesis pertain to Federal Grant Object Codes)

<i>Item</i>		<i>Total NJ DFW in-kind support</i>
Salaries (NJDFW)		
	<i>Calculation</i>	
Principal Biologist 5% in-kind		\$4,738
Principal Biologist-Age and Growth Lab Supervisor- %35 in-kind (current FTE)		\$28,218
Senior Biologist- 25% in-kind (current FTE)		\$13,694
Technician I-Data Processing and Entry- 50% ACCSP, 50% in-kind (current FTE)		\$28,190
Clerical 10%		\$4,922
Fringe benefits (46.35% on FTEs)		\$36,970
Supplies & Materials		
Scientific Equipment (Measuring boards, scales)		\$250
Materials for collection and preparation of scales, otoliths, operculi, etc.		\$350
purchase of samples (eel otoliths)		\$600
Other		
NJDFW Trawl Survey (\$5,900 per 12 hr day x 10 days)		\$59,000
Department Network account (OIRM)		\$4,000
NJ DFW indirect costs (20.29% of salaries)		\$24,794
Subtotal NJ funds		\$205,725
Append to ACCSP Administrative Grant		
Salaries (NJ ACCSP Staff)		
(a) 2 ACCSP Fisheries Specialists (ASMFC employees)	2 x (2080hrs x 20.00/hr)	\$83,200
(b) Benefits 25%	25% of total salaries	\$20,800
(c) Travel (mileage and tolls)	7,142 Miles x \$0.54/mile	\$3,857
(d) NMFS Contract; process & age fluke/black sea bass otoliths	12.94/sample x 1,000 samples	\$12,940
(e) * ACCSP Overhead (35%)	35 % of the sum of budget items a, b, and c.	\$37,750
(f) Total to append to ACCSP Administrative Grant		\$158,547
Total Project Costs = Subtotal NJ Funds + Total to append to ACCSP Admin Grant		\$364,272

10. Maintenance Projects (NJC1)

Amount of funds received directly by the NJDFW, the amount appended to the ACCSP Admin. Grant for NJ ACCSP Staff salaries, and the amount and percentage of in-kind funds supplied by the NJDFW for the ACCSP projects.

History Details for NJDFW ACCSP Funded Projects						
Fiscal Year	Period	Project	NJ ACCSP Funds Requested	Appended to ACCSP Admin Grant	NJDFW In-Kind	In-Kind Percentage of Total Project Cost
2001	9/01/2001 through 8/31/2002	Integration of Commercial Blue Crab Harvest Data into the ACCSP	\$133,988	\$0	\$0	0%
2005	5/01/2005 through 4/30/2006	Implementation of Phase 2 of the ACCSP for the State of New Jersey	\$89,180	\$84,375	\$41,831	19%
2006	9/01/2006 through 8/31/2007	Biological Characterization of Four New Jersey Commercial Fisheries	\$79,722	\$0	\$59,986	43%
2006	9/01/2006 through 8/31/2007	Continuance of Phase 2 of the ACCSP for the State of New Jersey	\$81,264	\$78,975	\$63,556	28%
2007	9/01/2007 through 8/31/2008	Implementation of eVTR, Biological Characterization and Continuance of SAFIS Coordination for the State of New Jersey	\$167,544	\$87,413	\$111,617	30%
2008	9/1/2008 through 8/31/2009	NJ Implementation of ACCSP Commercial Fisheries Data Collection; Electronic Vessel Trip Reporting, Electronic Dealer Reporting, and Biological Characterization.	\$128,536	\$150,525	\$86,609	24%
2009	9/1/2009 through 8/31/2010	Introduction & Continuance of SAFIS and Biological Characterization of Commercial Fisheries in NJ	\$52,814	\$174,096	\$132,008	37%
2010	9/1/2010 through 8/31/2011	Further Development of SAFIS and Biological Characterization of Commercial Fisheries in NJ	\$24,301	\$174,096	\$191,008	49%
2011	9/1/2011 through 8/31/2012	Continued Expansion of SAFIS and Biological Sampling for the Commercial Fisheries of NJ	\$0	\$188,779	\$191,008	50%
2012	9/1/2012 through 8/31/2013	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$192,100	\$240,897	56%
2013	9/1/2013 through 8/31/2014	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$192,100	\$240,897	56%
2014	9/1/2014 through 8/31/2015	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$75,988	\$152,602	\$159,227	41%
2015	9/1/2015 through 8/31/2016	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$158,740	\$205,725	56%
2016	9/1/2016 through 8/31/2017	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$167,956	\$205,725	55%
2017	9/1/2017 through 8/31/2018	Continued Dealer Reporting, Trip Level Reporting, and Biological Sampling for Commercial Fisheries in NJ	\$0	\$158,547	\$205,725	56%
Total Amount for all ACCSP Projects			\$833,337	\$1,960,304	\$2,135,819	43%

Proposal Summary for Ranking Criteria (GC9)

PROPOSAL TYPE: *Maintenance*

PRIMARY PROGRAM PRIORITY:

Catch and Effort: 100 % of permitted dealers in NJ will be submitting dealer reports through SAFIS eDR, for 100% of the species they purchase. 100% of the 21 commercial harvester license types will be submitting trip level catch and effort data, the remaining of harvester licenses are collected through the federal NMFS VTR program.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners-

Multi-Partner/Regional impact including broad application:

Although this project focuses on the activities of NJ permitted fishermen and dealers, it includes the data collection of species harvested regionally such as lobster, bluefish, summer flounder, black sea bass, scup, tautog, weakfish. Thus, the ASMFC will benefit from the dealer and harvester data collected from this project.

Funding-

Transition Plan: (GC4)

The NJ ACCSP Project in FY2013 included funds that went directly to the NJDFW for salaries and supplies. The NJDFW has proposed a landing license for all state fisheries several times over the years. The efforts have been thwarted by industry lobbyists who are opposed to any license. The NJDFW has been able to create an Atlantic menhaden landing license, the funds of which will be directed towards commercial fisheries research and management for that specific fishery. This specific license is limited entry with very specific qualifying factors to remain in the fishery. Because of this recent development, there are several commercial bases realizing the importance of mandatory reporting. These license funds will provide NJ with a source of revenue further relieving funding away from the ACCSP. These costs were removed in FY2014, and will continue to be covered as NJDFW in-kind match for FY2018.

In-kind Contribution:

The NJDFW is providing 56% of the project cost (see section 8).

Data:

Improvement in data quality/quantity:

The NJDFW has been able to provide commercial harvest landings data to the ACCSP for American lobster, Atlantic menhaden, blue crab, and American eel through annual data feeds. Additionally, the NJDFW will be able to provide all commercial state harvester landings through the Commercial Harvester Trip Report Program. The NJ eDR program continues to be monitored by the NJ ACCSP staff. This type of project and data management has ensured improvements in data quality, quantity and timeliness.

SECONDARY PROGRAM MODULE:

Biological Sampling:

NJDFW is collecting biological characterization data through port sampling and at-sea observer coverage for 10 species, 4 of which are listed in the upper 25% on the ACCSP Biological Priority Matrix.

PROJECT QUALITY FACTORS (Partners, Funding, and Data):

Partners:

NJDFW is collecting biological characterization data for 10 species of which 7 have regional management through the ASMFC's FMPs including weakfish, Atlantic croaker, American shad, tautog, American lobster, black sea bass, and summer flounder.

- American lobster at-sea observer data coverage includes trips in LCMAs 4 and 5.

- American eel sampling covers water bodies bordered by NY, NJ, PA, and DE.

- Atlantic menhaden samples are used by Seton Hall University to conduct chemical contamination studies through bioassay analysis.

Data:

All biological data collected by the NJDFW/NJ ACCSP staff are available for coast wide stock assessment. NJDFW blue crab harvest trip level catch and effort data are used by the state of Delaware to conduct their stock assessment within the Delaware Bay. NJDFW tautog biological sampling and aging data are used by coast-wide and regional stock assessment committee.

NJDFW at-sea lobster observer data are utilized regionally for stock assessment and recruit abundance. NJDFW weakfish and American eel biological characterization data are used for stock assessment.

Appendix:

Table 1. History of ALL biological samples collected by the NJ ACCSP program. American eel, American lobster, Atlantic menhaden, black sea bass all appear on the upper quartile of the ACCSP Biological Priority Matrix.

Year	Weakfish			American Eel			Atlantic Croaker			American Shad			Atlantic Menhaden		
	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Scales	Scales Aged
2004	71	57	57	0	0	0	0	0	0	0	0	0	0	0	0
2005	148	148	148	0	0	0	0	0	0	0	0	0	0	0	0
2006	379	311	300	457	141	104	364	364	364	0	0	0	310	310	230
2007	566	546	543	237	0	0	340	340	338	7	0	0	630	630	486
2008	457	451	448	547	508	259	608	500	498	36	34	0	760	760	667
2009	254	254	254	478	418	274	960	560	558	28	28	0	430	430	386
2010	650	571	571	399	384	346	750	750	749	42	42	0	560	560	421
2011	313	313	310	289	289	265	274	274	240	0	0	0	530	530	448
2012	202	202	154	140	60	60	660	635	635	0	0	0	890	890	826
2013	216	216	212	175	173	175	0	0	0	162	162	0	570	570	474
2014	108	108	108	197	197	188	27	27	27	81	77	0	890	890	0
2015	88	88	86	256	256	136	170	169	166	130	128	0	1301	1301	0
2016	80	80	0	280	277	0	166	166	0	142	136	0	1160	1160	0
2017	0	0	0	73	70	0	0	0	0	0	0	0	420	420	0
TOTAL	3532	3345	3191	3528	2773	1807	4319	3785	3575	628	607	0	8451	8451	3938

Year	Tautog			American Lobster		Black Sea Bass			River Herring			Summer Flounder		
	Lengths	Opercles	Opercles Aged	Lengths	Trips Made	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged	Lengths	Otoliths	Otoliths Aged
2004	176	176	176	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2005	208	208	208	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2006	339	339	339	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007	467	313	313	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2008	983	505	505	6330	11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2009	902	569	200	6785	14	N/A	N/A	N/A	2009	1850	0	N/A	N/A	N/A
2010	563	486	486	5569	10	91	91	90	378	306	0	247	247	231
2011	363	346	346	8661	14	106	106	106	655	509	0	340	340	335
2012	265	259	259	23690	20	109	109	108	891	889	0	393	393	377
2013	460	431	300	9954	9	142	142	141	226	226	0	360	360	350
2014	783	783	294	13482	13	113	113	113	319	319	0	347	343	323
2015	569	536	200	6352	10	126	120	120	156	156	0	360	359	336
2016	493	493	0	3710	5	113	112	0	0	0	0	339	338	0
2017	253	253	0	0	0	0	0	0	0	0	0	12	12	0
TOTAL	6824	5697	3626	84533	106	800	793	678	4634	4255	N/A	2386	2392	1952

Table 2. History of reported commercial fisheries in New Jersey state waters.

Fishery	Year									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
AMERICAN SHAD	X	X	X	X	X	X	X	X	X	X
CRAB DREDGE	X	X	X	X	X	X	X	X	X	X
BAIT NET									X	X
CRAB POT	X	X	X	X	X	X	X	X	X	X
LOBSTER, FISH CONCH POTS									X	X
DRIFTING GILL NET									X	X
FYKE NET									X	X
GILL NET MESH EXEMPTION PERMIT (GNMEP)	X	X	X	X	X	X	X	X	X	X
HAUL SEINE									X	X
MENHADEN									X	X
MINIATURE FYKES OR POTS	X	X	X	X	X	X	X	X	X	X
POUND NET									X	X
SHIRRED NET, PURSE SEINES, OTTER/BEAM TRAWLS									X	X
SHRIMP TRAWL									X	X
STAKED AND ANCHORED GILL NET									X	X
TAUTOG	X	X	X	X	X	X	X	X	X	X
WIRE POUND NET									X	X

Table 3. 2017 sampling targets for each of the nine species currently funded through the ACCSP.

2017 NJ ACCSP SAMPLING TARGETS		
Species	Target Lengths	Target Ages
American eel	350	350
Atlantic croaker	540	540
Atlantic menhaden	693	693
Weakfish	48	24
Shad	250	250
Summer flounder	500	500
Black sea bass	500	500
River herring	500	500
Tautog	480	480

Figure 1. Historical summary of the NJDFW tautog aging program (1993-2015).

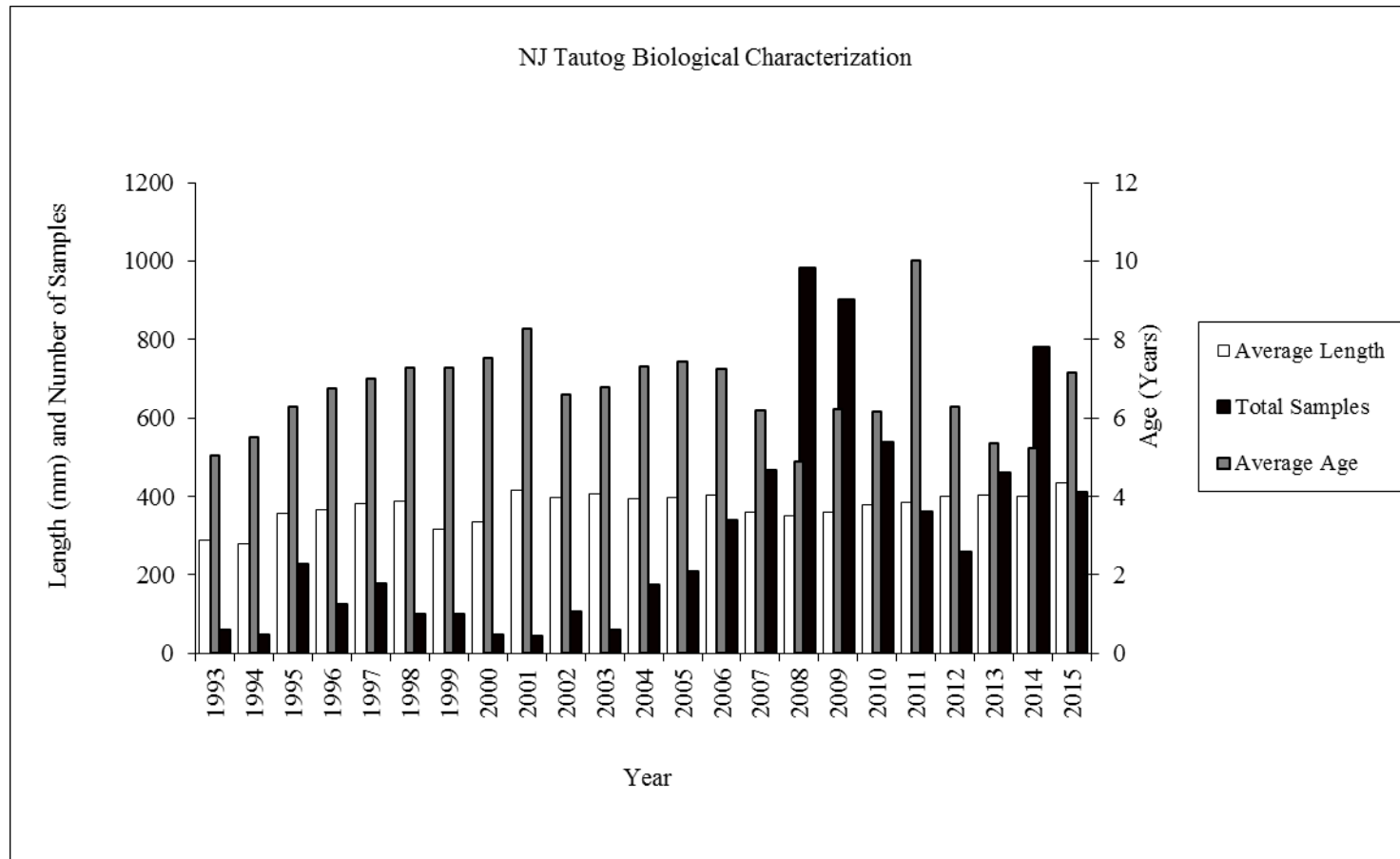


Figure 2. Average length at age for Summer flounder samples collected through the NJ ACCSP Project (2006-2015).

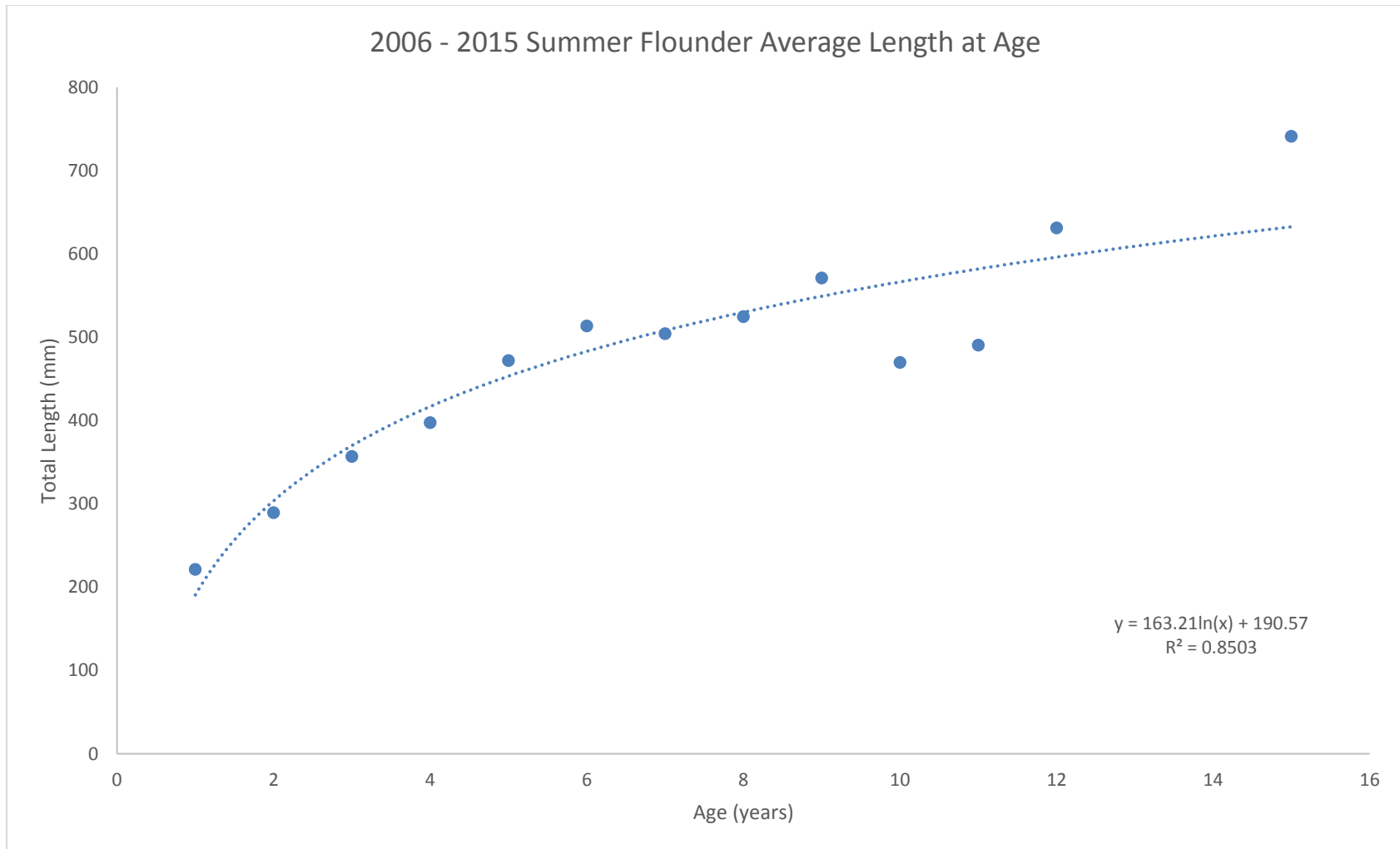


Figure 3. Average length at age for Black sea bass samples collected through the NJ ACCSP Project (2006-2015).

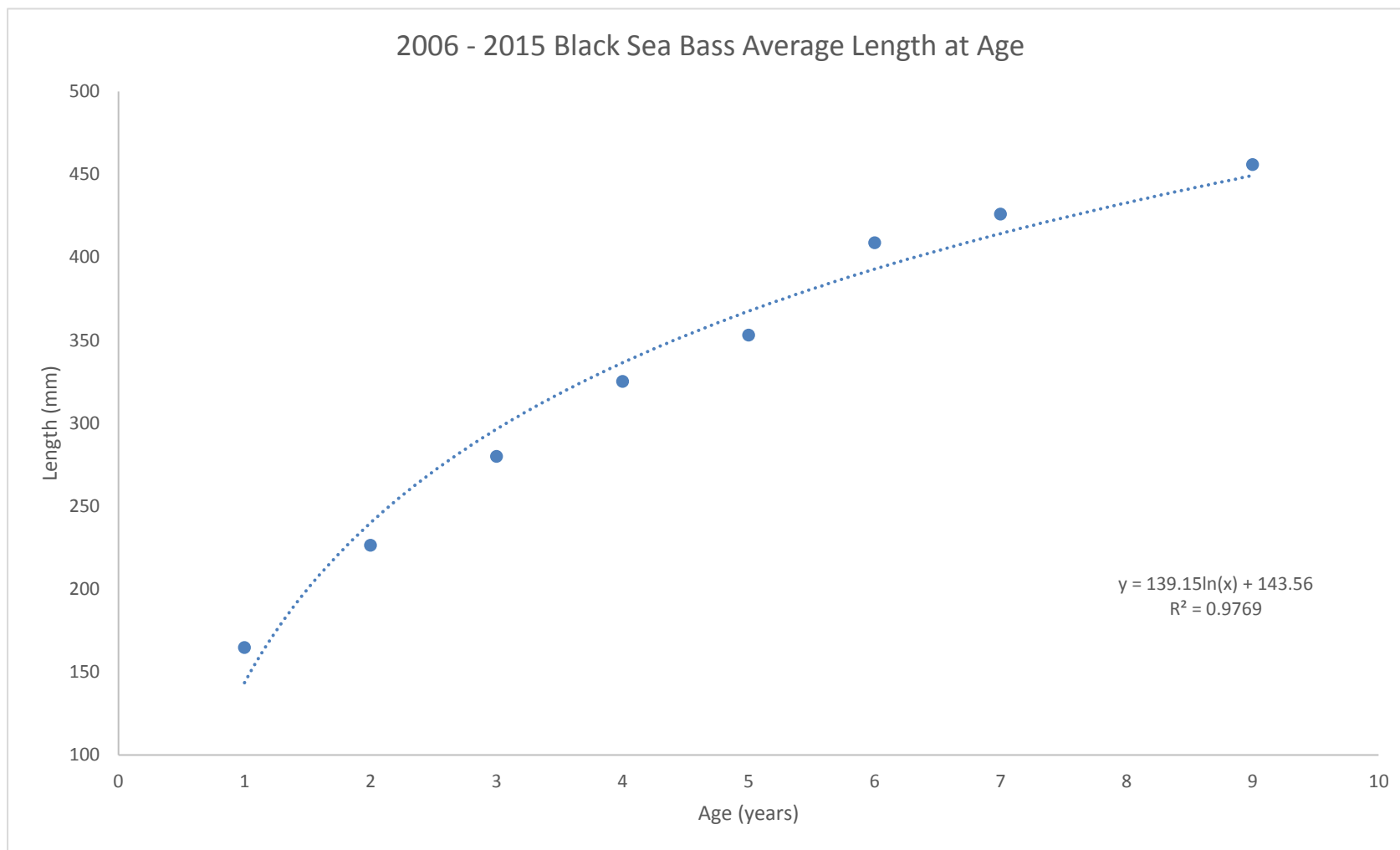


Figure 4. New Jersey Harvester Trip Reporting Form

Jamie Darrow

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SUMMARY OF QUALIFICATIONS

- Jamie is a passionate marine biologist with over 7 years' experience in fisheries science and over 5 years' experience in collecting, managing, and analyzing fishery related data. She possesses strong technical skills, a great attention for detail, and outstanding creativity. Her purpose in life is to help strengthen the value of fisheries to the economy, our communities, and marine ecosystems.

PROFESSIONAL EXPERIENCE

- 2017** **Fisheries Specialist**, Atlantic States Marine Fisheries Commission - Atlantic Coastal Cooperative Statistical Program - NJ Bureau of Marine Fisheries
- 2014-2017** **Biological Scientist 1**, Florida Fish and Wildlife Conservation Commission - Fish and Wildlife Research Institute – Fisheries Independent Monitoring
- 2012-2014** **Fisheries Technician** - NJ Division of Fish and Wildlife - Bureau of Freshwater Fisheries
- 2010-2012** **Natural Resource Interpretive Technician** - NJ Division of Fish and Wildlife – Information and Education

RESEARCH

- Co-author of *Fishes of Coral Creek and a Comparison of Fish Community Structure in Southwest Florida Tidal Tributaries* with D. A. Blewett, P. W. Stevens, and T. C. Macdonald
- Co-author of *Smalltooth Sawfish (*Pristis pectinata*) research and outreach: an interdisciplinary collaborative program* with Gregg Poulakis, et. al.
- Co-author of *Range of the Zebratail Blenny, *Hypseurochilus caudovittatus* (Bath, 1994), with comments on the distribution of the *Hypseurochilus* complex in the Gulf of Mexico* – in preparation.
- Created maps for *Temperature Variability in a Subtropical Estuary and Implications for Common Snook *Centropomus undecimalis*, a Cold-Sensitive Fish* by Dave Blewett and Philip Stevens, published in *Gulf of Mexico Science*.

EDUCATION

Florida Institute of Technology, Melbourne, FL
Bachelor of Science, Marine Biology 2009

SKILLS AND CERTIFICATIONS

ESRI ArcGIS, SAS, SPSS, MS Windows, MS Office Suite (Excel, Word, PowerPoint, Access, Outlook), Mac OS, Adobe Photoshop, Adobe Illustrator, Adobe Premiere Pro, computer-savvy

Accomplished photographer with photos on display at a La Quinta Hotel in Port Charlotte, Florida, and published in *NJ Freshwater Digest*, *NJ Saltwater Digest*, *Asbury Park Press*, and *On The Water*

PADI Open Water Diver Certification, CPR and First-Aid Certification, NASBLA Boating Safety Certification, Valid Driver's License for over 10 Years

SCOTT STUEBER

320 Huntington Avenue,

Pine Beach, NJ 08741

scottwstueber@gmail.com

EDUCATION

Stockton University, Galloway, NJ

Bachelor of Science: Marine Science and Biology, May 2017

PROFESSIONAL EXPERIENCE

Atlantic States Marine Fisheries Commission

Atlantic Coastal Cooperative Statistics Program, Port Republic, NJ

Fisheries Specialist, May 2017-Present

- Collaborate with commercial fisherman to enact at sea biological sampling for commercially important species
- Manage commercial fishery harvest data that are regulated by the Atlantic States Marine Fisheries Commission such as tautog, Atlantic menhaden, black sea bass, and summer flounder
- Partake in biological characterization of commercially important species. Lengths, weights, and sexes are recorded and age structures are collected
- Crew member for sampling various species of fish and invertebrates in the Atlantic Ocean aboard 80' research vessel
- Monitor commercial fishery quotas

New Jersey Department of Environmental Protection

Division of Fish and Wildlife, Bureau of Shellfisheries, Port Republic, NJ

Seasonal Fisheries Technician, June 2015-May 2017

- Crew member for sampling hard clams aboard 42' research vessel equipped with hydraulic clam dredge
- Crew member for sampling surf clams in the Atlantic Ocean using chartered commercial surf clam vessel
- Crew member for sampling various species of fish and invertebrates in the Atlantic Ocean aboard 80' research vessel
- Safe deployment and retrieval of Petersen bottom sediment grab sampler for collection of sediment and juvenile shellfish samples and associated species.
- Extensive laboratory work sorting, enumerating and identifying benthic samples for juvenile shellfish

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- Laboratory work performing sediment grain size analysis
- Data entry work into Microsoft Excel

Atlantic City Aquarium, Atlantic City, NJ

Intern, January 2015-May 2015

Responsibilities included:

- Educating guests on exhibits throughout the aquarium.
- Promoting marine conservation to the public
- Perform interactive animal demonstrations and presentations to the public
- Act as a dive tender to assure safety of divers while in 25,000 gallon tank

New Jersey Department of Environmental Protection

Division of Fish and Wildlife Bureau of Fisheries, Port Republic, NJ

Volunteer, June 2014-August 2014

- Crew member on river herring survey, sampled populations in several different rivers across the State of New Jersey
- Sampling methods included: seining, counting, measuring and recording species data

PROFESSIONAL SKILLS

- Proper use of equipment: seine net, Niskin bottle, hydrometer, salinity refractometer, otter trawl, Van Veen sediment grab sampler, Peterson grab sampler, clam rake, clam tongs, plankton net, YSI water quality testing monitor, field guides, refugium, tank filtration systems and heaters.
- Experience using Microsoft Excel for data collected and Microsoft PowerPoint for preparation of oral presentations
- Experience, extracting of Otoliths, scales and opercula bones from a variety of species for aging purposes

HONORS AND PROFESSIONAL AFFILIATIONS

- PADI Open Water Scuba Diver Certification, 2014
- American Heart Association CPR/AED and First Aid certified
- Boy Scouts of America, **Eagle Scout**, 2010
- Mid-Atlantic Chapter of the American Fisheries Society (student member)

**FY 2018 Atlantic Coastal Cooperative Statistics Program (ACCSP)
Funding Request Proposal – June 16, 2017
Revised – August 21, 2017**

Applicant: South Carolina Department of Natural Resources (SCDNR)
Marine Resources Division, Charleston, SC

Principal Investigator: Amy Dukes, SCDNR Statistics Section Leader

Project Title: ACCSP Data Reporting from South Carolina’s Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection (70%)
2) Biological Sampling for Hard Part/Aging of Offshore Species (30%)

Project Type: Maintenance Project: One-year
(No change in scope of work, continued emphasis on Electronic Data Reporting)

Requested Award Amount: \$163,221 (Excludes 5% NOAA Administrative Fee)

Requested Award Period: One-year, September 1, 2018 thru August 31, 2019, or after receipt of funds

Objective: The objective of this study is to successfully execute two ACCSP Primary Program Priorities with South Carolina Commercial Fisheries:
Catch/Effort Data Collection (70%)
Biological Sampling (30%)

Currently, SCDNR is actively engaged in collecting consistent ACCSP standardized trip-level data for 100% of all marine and diadromous commercial fisheries in South Carolina. The proposed funding would allow SCDNR to maintain compliance with ACCSP data requirements and standards through the continuation of commercial catch and effort data collection, data entry, database management, and administrative support. It will also enable collections of biological samples, including otoliths and length frequencies, from species in the snapper/grouper, pelagic, and coastal migratory complexes landed commercially in South Carolina. These data serve as an integral component of the development, implementation, assessment, and maintenance of fisheries management plans for Atlantic Coastal fish stocks.

Need: It is crucial to assess comprehensive catch/effort data and to collect biological samples in order to effectively and efficiently manage fisheries. Fishery dependent data, provided by commercial fisherman, has a direct impact on fishing management and the sustainability for the industry. The information gathered is used to evaluate the need for potential changes to fisheries regulations and to monitor commercial fishing quotas across the southeast. These data are used to support stock assessment analyses for state and federally managed species, and are responsible for the assessment of finfish stocks to identify fisheries trends and assess management priorities while meeting regulatory requirements under the Magnuson-Stevens Act. Atlantic States Marine Fisheries Commission also needs reliable and detailed data to evaluate the effectiveness of Fisheries Management Plans.

Catch and Effort - Since 1976, South Carolina has required mandatory reporting (regulatory authority, Title 50, Section 50-5-380, SC Code of Laws) of monthly totals of commercial landings from licensed wholesale seafood dealers. Since 2003, these data have been provided on a trip-level basis. **Currently, 100% of all commercial fisheries products landed in South Carolina are required to be reported through ACCSP compliant trip-level logbooks/electronic applications.** These data are collected through a one ticket system, meaning that all fishing effort (provided by the harvester at time of sell/purchase), pounds of catch and product values (provided by the purchaser) are obtained and reported by the licensed wholesale seafood dealer and/or bait dealers on logbook forms provided by the agency. These logbooks were designed to be fishery/species-specific to allow detailed and complete catch per unit effort data to be recorded for each fishery type. The logbooks/electronic applications collect the following data fields: product volume (i.e. pounds, bushels), product price, disposition (i.e. gutted, whole) and market category (i.e. small, large), gear type (i.e. trawl, hook and line), area and sub-area fished (i.e. river system, port), commercial fisherman information (name and license), vessel name and registration numbers, number of crew, time fished (gear soak time), and specific information on amount of gear effort (i.e. number of nets/lines/traps, number of hooks per line, number of sets/hauls, line length). The logbooks are bound and are carbon copied, as they serve as business receipts for the harvesters, and dealers can use them as a bill of lading. Examples of three commercial trip-logbooks, Daily Crab, Offshore Finfish, and Bait Dealer are provided below in Appendix 1, 2, and 3. Currently there are 1,571 licensed commercial saltwater fishermen, 63 bait dealers, and 281 wholesale dealers in South Carolina, of which 253 are reporting via paper logbook and 28 federal dealers are using electronic entry. Commercial fishermen, wholesale seafood dealers, and/or bait dealers who fail to make accurate, timely and complete reports are subject to Law Enforcement actions, including fines and possible suspension of licenses.

Electronic data collection has continued to be a major focus in South Carolina, as National Marine Fisheries Service (NMFS) has collected electronic data from federally permitted seafood dealers since 2011 (Southeast Regional Office, SERO) and 2013 (Highly Migratory Species, HMS) in order to track species for quota monitoring. The initial outreach efforts by SCDNR have been restricted solely to federal dealers. Although the concept of electronic data reporting was not well received by the majority of dealers, the 31 federal dealers that are currently using the provided data platforms have adjusted well. A dedicated staff member was hired in October 2015 to focus on electronic data reporting which was initially funded through ACCSP allocations in FY2014. The new commercial outreach coordinator position's goal is to provide outreach, education, and support to federal dealers while initiating efforts to have state-only dealers utilize the electronic infrastructure. The coordinator has made quick work of learning all the aspects of commercial data collections, building relationships with existing federal dealers and partner agency staff, and providing technical support to dealers. Additionally, work has begun with ACCSP staff to revise the existing SAFIS platform, which was developed in 2010, to ensure that the all data parameters are updated. The final step, which will be completed this fiscal year, will be to develop functional outreach tools including a commercial data information website, video tutorials, a frequently asked questions list, etc. for SAFIS users to review, with the intent of creating a seamless transition to electronic data reporting for all dealers while ensuring compliance and data integrity. **Although electronic data collections are a priority, at this time, staff are not prepared to request state legislation to change state regulations to require mandatory electronic data. As federal agencies continue to increase electronic monitoring programs for all fishing sectors, their momentum may serve as catalysts to increase state only fishing sectors to report electronically. Quality of data is still the foundation for fisheries data collections, and since electronic data has not been well received, staff feel, that at this time, requiring electronic data reporting is not ideal.**

The requested funding for this project would allow SCDNR to continue to employ Fisheries Statistics Section (FSS) staff, including a commercial outreach coordinator, data manager, compliance coordinator, and data entry positions, as well as support for printing and postage costs associated with these data collections.

Biological Sampling - SCDNR currently conducts dock-side sampling efforts on commercially landed finfish, collecting biological samples including, but not limited to, otoliths and length frequencies. **ACCSP-compliant biological sampling data from the snapper/grouper complex, and coastal migratory and pelagic species are collected through the Southeast Fisheries Science Center (SEFSC) Trip Interview Program (TIP).** Through TIP, port agents often collect additional biological data including tissue (DNA), stomach and gonad samples from species over and above the sampling targets, as these species are of interest to SCDNR and are related to project goals under the agency's overall mission to manage and protect South Carolina fisheries. These additional samples will be analyzed in-house under the direction of SCDNR Marine Resources Monitoring, Assessment, and Prediction (MARMAP) program staff, and will increase the amount of available data for future stock assessments. These additional samples will not utilize ACCSP requested funds except to cover the port agents' salaries and travel expenses since these additional samples are taken cohesively.

The requested funding for this project would allow SCDNR to maintain these consistent biological sampling efforts by continuing to employ two port agents with the FSS.

Funding Transition:

SCDNR continues to have discussions with state representatives and legislators about securing reoccurring state appropriated funds to accomplish the ACCSP Catch/Effort and Biological Sampling priorities, however at this time there is no direct long-term state funding available. Several funding proposals have been submitted to the SC Legislature for consideration, unfortunately at this time, the requested funds have not been approved. Efforts will continue to be made to attempt to procure state funding, and it is the goal of the agency to secure state funds in the near future.

Results and Benefits:

FSS staff and port agents facilitate the partnership between the commercial fishing sector and state/federal management entities to maintain positive working relationships between all parties. SCDNR will work to maintain open and effective lines of communication with all commercial fishermen, bait harvesters, and wholesale dealers to ensure that everyone understands the importance of timely, accurate and complete data submissions associated with the management of marine fisheries.

Catch and Effort - The trip-level data collected will provide comprehensive and comparable landings data which will be used to evaluate the current effectiveness of fisheries management, develop and set priorities for new Fisheries Management Plans in conjunction with state and federal partners and councils.

Biological Sampling - This level of biological sampling is essential for the evaluation of finfish stocks, and the resulting comprehensive and comparable dataset will be essential to set priorities for and evaluate the effectiveness of current and future fisheries regulations, quotas, and management plans.

Data Delivery Plan:

All available SC trip-level catch and effort data will be converted to ACCSP codes and follow all established standards. Data will be transmitted to ACCSP, at minimum, quarterly, followed by complete calendar year data being transmitted on or prior to typical March deadlines established by ACCSP. Additionally, when special data needs are requested, for example, related to quota monitoring, SCDNR staff will work with ACCSP staff to provide the most accurate and complete data.

Electronic data collections of offshore fisheries products from federally permitted dealers through SAFIS and Bluefin data applications continues to be a primary focus for the agency. Electronic data allows for better efficiency with respect to quota monitoring efforts. SCDNR staff continue to work with federally permitted dealers to insure they understand and can utilize the available electronic applications to enter and submit data in

order to meet submission deadlines. This outreach effort has improved timeliness and completeness of this data, and furthermore the state managed fisheries data as well. QA/QC checks of the offshore federal data, with in the quarterly submission timeframe, will occur in order to insure accurate and complete data. The SAFIS data will be loaded directly into the data warehouse on a similar quarterly basis.

Approach:

Catch and Effort Tasks

1. Collection and entry of all commercial fisheries trip-level catch and effort data through a mandatory trip ticket reporting system in accordance with ACCSP protocols and standards.
 - SCDNR will continue to employ two Data Specialists, one Data Administrative Assistant, one Data Manager, one Commercial Outreach Coordinator, and one Section Manager Leader responsible for all commercial catch and effort compliance, data entry, editing, and submission to ACCSP.
 - Individual trip tickets will be required from dealers and tracked for compliance for all commercial fisheries products landed in South Carolina.
 - Non-compliance offenders will be reported to SCDNR Law Enforcement and are subject to action. Statistics staff will assist with prosecution efforts by providing evidence in court.
 - Trip tickets will be reviewed for completeness, edited as necessary, entered and verified.
 - Trip ticket logbooks will periodically undergo a review process in order to identify areas for data collection improvements, and to ensure that dealers understand all data fields.
 - Efforts to QA/QC licensing data will continue as necessary to ensure the cohesion and integrity of FSS databases.
 - Data will be converted to ACCSP codes and transmitted to ACCSP.
2. Editing and verifying commercial fisheries trip level catch and effort data through electronic data reporting.
 - Staff will continue to focus efforts on compliance, outreach and education to federal dealers and continue to urge state dealers to utilize the ACCSP's Standard Atlantic Fisheries Information System (SAFIS) or Bluefin platforms to report catch and effort data electronically.
 - FSS staff will verify consistencies and edit as necessary catch and effort data reported between mandatory trip tickets and electronic data submissions.

Biological Sampling Tasks

1. Collection of biological samples from commercially landed species within the Snapper/Grouper, Coastal Migratory and Pelagic fisheries, in compliance with ACCSP Biological Sampling standards.
 - SCDNR will continue to employ one full-time and one part-time port agent to collect age structure (otoliths) and length frequencies from targeted species.
 - Port agents will focus their efforts on intercepting commercial vessel trips at specific wholesale dealers/docks where these species are typically landed.
 - As the catch is unloaded, specimens will be randomly selected (in order to avoid sampling bias), identified to species, length recorded and otoliths collected. Otoliths will be extracted through the gill plate so that the market condition of the fish is not compromised.
 - Species selection does incorporate the ACCSP Biological Review Panel species list and/or Southeast Fisheries Science Center (SEFSC) staff recommendations. Port agents do have the ability to collect biological samples for species of interest to SCDNR.
 - Port agents help to ensure that wholesale seafood dealers are completing the mandatory trip tickets both accurately and in a timely manner.
2. Biological sampling data will be edited, entered and verified in the TIP online database and submitted on a monthly basis.

- As part of the TIP protocol, in-person interviews will be conducted at the time of the biological sampling to gather necessary catch and effort information from vessel captains.
- Catch and effort data will be compared and verified with the trip ticket logbook data. All data collected will be entered into the TIP online database following established protocols including QA/QC practices.
- Age structure samples (otoliths) will be prepared, packed and shipped to be analyzed at the SEFSC Beaufort Marine Laboratory for aging and data processing following TIP protocols.
- Once processed, these age and length samples are used in stock assessments, primarily for age at length models and/or used to proportion unclassified finfish grouping to individual species (triggerfishes).

Geographic Location:

The project will be headquartered at the SCDNR Marine Resources Division facility in Charleston, South Carolina. Project personnel are responsible for all data collections for marine commercial fisheries from multiple ports along the South Carolina coast.

Milestone Schedule:

Catch and Effort	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Task 1 Collection of trip level commercial catch data and related effort data in accordance with ACCSP standards.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 2 Data entry, editing and verification of fisheries trip level reporting data.	X	X	X	X	X	X	X	X	X	X	X	X	X	
Task 3 Conversion of data to ACCSP codes and data transmission to ACCSP in a timely manner.	X	X	X	X	X	X	X	X	X	X	X	X	X	
Task 4 Report writing period.											X	X	X	X
Biological Sampling														
Task 1 Collection and preparation of data on length frequencies and hard-part samples for commercially landed Snapper/Grouper, Pelagic, and Coastal Migratory species.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 2 Preparation and shipment of hard-part samples to Beaufort Marine Lab in North Carolina for processing and aging.	X	X	X	X	X	X	X	X	X	X	X	X		
Task 3 Data editing (coding), verification and entry into the TIP online database.	X	X	X	X	X	X	X	X	X	X	X	X	X	

Task 4 Report writing period.																			X	X	X	X
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Project Accomplishments Measurement:

Catch and Effort - SCDNR will continue to meet a data dissemination goal, which will deliver South Carolina landings data to ACCSP no more than 90 days after the end of each quarter (every three months).

Biological Sampling - SCDNR will continue to achieve set TIP sampling targets yearly, with data entry into the TIP online database and delivery of collected samples monthly.

Program Priorities/ Project Component	Goal	Measurement
Catch and Effort	Collection of 100% of all SC commercial fishery products landed at trip-level in accordance with ACCSP standards.	Data entered, verified and delivered to the ACCSP no more than 90 days after the landing date.
Catch and Effort	Continuation of Electronic Data Reporting by Federally Permitted Dealers and advocate the initiation for state-only dealers.	Dealers reporting on a weekly basis, completely and accurately. NMFS SERO/HMS to enforce and regulate.
Biological Sampling	Collection of all species targeted and identified by the ACCSP Biological Committee and TIP as data deficient.	Number of samples collected by representing number of species.
Biological Sampling	Validate, enter, and edit all biological data into TIP on-line and provide samples to Beaufort Lab.	Timeliness and accuracy of data/samples provided.

Cost Summary:

1. BUDGET FOR PROPOSAL PLANNING - FY2018

	ACCSP Operational Costs Request		SCDNR In-Kind Contributions	
	Monthly Time	Salary Funds	Monthly Time	Salary Funds
Personnel Expenses: All current staff, no new hires.				
Statistics Leader (Catch & Effort, & Biological - AWD)	0	\$0	9	\$36,902
Database Manager (Catch & Effort - EH)	3	\$11,967	3	\$11,967
Biologist I (Commercial Outreach - JD)	6	\$15,402	2	\$5,135
Data Administrator (Catch & Effort - VG)	4	\$13,064	4	\$13,064
Data Coordinator I (Catch & Effort - SM)	6	\$14,478	4	\$9,653
Biologist I (Biological - DP)	7	\$21,441	4	\$12,252
Biologist I (Biological - EM)	6	\$18,378	5	\$15,316
Total Salary Costs		\$94,730		\$104,289
Fringe Costs (38%)		\$35,997		\$39,630
Indirect Costs (27.44%)		\$25,994		\$28,617
Total Personnel Expenses		\$156,721		\$172,536
Miscellaneous Expenses				
Printing & binding (forms, surveys, tickets) SCDNR currently has 9 logbook forms necessary to collect 100% mandatory trip level data. Printing of the logbooks is based on size and quantity ordered. The average price per book last FY was \$8.74. Typical usage of these logbooks varies from year to year. During the last fiscal year, # 300 logbooks were distributed to dealers, with a replacement cost estimated at \$2,622.		\$2,000		\$1,000
Postage (incoming, business reply mail) The yearly fee to hold a USPS Business Reply account is \$965.00. SCDNR paid an additional \$1,454 in returned mail during the 2017 FY. Providing free return mail is an incentive for accurate and timely reporting from dealers, and has proven to be very successful.		\$1,000		\$1,500
Postage (outgoing, forms, notices) This amount reflects the average amount typically spent to send mail to dealers. Monthly reminder letters are sent to delinquent dealers, and upon request, user manuals, logbook, and additional forms are sent out to dealers.		\$500		\$1,500
Office and Sampling Supplies General supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials, clip boards, fin-clip vials, file knives.		\$1,000		\$1,000
Travel Port Agents will travel to dealers to intercept commercial fishing vessels to collect Biological samples. Current rates for SCDNR vehicles are 50.5 cents per mile. Round trip daily trips can average as high 200 miles.		\$2,000		\$8,000
Total Miscellaneous Expenses		\$6,500		\$13,000
Total Costs		\$163,221		\$185,536
Total Project Cost				\$348,757
Percentage Contribution		47%		53%

2. BUDGET – FY17 – Approved By ACCSP

	ACCSP Operational Costs Request		SCDNR In-Kind Contributions	
	Monthly Time	Salary Funds	Monthly Time	Salary Funds
Personnel Expenses: All current staff, no new hires.				
Statistics Leader (Catch & Effort, & Biological - AWD)	0	\$0	9	\$35,742
Database Manager (Catch & Effort - EH)	3	\$11,589	3	\$11,589
Biologist I (Commercial Outreach - JD)	6	\$15,367	2	\$5,122
Data Administrator (Catch & Effort - VG)	4	\$12,653	4	\$12,653
Data Coordinator I (Catch & Effort - SM)	4	\$8,930	4	\$8,930
Data Coordinator II (Catch & Effort - CB)	5	\$12,496	5	\$12,496
Biologist I (Biological - DP)	7	\$20,768	4	\$11,868
Biologist I (Biological - EM)	6	\$17,801	5	\$14,834
Total Salary Costs		\$99,604		\$113,234
Fringe Costs (40%)		\$39,842		\$45,294
Indirect Costs (15.62%)		\$15,558		\$17,687
Total Personnel Expenses		\$155,004		\$176,215
Miscellaneous Expenses				
Printing & binding (forms, surveys, tickets) SCDNR currently has 9 logbook forms necessary to collect 100% mandatory trip level data. Printing of the logbooks is based on size and quantity ordered. The average price per book last FY was \$7.54. Typical usage of these logbooks varies from year to year. During the last fiscal year, # 360 logbooks were distributed to dealers, with a replacement cost estimated at \$2,715.		\$2,000		\$1,000
Postage (incoming, business reply mail) The yearly fee to hold a USPS Business Reply account is \$965.00. SCDNR paid an additional \$1,454 in returned mail during the 2016 FY. Providing free return mail is an incentive for accurate and timely reporting from dealers, and has proven to be very successful.		\$1,000		\$1,500
Postage (outgoing, forms, notices) This amount reflects the average amount typically spent to send mail to dealers. Monthly reminder letters are sent to delinquent dealers, and upon request, user manuals, logbook, and additional forms are sent out to dealers.		\$500		\$1,500
Office and Sampling Supplies General supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials, clip boards, fin-clip vials, file knives.		\$1,000		\$1,000
Travel Port Agents will travel to dealers to intercept commercial fishing vessels to collect Biological samples. Current rates for SCDNR vehicles are 50.5 cents per mile. Round trip daily trips can average as high 200 miles.		\$2,000		\$8,000
Total Miscellaneous Expenses		\$6,500		\$13,000
Total Costs		\$161,504		\$189,215
Total Project Cost				\$350,719
Percentage Contribution		46%		54%

BUDGET NARATIVE
(Proposed Funding Period, FY18)

Project: ACCSP Data Reporting from South Carolina's Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection
2) Biological Sampling for Hard Part/Aging of Offshore Species

FFO#: TBD

Project Period: 1 September 2018 – 31 August 2019

1 Year Funding: \$163,221

Prepared by: Amy Dukes (PI)

Personnel (Salaries) \$94,730: Six SCDNR employees' salary time will be utilized with these funds. The six current employees are: Database Manager, for 3 months (\$11,967); Commercial Outreach Coordinator, for 6 months (\$15,402); Wildlife Biologist I (Port Agent) for 7 months (\$21,441); Wildlife Biologist I (Port Agent) for 6 months (\$18,378); a Data Administrator for 4 months (\$13,064); and 1 Data Coordinator for 6 months (\$14,478).

Fringe Benefits \$35,997: The current SCDNR fringe benefit cost is set at 38% for salary employees. These rates are within the maximum range set forth by NOAA.

Contractual: \$3,500.00: The contractual budgeted funds will be used to cover expenses to the grant associated with monthly cell phone charges, printing, copying, and freight charges. A primary function of this project will entail the printing of carbon copied logbooks that will be distributed to licensed individuals to collect data. During last fiscal year, 300 logbooks were distributed to dealers, with an average price of \$8.74 per book.

Supplies and Materials \$1,000: General office supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials will be purchased with these funds. In addition, postage paid envelopes are distributed through a business reply account with the US Postal Service. These funds will cover the yearly accounting fees and postage, both to and from licensed individuals.

Travel \$2,000.00: Vehicle mileage is to be covered under this category. Staff will travel to seafood docks to collect catch and biological data. The current SCDNR travel rate is 50.5 cents per mile.

Indirect Charges \$25,994: The current SCDNR indirect cost is set at 27.44% which is only applied toward salaries and wages.

Totals: \$163,221

BUDGET NARATIVE
(Current Funding Period, FY17)

Project: ACCSP Data Reporting from South Carolina's Commercial Fisheries
1) 100 % Trip-Level Catch and Effort Data Collection
2) Biological Sampling for Hard Part/Aging of Offshore Species

FFO#: TBD

Project Period: 1 September 2017 – 31 August 2018

1 Year Funding: \$161, 504

Prepared by: Amy Dukes (PI)

Personnel (Salaries) \$99,604: Seven SCDNR employees' salary time will be utilized with these funds. The seven current employees are: Database Manager, for 3 months (\$11,589); Commercial Outreach Coordinator, for 6 months (\$15,367); Wildlife Biologist I (Port Agent) for 7 months (\$20,768); Wildlife Biologist I (Port Agent) for 6 months (\$17,801); a Data Administrator for 4 months (\$12,653); and 2 Data Coordinators, one for 5 months (\$12,496) and one for 4 months (\$8,930).

Fringe Benefits \$39,842: The current SCDNR fringe benefit cost is set at 40% for salary employees. These rates are within the maximum range set forth by NOAA.

Contractual: \$3,500.00: The contractual budgeted funds will be used to cover expenses to the grant associated with monthly cell phone charges, printing, copying, and freight charges. A primary function of this project will entail the printing of carbon copied logbooks that will be distributed to licensed individuals to collect data. During last fiscal year, 360 logbooks were distributed to dealers, with an average price of \$7.54 per book.

Supplies and Materials \$1,000: General office supplies including envelopes (letter and large mailers), pens, printing paper, three-ring binders (for user manuals), and file organizational materials will be purchased with these funds. In addition, postage paid envelopes are distributed through a business reply account with the US Postal Service. These funds will cover the yearly accounting fees and postage, both to and from licensed individuals.

Travel \$2,000.00: Vehicle mileage is to be covered under this category. Staff will travel to seafood docks to collect catch and biological data. The current SCDNR travel rate is 50.5 cents per mile.

Indirect Charges \$15,558: The current SCDNR indirect cost is set at 15.62% which is only applied toward salaries and wages.

Totals: \$161,504

Maintenance Projects History for Primary Program Priorities: Catch and Effort (white), Biological Sampling (grey) – Beginning in 2011, the funded proposal included both Primary Program Priorities.

Funding Year	Amount	Time Period	Results/Comments
2001	\$132,228	1 June 2001 – 31 May 2002 (extended thru 31 May 2003)	Implementation of ACCSP Commercial Module
2003	\$94,760	1 June 2003 – 31 May 2004 (extended thru 30 April 2006)	Continuation of ACCSP Commercial Module
2004	\$39,532	1 June 2004 – 31 May 2005	Biological Sampling. Grant money was awarded in August 2004. State hiring freeze in effect. One year no-cost extension awarded in May 2005.
2005 and 2006		1 June 2005 – 31 May 2006 (extended thru 30 November 2006)	Biological Sampling. State hiring freeze still in effect, lifted in Sept. 2005. Port sampler hired Oct. 2005. Award period extended to Nov. 2006.
2006	\$60,990	1 May 2006 – 30 April 2007 (extended thru 30 April 2008)	Continuation of ACCSP Commercial Module
2007	\$34,958	1 May 2007 – 30 April 2008	Biological Sampling. Grant money was awarded in August 2007.
2008	\$42,261	1 May 2008 – 30 April 2009	Biological Sampling.
2009	\$0	1 May 2009 – 30 April 2010	Biological Sampling. No proposal submitted, approved for a 6-month no cost extension
2009	\$0	1 May 2009 – 30 April 2010	Continuation of ACCSP Commercial Module. No proposal submitted, approved for a 6-month no cost extension to spend remainder of funds
2010	\$92,098	1 July 2010 – 30 June 30 2011	Catch and Effort data collection from the Commercial Module
2010	\$54,091	1 July 2010 – 30 June 2011	Biological Sampling.
2011	\$191,807	1 July 2011 – 30 June 2012	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2012	\$186,558	1 July 2012 – 30 June 2013	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2013	\$163,627 * Post budget cut	1 July 2013 – 30 June 2014	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2014	\$175,716	1 July 2014 – 30 June 2015	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
2015	\$165,824	1 July 2015 – 30 June 2016	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.

2016	\$161,504	1 July 2016 – 30 June 2017	Catch and Effort data collection from the Commercial Module and Biological Sampling efforts.
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ACCSP - Ranking Criteria Summary

Proposal Type – Maintenance, no change in scope of work

Primary Program Priority – This proposal contains two Primary Program Priorities that fit the current ACCSP Program Design.

- Catch and Effort (70%) – SCDNR collects data from 100% of all commercial fisheries products landed in this state on a trip-level basis, following standardized data elements and code formats required by ACCSP. **Increased efforts to improve and further promote electric data reporting.** Metadata is not collected.
- Biological Sampling (30%) (**to be considered during the Project Quality Factors**) – SCDNR collects biological samples, including length measurements and otolith collections, from many species within the snapper/grouper complex, coastal migratory and pelagic species. Twelve of the species sampled fall within the ACCSP Biological Sampling Priority Matrix.
- Data Delivery Plan - Data will be transmitted to ACCSP quarterly, ensuring that all SC trip-level catch and effort data has been converted to ACCSP codes and follow all established standards.

Project Quality Factors –

- Partners – Although this proposal does not have a multi-state partnership, it does have a regional impact. The South Atlantic Fisheries Management Council makes recommendations to NMFS-SERO based in part by SCDNR fisheries data collections, both independent and dependent data. The Catch and Effort data and Biological Sampling data provided to ACCSP impacts these regional recommendations.
- Funding Transition – SCDNR continues to have discussions with state representatives and legislators about securing reoccurring state appropriated funds to accomplish the ACCSP Catch/Effort and Biological Sampling priorities, however at this time there is no direct long-term state funding available. Several funding proposals have been submitted to the SC Legislature for consideration, unfortunately at this time, the requested funds have not been approved. Efforts will continue to be made to attempt to procure state funding, and it is the goal of the agency to secure state funds in the near future.
- In-kind Contribution - The agency does utilize other funding sources to offset the non-existent state funds, which represents the 53% in-kind contributions.
- Data Improvement – Through the initiation of electronic data collection, primarily from dealers that handle offshore fisheries products, SCDNR will be improving the timeliness of data. QA/QC checks of the data prior to SAFIS data loads to the warehouse will continue in order to ensure accurate and complete data.
- Secondary Program Priority – Biological Sampling (see above).
- Impact on Stock Assessments – The Catch and Effort data collected and provided to the ACCSP Data Warehouse is suitable to be provided for future stock assessments. In addition, the finfish lengths measured and otoliths collected through Biological Sampling efforts are also provided for stock assessments.

Other Factors –

- Properly Prepared – This proposal follows the guidelines under the ACCSP Funding Decision Process Document.
- Merit – These funds are essential to continue seamless commercial catch/effort and biological data collections in SC until reoccurring state appropriate funds can be established. A delay or stoppage in these data collections may be unfavorable for fisheries management and regulations.

Appendix 1. Example of the logbooks used by SCDNR, Daily Crab Trip Ticket.

SOUTH CAROLINA TRIP TICKET (DAILY CRAB POT)

2-

DEALER NAME:	CRABBY JOE INC.		
DEALER NUMBER:	570345678		
FISHERMAN NAME:	MARY JOE CRABBE	TRAP ID #	T0001
FISHERMAN ID # or CUSTOMER ID #:	11CEM55090		
NO. OF CREW: (INCLUDE CAPT):	1	VESSEL NUMBER:	SC475DH
TRIP START DATE:	07 / 01 / 15 <small>MO. DAY YR.</small>	UNLOADING DATE:	07 / 01 / 15 <small>MO. DAY YR.</small>
NUMBER OF TRAPS PULLED:	50	SOAK TIME (HOURS):	24

CIRCLE WATERBODY WHERE MOST OF CATCH WAS MADE

020	Ashley River	300	ICWW: Prices Inlet-Sullivans	420	South Edisto
030	Broad River	310	Little River	430	St. Helena Sound
050	Bulls Bay	330	May River	490	Stono River
070	Calibogue Sound	370	Murrells Inlet	510	Waccamaw River
110	Charleston Harbor	130	North Edisto	530	Wando River
090	Combahee River	410	Port Royal Sound	550	Winyah Bay
100	Cooper River	450	Santee River	241	Atlantic Ocean
290	Folly River	470	Savannah River		

SPECIES	CODE	VOLUME	UNITS (circle one)	UNIT PRICE	TOTAL
#1 (Lg. Males)	7001	4.2	BU LBS DZ	70.00	294.00
#2 (Lg. Females / Sm. Males)	7002	35	BU LBS DZ	1.50	52.50
#3 (Sm. Females)	7003	6	BU LBS DZ	50.00	300.00
MIXED #2 & #3	7004		BU LBS DZ		
JUMBO	7005		BU LBS DZ		
UNGRADED	7000		BU LBS DZ		
PEELERS	7028		EA DZ		
STONE CRAB CLAWS	7180	1	LBS	2.00	2.00
WHELKS	7750		BU LBS		
FLOUNDER	1209		LBS		
CATFISH	0660		LBS		
(List Species)					
				Bait 2 flats	-20.00
				Total	628.50

Dealer/Fisherman Use

SC Dept. of Natural Resources, Fisheries Statistics Section, PO Box 12559, Charleston SC 29422-2559 (843) 953-0313 FAX (843) 953-9362

WHITE SCDNR

YELLOW DEALER

PINK FISHERMAN

Appendix 2. Example of the logbooks used by SCDNR, Offshore Finfish Trip Ticket.

5- **XXXXX**

DEALER NAME: FISH R US		DEALER NUMBER: 570123456	
FISHERMAN NAME: JOHN WANNAFISH		FISHERMAN ID # OR CUSTOMER ID #: 11WHJ55090	
NO. OF CREW (INCLUDE CAPT): 4	VESSEL NAME: WANNA FISH	VESSEL NUMBER: 676543	
TRIP START DATE: MM/DD/YYYY 07 / 01 / 2014		UNLOADING DATE: MM/DD/YYYY 07 / 06 / 2014	

CIRCLE ALL GEARS CODES USED AND FILL IN INFO.	# CP LINES	# CP HOOKS PER LINE	TOTAL LBS FISHED	673 676	SURFACE LONGLINE / BOTTOM LONGLINE	345	TRAPS	943	DIVE
	611 BCD & REEL (manual)			# CP SETS		# TRAPS USED		# DIVERS	
	613 BANDIT REEL	4	3	52	# CP HOOKS PER SET	# HAILS		HOURS	
	616 ELECTRAMATE				LENGTH (MILES)	TOTAL SOAK TIME (HRS)		# CP SPIARS	
	660 TROLL	1	1	4	TOTAL SOAK TIME (HRS)			# CP DIVES	
665 MACKEREL TROLL				DAYS FISHED		657	GREEN STICK		
400 GILL NET	LENGTH (YRD)		TOTAL SOAK TIME (HRS)	HOURS FISHED		LINE LENGTH (FT)	# CP HOOKS	HRS FISHED	

CIRCLE AREA WHERE MOST OF CATCH WAS MADE											
3378	<= 60 MILES OFF TOWN TO CAPE HEAR (50000')	3377	> 60 MILES, TRYING PAN SIGNALS (50400' - 50000')	3477	<= 60 MILES OFF SOUTHPORT - MOREHEAD CITY	3270	<= 60 MILES OFF CHARLESTON (50400' - 60000')	3278	> 60 MILES OFF CHARLESTON - CHAS. BUMP	3178	BLAKE PLATAU

Code	KIND	SIZE	DP	GEAR	LBS	BOAT PRICE	TOTAL	Code	KIND	SIZE	DP	GEAR	LBS	BOAT PRICE	TOTAL	
1423	Gag Grouper	U	GP	613	975	2.90	2827.50	4473	Golden Tilefish	S	S	GP				
1424	Scamp	U	GP	613	295	2.90	855.50	4475		M	M	GP				
1416	Rod Grouper	U	GP	613	26	2.35	61.10	4471		L	L	GP				
1412	Rock Hind Strawberry	U	GP	613	34	2.85	96.90	4470	Ungraded	U	GP					
1414	Snowy Grouper	S	S	GP	613	150	2.55	382.50	0570	Cobia	U	GP				
1414		M	M	GP	613	321	2.65	850.65	1050	Dolphin	U	GP	660	80	2.30	184
1414		L	L	GP				4710	Wahoo	U	GP					
1414	Ungraded	U	GP					1940	King Mackerel	U	GP					
1415	Yellowedge Grouper	U	GP					0180	Baracuda	U	GP					
1422	Black Grouper	U	GP					1807	African Pompano	U	GP					
1425	Yellowmouth	U	GP					2420	Roofish	U	RP					
1426	Yellowfin Grouper	U	GP					1142	Hil	U	RP					
	Other Grouper	U	GP					1550	Hake	U	RP					
3777	B-line	34-1	S	GP				4321	Swordfish	100+	J	CP				
3776		1-2	M	GP				4322		50-99	L	CP				
3775		2-4+	L	GP				4323		26-49	M	CP				
3765	Ungraded	U	GP					4327	Chunks	U	CP					
3302	Rod Porgy (Pinks)	U	GP					4320	Ungraded	U	CP					
3364	Rod Snapper	U	GP	613	38	2.90	110.20	5131	Wreckfish	U						
3363	Mutton Snapper	U	GP					0193	Barrelfish	U						
3367	Yellowtail Snapper	U	GP					4655	Yellowfin Tuna	U	HG	660	42	2.90	121.80	
	Other Snapper	U	GP					4658	Blackfin Tuna	S	HG					
1790	Hogfish	U	GP	613	7	2.55	17.85	4656	Tuna, unclassified	M	HG					
3355	Black Seabass	S	S	RP				3505	Shortfin Mako Shark	L						
3353		M	M	RP				3495	Blacktip Shark	U						
3351		L	L	RP				3503	Spiry Dogfish	U						
3351		XI	XI	RP				3518	A. Sharpnose	U						
3360	Ungraded	U	RP					3511	Smooth Dogfish	U						
3308	Knobbed Porgy (Gob)	U	RP					3485	Blacknose	U						
1441	White Grouper	U	RP					3481	Finetooth	U						
4560	Triggerfish	U	RP					3475	Shark Fin	U						
5260	Mixed Fish	U	RP						Other Shark	U						
1810	Albacore Jack	U	GP						Albacore			660	220	40	88.00	
1812	Greater Amberjack	U	GP												TOTAL	
1817	Banded Rudderfish	U	GP													
4474	Grey Tilefish	U	GP													

Dealer/Fisherman Use

SCDNR COPY SC Department of Natural Resources, Fisheries Statistics, P.O. Box 12559, Charleston SC 29422-2559 (843) 953-9313 FAX (843) 953-9362 Revised 1/2012 Pn-04612-7013

Appendix 3. Example of the logbooks used by SCDNR, Bait Dealer Trip Ticket.

0000001

SOUTH CAROLINA BAIT TICKET				0000001	
FISHERMAN NAME:		Lady Fishalot		FISHERMAN ID# Or CUSTOMER ID #:	
				03FTL79240	
NO. OF CREW (INCLUDE CAPT)	2	VESSEL NUMBER:	999999	VESSEL NAME:	Sea Robin
TRIP START DATE:	06 / 04 / 16	UNLOAD DATE:	06 / 04 / 16		

CIRCLE GEAR USED AND FILL IN INFORMATION

610	HANDLINES (ROD & REEL)	345	TRAPS	620	HAUL SEINE
# OF LINES		# TRAPS USED	30	LENGTH OF NET (FT)	
# OF HOOKS PER LINE		# HAULS	1	TOTAL SOAK TIME (HRS)	
TOTAL HOURS FISHED		TOTAL SOAK TIME (HRS)	48		

		TOTAL LENGTH OF NET(S)	TOTAL SOAK TIME (HRS)	955	BY HAND	676	BOTTOM LONGLINE
				760	GIG	683	FISH TROTLINE
982	HAND CAPTURE			735	CAST NET	680	CRAB TROTLINE
703	DIP NET	FEET		HOURS ACTIVELY FISHING		# OF SETS	
425	SET SHAD NET	FEET				# OF HOOKS PER SET	
465	DRIFT SHAD NET	FEET				TOTAL SOAK TIME (HRS)	
401	HERRING GILL NET	FEET				LENGTH (FEET) -FISH GEAR ONLY	
400	GILL NET	FEET					

CIRCLE WATERBODY WHERE MOST OF CATCH WAS MADE

241	Atlantic Ocean	290	Folly River	470	Savannah River
020	Ashley River	300	IC/W/W - Princes Inlet - Sullivans	420	South Edisto
010	Black River	310	Little River	430	St. Helena Sound
030	Broad River	330	May River	490	Stono River
050	Bulls Bay	370	Murrells Inlet	510	Waccamaw River
070	Calibogue Sound	130	North Edisto	530	Wando River
110	Charleston Harbor	390	Pee Dee River	550	Winya Bay
090	Combahee River	410	Port Royal Sound		
100	Cooper River	450	Santee River		

CODE	SPECIES	VOLUME	UNITS (CIRCLE ONE)	UNIT PRICE	TOTAL	FISHERMAN USE
7000	Blue Crab		BU LBS OZ			
7190	Fiddler Crab		BU LBS OZ			
7750	Whelks		BU			
7811	Mussels		BU			
7472	Clams		BU			
7890	Oysters		BU			
7899	Periwinkles		LBS			
8145	Jellyfish		LBS			
1970	Whiting		LBS EA			
4060	Spot		LBS EA			
0925	Atlantic Croaker		LBS EA			
2670	Pinfish		LBS EA			
3112	Silver Perch		LBS EA			
2341	Mullet		LBS EA			
5840	Spanish Mackerel		LBS EA			
2370	Mud Minnows	17	LBS EA	6.00	102.00	
1141	Eel		LBS EA			
2210	Menhaden		LBS EA			
3470	Threadfin Shad		LBS EA			
3474	American Shad		LBS EA			
1340	Gizzard Shad		LBS EA			
1730	Hickory Shad		LBS EA			
1689	Herring		LBS EA OZ BU			
0660	Catfish		LBS			
7301	Shrimp		LBS			

SC Department of Natural Resources, Fisheries Statistics Section, P.O. Box 12559, Charleston, SC 29422-2559 (843) 953-9313 FAX (843) 953-9362 14 10295

Principle Investigator: Curriculum Vitae**Name:** Amy Whitaker Dukes**Professional Address:**217 Fort Johnson Road
Charleston, SC 29412-9641**Position:** Fisheries Biologist III
Office of Fisheries Management
Fisheries Statistics Section**Phone:** (843) 953-9365 Voice
(843) 953-9386 Fax**E-mail:** DukesA@dnr.sc.gov**EDUCATION:**Spartanburg Methodist College (SMC),
Spartanburg SC
Associate in Science, Biology
August 1994 to May 1996Coastal Carolina University (CCU),
Conway, SC
Bachelor of Science, Marine Science
August 1996 to May 1999**CAREER-RELATED EXPERIENCE:**

Jan. 2008 Department of Natural Resources, Charleston, SC
 To present Marine Resources Division in the Office of Fisheries Management:
 Serves as the Fisheries Management Section Leader, participating in data collection, management, and administration activities associated with the Fisheries Statistics Section

Supervises, coordinates, and oversees daily operations in the collection of both commercial (Trip ticket Program, Trip Interview Program) and recreational (For-hire logbook, MRIP, special projects/programs) fisheries dependent catch/effort data collections and biological sampling efforts; including but limited to establishing and standardizing operational procedures for field sampling and administrative activities, constituent education and outreach activities, data management (compliance, entry and QA/QC), transmission of data to state/federal/partner agency fisheries managers/data users, Commercial and For-hire License and Permit coordination and support, Law Enforcement coordination and support (Magistrate Court Appearances), report writing, grant submissions and administration (applying for funding opportunities, budgeting and allocations) for approximately \$1 million dollars in state and federal funds. Directly supervise 7 staff, collaborate and assist in funding 17 employees. In addition, duties include serving as the agencies representative to several state and federal committees and working groups associated with the funding agencies including but not limited to the National Marine Fisheries Service (Fisheries Science Center), the Atlantic States Marine Fisheries Commission, the Atlantic Coastal Cooperative Statistics Program (Vice-Chair of the Operations Committee, Commercial Technical Committee), and the Atlantic Coastal Fisheries Cooperative Management Act. Active participate with the South Atlantic Fisheries Management Council meeting/discussions, and serves as a panelist with SEDAR Stock Assessments.

Serves as the Tournament Coordinator for the SC Governor's Cup Billfishing Series. The three goals of the Series are conservation, education, and research. All related activities ensure that the goals are met and often exceeded. Fundraising and management of the 501-c-3 funds.

Sept. 2000- Department of Natural Resources, Charleston, SC
 To Jan 2008

ACE Basin National Estuarine Research Reserve (NERR): Participation in comprehensive research activities within the ACE Basin NERR. Manage data collection, sampling instrumentation, and compiling of databases in support of the Reserve's participation in the System-Wide Monitoring Program (SWMP). Responsible for entry,

verification, editing, and statistical analysis of all data; assist with compellation of technical reports; preparing and delivering of presentations at conferences and workshops; and managing the ACE Basin NERR research budget.

Feb. 2000- Department of Natural Resources, Charleston, SC
To Sept. 2000

Marine Resources Division in the Office of Fishery Management: Assisting in the execution of an East Coast fin fish management plan. Anadromous species of American Shad and both Atlantic and Shortnose Sturgeon were collected, evaluated, tagged and released. Knowledgeable in the principles and practices of fish, statistical analysis, equipment maintenance and boat handling. Additionally, American Eel (elver) Young of the Year Survey; responsible for project set-up, daily sample collection, database management and analysis. (Currently the PI of this project)

Sept. 1999- Department of Natural Resources, Charleston, SC
To Feb. 2000

Marine Resources Research Institute: Sorted plankton samples to collect and identify three species of post-larval Peneaus shrimp. Responsible for continuation of project organization and data management.

UNDERGRADUATE EXPERIENCE (established the principles and practices that propelled my career):

Jan. 1997 Peer-Mentoring Program, Coastal Carolina University, Conway, SC
To May 1999

Co-instructor with the Dean of Sciences for a three hour, fall semester class. Served as a mentor and advisor for freshman Marine Science students throughout their first year of study.

May 1997 - Sea World of Florida, Orlando, FL
To Aug. 1997

Internship, Marine Education Instructor and Animal Care Assistant.

Dec. 1996 Coastal Carolina University, Coke and Topsail Islands, NC
To Dec. 1997

Undergraduate research assistant for a NSF grant-funded project to examine the long-range effects of hurricane damage/erosion on coastal barrier islands and marsh ecosystems. Conducted pre and post hurricane on-site surveys of sediment core sample collection. Analysis and results for the project were presented through reports and oral presentations.

EQUIPMENT KNOWLEDGE:

Outboard Motor Boats
Fishing Gear (Gill, Fyke, Trammel and Trawl Nets, and Electrofishing)
Biological Sampling procedures (length, otolith and gonad removal)
YSI and Nutrient data loggers/samplers

ADDITIONAL SPECIAL SKILLS:

Grant Principle Investigator
Certified Federal Grant Project Leader for USFWS
Microsoft Office Products
Excellent Communication Skills to Diverse Audiences

Proposal for Funding made to:
Atlantic Cooperative Statistics Program
1050 N. Highland Street, Suite 200
Arlington, VA 22204

Continuing Data Entry and Management of Commercial Fisheries Paper Trip Tickets in Georgia

Submitted by: Julie Califf
Georgia Department of Natural Resources
Coastal Resources Division
One Conservation Way
Brunswick, GA 31520

Applicant Name: Georgia Department of Natural Resources

Project Title: Continuing Data Entry and Management of Commercial Fisheries Paper Trip Tickets in Georgia

Project Type: Maintenance

Principle Investigator: Julie Califf

Requested Award Amount: \$116,874

Requested Award Period: For one year, beginning after the receipt of funds

Date Submitted: June 16, 2017

Atlantic Coastal Cooperative Statistics Program

Project Narrative

Project Title: Continuing Collection, Entry, and Management of Commercial Fisheries Paper Trip Tickets in Georgia
Applicant Name: Georgia Department of Natural Resources, Coastal Resources Division
Principal Investigator: Julie Califf

Change in Scope/Cost from Previous Year Project:

This is a maintenance proposal which has not changed its scope from the previously funded new project submitted last year. The overall cost is slightly higher than the FY17 due to increased personnel expenses. (Table 2, Table 4)

Project Objective:

To collect, enter, and edit commercial fisheries effort and landings data from paper-based trip tickets.

Need:

Since 2000, the Georgia Department of Natural Resources (GADNR) has collected ACCSP-compliant standardized trip-level data for marine and diadromous commercial fisheries in Georgia. The State of Georgia does not have funding to support the collection of commercial landings data. Increases in the fringe rate set by State Personnel Administration coupled with decreases in other federal funding for data collection have put commercial data collection in Georgia in jeopardy. Even though the Georgia General Assembly approved an increase in commercial fishing license fees and created a seafood dealer license during the 2017 legislative session, it is unknown when or if license revenue will be available to fund data collection.

By the time the grant period covered by this application commences, Georgia will have made electronic reporting available to all dealers. At the same time, the new seafood dealer license will be implemented, presumably increasing the number of dealers required to report. The Department does not anticipate all dealers will be early adopters, and others may never embrace electronic reporting. GADNR lacks the authority to require dealers to report electronically and has no plans to pursue legislation to make e-reporting mandatory. As such, the Department must continue to accommodate the submission of paper tickets.

Approach:

Collection and entry of paper-based trip level landings reports in compliance with ACCSP standards.

- Georgia's commercial dealers will record harvest, effort, and value for each trip and submit those records to GADNR by the 10th of the subsequent month.
- Incoming tickets will be proofed for completeness and accuracy. Staff will reach out to dealers for clarification and corrections as needed.

- Paper trip ticket data will be entered in the GADNR landings database within 10 days of receipt.
- Data quality checks will be conducted regularly and suspect records will be flagged for follow-up and correction.
- A report will be made monthly to the Law Enforcement Division (LED) with a listing of dealers in arrears.
- Data will be uploaded to the ACCSP data warehouse weekly. All data will be transmitted with the appropriate ACCSP codes and formats.
- Dealers will be encouraged to utilize electronic reporting.

Data Delivery Plan:

Georgia has uploaded landings to the ACCSP data warehouse each week for 16 years. Data collected and entered during this grant period will be submitted on the same schedule via the same data stream.

Results and Benefits:

The Georgia trip ticket program is comprised of three staff with a combined 54 years of experience working with Georgia's trip ticket data (the project leader and two marine technicians). All tasks of the program related to commercial data collection, entry, and editing, and dissemination are carried out by these three individuals. This includes making contact with seafood dealers to establish a reporting routine, entering data, proofing and editing data, tracking compliance and alerting Law Enforcement of reporting arrears, ensuring weekly data uploads to ACCSP are successful, and fulfilling data requests. Should this grant be funded, it will allow GADNR to continue performing all these tasks with the existing staff. If funding is not secured GADNR will be faced with laying off one of three staff members. This will severely impact the timeliness of data entry and availability, as well as the ability to report data to both internal and external customers. Without additional funding, the *lack* of results and benefits are extreme and severe.

Geographic Location:

The location and scope of this project covers coastal Georgia and inland counties with anadromous fisheries.

Table 1. Milestone Schedule

Task	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Data collection and Entry	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Data QA/QC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Weekly uploads to ACCSP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Report Writing							X								X

Project Goals & Metrics:

The goal of this project is to collect, enter, edit, and supply ACCSP accurate trip-level data from commercial seafood dealers in Georgia who submit landings via paper tickets. The goal will be met if dealers have complied with reporting requirements, fully edited data has been transferred to the ACCSP data warehouse, and data are available to GADNR’s internal and external customers.

Cost Summary & Outlook on Future Funding:

The GADNR trip-ticket program is primarily funded by the State-Federal Cooperative Statistics Program (CSP). GADNR offers limited in-kind support in the form of IT and supervisory personnel, administrative support, fuel costs, telecommunications, and facilities use. Decreased CSP funding coupled with the State shifting more costs to the Federal projects including higher fringe rates, file storage, IT fees, and computer rental has severely impacted the program budget. The fringe rate alone has increased from 34.41 % in FY 2008 to 62.914 % in FY 2017. The Department will continue to pursue other grants but the outcome of these efforts is impossible to predict and it is likely GADNR will continue to seek ACCSP funding. To date, ACCSP has funded four trip-ticket related proposals for Georgia. (Table 3).

Table 2. FY 18 Proposed Budget

	Requested from ACCSP		GADNR In-Kind	
	Months	Salary	Months	Salary
Personnel Expenses: All current staff				
Commercial Statistics Project Leader (Catch and Effort)	4	\$19,788		
Marine Technician II (Catch and Effort)	7	\$26,068		
Marine Technician I (Catch and Effort)	7	\$23,646		
Oracle Programmer/IT Support (Catch and Effort)			3	\$24,518
Statistics Unit Program Leader (Catch and Effort)			0.5	\$2,828
Chief of Marine Fisheries (Catch and Effort)			0.5	\$3,990
Administrative Support (Catch and Effort)			0.5	\$2,619
Total Salary Cost		\$69,502		\$33,955
Fringe Cost (62.914 %) GA does not charge overhead (1)		\$43,726		\$21,362
Total Personnel Expenses		\$113,228		\$55,317
Miscellaneous Expenses				
Vehicle Fuel Travel to seafood dealers for outreach, delivery of material, and training of new dealers				\$1,540
Office Space Rent \$20.66 per sq. ft. x 146 sq.ft x 3 full time employees (2)				\$9,049
Postage business reply mail , incoming and outgoing mail (3)		\$1,225		\$1,750
Printing: trip tickets 3200 3- part carbon-less forms @ \$0.53 each)		\$1,696		
Office Supplies : Envelopes, large mailers, file folders, file storage boxes, pens, markers, printer paper		\$725		
Total Miscellaneous Expenses		\$3,646		\$12,339
Total Costs		\$116,874		\$67,656
Total Project Cost	\$184,530			
Percentage Contribution	63%		37%	

1. Fringe Rate as set by the State. Although the fringe rate is high it should be noted Georgia does not charge an indirect or overhead rate.
2. Calculation based upon Government workspace standards and GADNR calculated annual cost per square foot of office space.
3. Georgia offers postage-paid reply envelopes for dealers to submit landings. Postage expenses are also incurred when returning incomplete reports and sending non-compliance letters to dealers. For FY 2017 the trip-ticket program spent \$1015 on outgoing mail and \$3,725 on incoming business reply mail.

Table 3. Georgia commercial fisheries trip ticket related grants funded by ACCSP

Funding Year	Title	Funded Amount	Description
1999	Implementation of Georgia's Trip Ticket Program	\$191,378	Launched mandatory trip-level reporting for all fisheries in Georgia and conducted socio-economic studies for the crab fishery. \$97,900 of the grant was spent directly on trip-ticket related activities
2011	Validation of Commercial Finfish and Shellfish Conversion Factors	\$43,086	Conducted sampling to verify and update conversion factors
2016	Piloting Electronic Data Collection and Data Sharing System in Georgia	\$46,584	Develop and pilot mobile and web reporting of commercial trip tickets
2017	Data Entry and Management of Commercial Fisheries Paper Trip Tickets in Georgia	\$92,036	Supporting the collection, data entry, and verification of paper-based trip tickets

Summary of Proposal for Ranking Purposes

Proposal Type: Maintenance

Primary Program Priority:

Catch and Effort: 95%

- 100% of Georgia's commercial seafood dealers and dealer-harvesters will report trip level catch and effort data. As noted in the ACCSP "Twenty Years in Review" Georgia was the first partner to begin collecting trip level reports for all fisheries.
- Data Delivery Plan - Georgia has uploaded landings to the ACCSP data warehouse each week for 16 years. Data collected and entered during this grant period will be submitted on the same schedule via the same data stream.

Multi-Partner/Regional impact including broad applications:

- Regionally managed species are collected via the trip-ticket program and made available to fishery managers via ACCSP.

Greater than year 2 contains funding transition plan and/or justification for continuance:

- Program costs such as printing and postage should decrease as more dealers utilize electronic reporting
- GADNR will continue to pursue other funding sources including non-ACCSP grants and legislative efforts to increase license revenue

In-kind contribution:

- 37% (Table 2)

Improvement in data quality/quantity/timeliness:

- Should this proposal not be funded the timeliness and quality of Georgia's trip ticket data will be negatively impacted. Due to reduced staff, the lag time between receipt of data and entry will increase and data QA/QC checks will be delayed. This will affect the availability of data to the ACCSP data warehouse.

Potential secondary module as a by-product:

- Social and Economic 5% - The value of seafood products landed will be collected for each trip.

Impact on stock assessment:

- Lags in data availability and quality could negatively impact stock assessments.

Properly Prepared:

- This proposal follows the guidelines under the ACCSP Funding Decision Process Document.

Table 4. FY 17 Cost Summary

	Requested from ACCSP		GADNR In-Kind	
	Months	Salary	Months	Salary
Personnel Expenses: All current staff				
Commercial Statistics Project Leader (Catch and Effort)	3	\$13,228		
Marine Technician II (Catch and Effort)	6	\$19,918		
Marine Technician I (Catch and Effort)	7	\$21,075		
Oracle Programmer/IT Support (Catch and Effort)			3	\$19,518
Statistics Unit Program Leader (Catch and Effort)			0.5	\$2,571
Chief of Marine Fisheries (Catch and Effort)			0.5	\$3,628
Administrative Support (Catch and Effort)			0.5	\$1,535
Total Salary Cost		\$54,221		\$27,252
Fringe Cost (62.914 %) GA does not charge overhead (1)		\$34,114		\$17,145
Total Personnel Expenses		\$88,336		\$44,397
Miscellaneous Expenses				
Vehicle Fuel Travel to seafood dealers for outreach, delivery of material, and training of new dealers				\$1,540
Office Space Rent \$1.66 per sq. ft. x 146 sq.ft x 3 full time employees (2)3700				\$3,877
Postage business reply mail , incoming and outgoing mail (3)		\$1,650		\$1,750
Printing: trip tickets (2500 3- part carbon-less forms @ \$0.53 each)		\$1,325		
Office Supplies : Envelopes, large mailers, file folders, file storage boxes, pens, markers, printer paper		\$725		
Total Miscellaneous Expenses		\$3,700		\$7,167
Total Costs		\$92,036		\$51,564
Total Project Cost	\$143,600			
Percentage Contribution	65%		35%	

Response to general comment regarding mandatory electronic reporting:

Electronic reporting is not a viable option for all partners nor should there be an assumption that all partners are currently in support of such a mandate. Unlike other areas of the Atlantic Coast where urban fishing centers are common, a significant portion of Georgia's docks and fishing communities are in rural areas with very limited internet access. Should electronic reporting be mandated with today's level of connectivity, the State would be putting citizens in the position of being unable to reasonably comply with the law. As internet access becomes more widely available Georgia will re-consider its current position.

Appendix A: Curriculum Vitae for Principle Investigator

Julie Ross Califf

Georgia Department of Natural Resources
One Conservation Way
Brunswick, GA 31520
(912) 264-7218
Julie.Califf@gadnr.org

Education:

Georgia College
Milledgeville, GA
B.S. Biology, 1991

Related Career Experience:

November 1997 – present, Georgia Department of Natural Resources, Brunswick, GA

Project Leader for the Coastal Cooperative Statistics Program: Supervise all aspects of the collection, entry, verification, and transmission of commercial catch and effort data. Serves as Georgia's representative to the Commercial Technical, Information Systems, and Outreach committees.

March 1995 – November 1997, Georgia Department of Natural Resources, Brunswick, GA

Commercial Fisheries Port Agent: Collected commercial landings data from seafood dealers, performed data entry and data edits.

Operations Committee, ACCSP
Chair, Patrick Campfield

Dear Mr. Campfield,

The Recreational Technical Committee of ACCSP has received the critical comments from the Operations Committee's review of our proposal, Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast, and appreciate the opportunity to respond to your comments, and hopefully improve our proposal. I will respond to each of the three main comments provided, and have included highlighted changes to the proposal in the final draft submitted.

- It would be useful to include PSEs on estimates and what the impact of the requested funds would be.
 - Insert the table included in previous years' proposals showing the raw numbers of sample sizes obtained.
 - Be sure to review all general comments.
- 1) The proposal has been edited to include discussion of the relationship between sample size and estimate, or parameter, precision. Explanatory text has been added to the 'Need' section of the proposal, paragraph 4, detailing the mathematical and statistical relationship between sample size and variance, but beyond that any detailed assessment of real changes to specific species' catch estimates would require an extensive modeling effort, which is beyond the reasonable scope of information to support this proposal. The sample size unit, in this case, is a head boat trip which will provide an indeterminate number of angler interviews, from which precision of catch rates of multiple species will be calculated. Therefore, it is impossible to predict actual changes in numbers of interviews to be obtained, particularly by species encountered, so the only option would be a modeling effort using previously collected data and repetitive sub-sampling efforts in an attempt to describe likely outcomes on catch rates. This proposal process and scope of work does not justify that level of resource commitment. Has this "standard" of justification been requested of every proposal submitted this year?
 - 2) The requested table has been inserted (Table 7), as well as some clarifying discussion of previous year's state-specific completion numbers.
 - 3) Table 6 (previous year's budget narrative), CV's for co-PIs have been added to the proposal, other minor edits for clarification of language.

Sincerely,

Tom Sminkey

Recreational Technical Committee, ACCSP
Tom Sminkey, Chair

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

Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast

Submitted by:

ACCSP Recreational Technical Committee

Proposal for FY2018 ACCSP Funding

Applicant name: ACCSP Recreational Technical Committee (RTC).

Project title: Supplemental At-Sea Sampling for the Recreational Headboat Fishery on the Atlantic Coast

Project type: Maintenance Project

Requested award amount: \$134,370 (NH-GA via ACCSP = \$43,824, FL = \$90,546)

Requested award period: January 1 through December 31, 2018

Original date submitted: June 19, 2017

Revised date submitted: **August 20, 2017**

Objective

Continue enhanced at-sea observer coverage in the recreational for-hire headboat¹ fishery for ACCSP partner states from New Hampshire through Florida to improve precision around estimates of harvest and total catch for managed stocks, collect biological samples from both discarded and harvested fish, and monitor and assess bycatch.

Need

Precise estimates for landed catch have traditionally been achieved through dockside sampling. However, in contemporary recreational fisheries regulatory discards may make up all or a majority of the catch and at-sea surveys are needed to provide reliable and robust data for released catch. Size composition of recreational discards is one of the most important fishery-dependent data needs for management and age-based assessment of stocks throughout the U.S. Atlantic, and these data cannot be collected using dockside sampling methodologies. Coast-wide, headboat mode is the only segment of the recreational fishery with observer coverage; thus, no information on size composition of discards is currently available for any other recreational fishing mode².

In North and Mid-Atlantic states (ME through VA), the headboat segment of the recreational fishery is monitored through the Marine Recreational Information Program (MRIP), which provides catch statistics for all landed and discarded finfish. Catch data are collected by fishery biologists as they ride along on trips and directly observe fish that are harvested, as well as fish discarded at-sea. NOAA Fisheries funds sampling at a minimum level needed to estimate catch with reasonable precision on a regional scale; however, larger sample sizes are necessary for precise estimates at the state level. In addition, headboats that target certain federally managed species must report all catch to National Marine Fisheries Service on logbook trip reports through the Vessel Trip Reporting Program (VTR). At-sea observer data is useful for characterizing the biological composition of harvest and discard portions of the catch, and may also be used to validate catch reported through the VTR program.

¹ Headboats are a class of for-hire vessels that offer recreational fishing opportunities to large groups of individual anglers.

² Florida tested the use of observers on charter vessels on the Atlantic coast, but long-term funds were not available to continue coverage.

In the South Atlantic (NC through eastern FL), the headboat fishery is monitored through the Southeast Headboat Survey (SEHBS), which includes dockside sampling of harvested fish for biological data and validation of trip level landings reported on logbooks by vessel operators. Separate at-sea observer sampling in the South Atlantic provides important data needed to characterize the biological composition of released fish and validate self-reported logbook data for discards. Stock assessments for Black Sea Bass and Red Snapper in the Southeast depend on headboat at-sea observer data as an index of abundance (Sustainable Fisheries Branch NMFS 2011, 2015). Since Red Snapper has been closed to harvest five out of eight years since 2010, the headboat at-sea observer index is currently the only fishery dependent index available. NMFS and the South Atlantic Council are currently exploring alternative methods to generate catch level advice based on abundance indices, including this headboat at-sea observer index. Catch estimates for regulatory discards are currently used to monitor the Annual Catch Limit (ACL); however, MRIP estimates are highly imprecise and have become less reliable for this use. Thus, CPUE data collected through this maintenance proposal could potentially become the primary data source for managing the Red Snapper fishery in the future, underscoring the importance of continued funding for headboat observer coverage throughout the entire Atlantic Coast from Maine through Florida.

Since 2005, through funding from ACCSP, at-sea observer coverage has been increased coast-wide. These funds are particularly important to the South Atlantic region, where ACCSP has funded 100% of at-sea headboat observer coverage along the Atlantic coast of Florida (which represents 50% of linear coastline in the South Atlantic and 28% coast-wide). Additional trips sampled with ACCSP funds have led to increased sample sizes, which improves precision of state-level estimates of landings and discards, and has filled important data gaps for assessing important managed fish stocks coast-wide. The relative precision of survey estimates is always inversely proportional to the square root of the size of the sample upon which the estimate is based. Consequently, any sample size increase will always result in a predictable decrease in the percent standard error of resulting estimates. For example, a doubling in Head Boat Intercept Survey sampling would always result in an approximate 29% decrease in the percent standard error (PSE) of species-specific estimates of mean catch per angler trip. Assuming no change in precision of effort estimate, that change in precision of catch rate would carry through to similar change in precision of catch estimates.

This proposal details a plan similar to previous years to continue funding for enhanced observer coverage for the entire Atlantic coast. This maintenance proposal will continue activities that have been funded in the past as ACCSP partners continue to seek alternative funding. The proposal last year reflected decreased funding requests as some states were already reducing their dependence on ACCSP for funding additional samples. Because of the importance of these “additional” samples, future state APAIS budget requests will include them. Therefore, the current level of “additional” sampling is considered minimum, and it requested this year during the funding transition.

Approach

Headboat vessels are randomly selected each month from the for-hire vessel directory for each state using a weighted systematic draw methodology. Operators from selected vessels are contacted in advance to arrange for observers to be on board during a scheduled fishing trip. Dependent upon the number of customers on board, one or two observers accompany passengers during the scheduled trip. The observer conducts the standard intercept survey with as many anglers as possible on each trip and randomly select a subsample of anglers from which discard data are collected. The observer will identify each fish to species, record length to the nearest mm, and record the disposition (including harvested, released alive, released dead). In Florida, additional details collected for individual fish, including capture depth, capture location (latitude and longitude), release condition at the surface (if discarded), hook location, hook type and size, venting method (if vented), and barotrauma symptoms. Red Snapper discards in Florida are also marked with a conventional tag prior to release, and mark-recapture data will ultimately be incorporated

into a large-scale model to predict discard mortality measured directly within the fishery (Sauls et al. 2015a).

Catch estimates, CPUE, and biological data for applicable states are available to the public through the Marine Recreational Information Program and files are shared with ACCSP's Data Warehouse. Biological data (lengths, weights, available ages, and associated trip data) for fish sampled from Florida are housed in Gulf States Marine Fisheries Commission's FIN biological database, and the full Florida data set is housed in a relational database (SQL) on servers maintained by the Florida Fish and Wildlife Conservation Commission. Data and analyses from Florida are routinely shared during regional stock assessments (for examples, see Sauls et al. 2015a and 2015b) and available upon request.

Data Delivery Plan

The data collected as add-on assignments from Maine to Georgia will be delivered to ACCSP concurrent with base assignments, processed and edited at ACCSP, and delivered electronically to MRIP monthly as part of the existing APAIS cooperative agreement. MRIP produces the catch estimates by two-month wave 45 days after the end of the wave. After public release of the recreational estimates, those estimates are made available through the ACCSP Data Warehouse.

Data collected on the East coast of Florida has historically been maintained at the Florida Marine Research Institute. During 2017-2018, data historically collected through this proposal will be submitted to ACCSP for inclusion in the ACCSP Data Warehouse. Initial work will be to load historical (2005-2017) data with the goal to load headboat discard data to the data warehouse 30 days after the completion of a two-month sampling wave.

Results and Benefits

Recreational landings data are used in stock assessments to account for total removals and by regional Fisheries Management Councils to determine if Annual Catch Limits (ACLs) are exceeded and accountability measures must be implemented. Discard mortality is also counted against the ACL for Red Snapper in the South Atlantic. Headboat at-sea observer data directly contributed to the recommended mortality rate for Red Snapper in the South Atlantic of 28.5% following required use of circle hooks, reduced from 37% before circle hooks were required in 2011 (Sauls et al. 2015a, SEDAR 2016). Estimated numbers of discards and the percentage that suffer mortality are used in stock assessments to account for total removals, and length information for discards is particularly useful for age-based stock assessments. Catch-per-unit-effort for discards from headboat at-sea observer surveys has become an important index of abundance for stock assessments in the South Atlantic, where fishery independent monitoring is inadequate.

At-sea sampling aboard headboats improves the accuracy and precision of catch estimates and validation of self-reported logbook data by having trained observers identify, count, and measure the fish caught and released during recreational fishing. Additional at-sea sampling provided by ACCSP funding in previous years has increased the number of trips sampled and the quantity of measurements obtained for length and weight of retained fish and length of discarded fish for use in stock assessments. Summer flounder, scup and black sea bass are an especially important component of the headboat catch in the Mid-Atlantic region. These three species are jointly managed by the Atlantic States Marine Fisheries Commission and the Mid-Atlantic Fishery Management Council (MAFMC). The additional assignments provided by this request will reduce the level of scientific uncertainty in setting the Annual Catch Limits for each species by the MAFMC and result in improved optimization of the resource.

Geographic Location

The Atlantic coast of the United States from New Hampshire through Miami/Dade County, Florida.

Ranking Criteria Summary

- ACCSP funding priorities for recreational fisheries identified by the Recreational Technical Committee addressed by this proposal:
 - Priority 1: Improve precision of estimates
 - Priority 2: Improve discard/release data
 - Priority 4: For-hire logbook implementation and validation (specifically, this proposal addresses validation)
 - Priority 6: Biological sampling from recreational fisheries
 - Priority 8: Collection of more detailed information on fishing area

- Primary Program Priority:
 - Catch and Effort (50%)
 - Additional trips sampled in NH through VA will improve precision of estimates for both landings and discards.
 - Weight measurements of harvested fish will improve precision for landings estimated in weight for New Hampshire through Virginia.
 - Trips sampled in the South Atlantic (NC through FL) will contribute to validation of logbook data for discards.
 - Additional data elements collected in Florida will contribute to estimated total removals from combined harvest and discard mortality.
 - In the South Atlantic, NMFS and the Council are currently considering use of a CPUE index, potentially using data from this proposal, as an alternative to MRIP estimates for Red Snapper to monitor the Annual Catch Limit.

- Secondary Program Priorities:
 - Biological Data (40%)
 - This request will fund 100% of biological samples collected from the Atlantic coast of Florida and Georgia, and increase sample sizes from New Hampshire through North Carolina.
 - Length measurements from recreational discards fill a vital data need for assessing stocks, particularly for managed stocks closed to recreational harvest over all or a majority of the year.
 - High priority species in the ACCSP Biological Priority matrix affected by this proposal:
 - Black Sea Bass and Cobia: biological sampling is inadequate and high priority. Recreational harvest of cobia from federal waters was closed year-round in 2017 and length measurements of discards collected through this maintenance project represent 100% of biological samples.
 - Winter Flounder: biological sampling is currently listed as adequate, but sampling priority remains high.
 - Additional priority species in the top quartile of the Biological Priority Matrix affected by this proposal:
 - Gag, Red and Snowy Groupers, Gray Triggerfish, Blueline Tilefish, Tilefish, Red Drum, Scamp
 - Biological sampling is inadequate for all of the above species.
 - Red Snapper: biological sampling is currently listed as low priority; however, recreational harvest was closed year-round 2015 through 2017 and length

- measurements of discards collected through this maintenance project represent 100% of biological samples.
- Bycatch and Species Interactions (10%)
 - For prohibited species, monitoring for discards is the only source of fishery-dependent data.
 - Examples of prohibited species affected by this monitoring include: Warsaw Grouper, Speckled Hind, and various shark species.
- Multi-Partner/Regional:
 - The following ACCSP partners will benefit from this supplemental data collection:
 - Ten states: FL, GA, NC, VA, MD, NJ, NY, CT, RI, NH, MA
 - One regional Commission: Atlantic States Marine Fisheries Commission
 - Three regional Councils: South Atlantic, Mid-Atlantic, North Atlantic
 - Five branches of NOAA Fisheries, National Marine Fisheries Service: two science centers, two regional offices, and the Office of Science and Technology
 - USFWS
 - In kind Contribution: \$20,328 (12.75% of requested plus in-kind)
 - Funding Transition Plan:
 - State conduct of the MRIP Access Point Intercept Survey (APAIS) began in 2016, and some states are now better able to conduct additional headboat sampling with reduced ACCSP funds:
 - DE and SC requested zero add-ons
 - RI and NY removed need for additional personnel support
 - MA, CT, NJ, MD, and VA reduced personnel support
 - RI will conduct 8 trips, and MA will conduct 4 trips during 2017 at no cost to ACCSP
 - The ACCSP Recreational Technical Committee includes representatives from Atlantic coast states and NOAA Fisheries, and this Committee recommends that the additional samples historically collected through this maintenance proposal be included in future negotiations with NMFS via both the Atlantic and Gulf of Mexico cooperative agreements to increase the base sample sizes of Headboat at-sea sampling.
 - Improvement in data quality/quantity:
 - Quality: improve precision of catch estimates of key finfish species caught in headboat fishing mode
 - Quality: improve accuracy of headboat catch estimates based on observer identification and counts
 - Quality: provide validation of Vessel Trip Report and Southeast Region Headboat Survey captain-reported catch and effort data
 - Quantity: Increase numbers of trips observed and numbers of anglers intercepted.
 - Quantity: Increase numbers of lengths and weights collected from recreational catch.
 - Quantity: Prevent backslide by funding 100% of HB at-sea sample in Florida (120 trips)
 - Impact on Stock Assessments:
 - Species impacted by this work are priorities for upcoming stock assessments, including:
 - Striped Bass, Black Sea Bass, Bluefish, Summer Flounder, Tautog, Weakfish and Cobia will undergo either benchmark or update assessments through the Atlantic

States Marine Fisheries Commission (ASMFC) NEFSC, and/or SEFSC in 2018 and 2019.

- Black Sea Bass, Scamp, Gray Triggerfish, White Grunt, Red Grouper, Vermilion Snapper, Red Snapper, Blueline Tilefish, Golden Tilefish, Black Grouper, Yellowtail Snapper, King Mackerel, and Greater Amberjack have been identified by the South Atlantic Fishery Management Council (SAFMC) as assessment priorities through 2020.
- At-sea observer coverage does not exist in any other segment of recreational fishery along the Atlantic coast, and this project is the only standardized, design-based source of information available to characterize the size composition of recreational discards. Other data sources rely on voluntary self-reporting by anglers.
- This proposal will fund 100% of headboat observer coverage on the Atlantic coast of Florida.
- Fishery independent surveys in the South Atlantic are not adequate for assessing many stocks and do not extend through southeast Florida. Therefore, fishery dependent surveys are relied upon as a relative measure of stock abundance. For example:
 - Headboat CPUE served as an index of abundance in stock assessments for Black Sea Bass and Red Snapper (Sustainable Fisheries Branch NMFS 2011, 2015).
 - Historic fishery-dependent time-series for Red Snapper have terminated due to harvest closures, and CPUE of discards is the only fishery-dependent index of abundance currently available.
 - The headboat at-sea index of abundance is particularly useful for age-structured models because the associated size composition of discards is available.
- Additional data collected in Florida have contributed to estimated discard mortality, including:
 - Capture depth
 - Proportions of discards that suffer hook injuries
 - Proportions of discards that are vented or floating at the surface
 - Proportions of tagged Red Snapper discards that are released in various conditions and later recaptured

Milestone Schedule

NOAA Fisheries staff will provide the total headboat at-sea sample size to the data-collection partner, including those funded by the ACCSP. As documented in the current Statement of Work (SOW) for the MRIP Access Point Intercept Survey (AP AIS), procedures will be followed by the data collection partners to perform the intercept sampling. Additionally, all work associated with this proposal will occur within the dates as specified in the SOW for other deliverables associated with conduct of the intercept survey. Semi-Annual (30 days following month 6 and 12) and Final Progress Reports (90 days following month 12) will be completed as specified in the ACCSP Funding Decision Process Document, but may also be required more frequently by the NMFS.

Project Metrics

Table 2 provides sample goals for each two month period (wave). Progress toward goals for this project will be measured in numbers of vessel trips sampled each wave. Should a state's goal not be reached in a particular wave (e.g., weeks of inclement weather result in a large portion of the vessels to cancel trips), those vessel trips can be "rolled over" to subsequent waves within the calendar year, with the total obtained for the year not to exceed the requested annual allocation.

Cost Details

Requested Funds

A total of \$134,370 is requested for this proposal. A summary of costs associated with this proposal for participating states is given in Table 3. Funds for the states of New Hampshire through Georgia will be delivered to NOAA Fisheries which will disperse the funds via a grant to the ASMFC/ACCSP who will contract with the states for conduct of APAIS headboat assignments. Funds supporting at-sea headboat trips in Florida will be dispersed to NOAA's Southeast Fisheries Science Center (and charged a 5% administrative fee) before being dispersed to Florida to conduct the work.

Budget narrative for cost summary provided in Table 3:

1. Personnel (a): Costs listed are for part time personnel necessary to complete additional trips above the base sample supported by the APAIS program.
2. Fringe (b): Medicaid and FICA costs, expressed as a percentage of total personnel.
3. Travel (c): travel costs are requested to pay for mileage to and from headboat sample sites and cover regular or reduced headboat passenger fare, which is paid for each observer in order to secure space on limited capacity vessels. Some states require payment of headboat fare so that state employees are covered by liability insurance for the vessel. Other costs include parking and highway tolls. Travel costs in RI and CT include headboat fare for one state biologist and one additional ACCSP funded support staff (for which personnel and fringe are not requested).
4. Total Direct Charges (i). Total personnel, fringe and travel. No supplies, equipment, or contractual services are requested.
5. Indirect Charges (j)
 - The state of Florida assesses an overhead charge to grants to cover the costs of administrating the grant. For ACCSP, the overhead is capped at 25% of total direct charges.
 - For New Hampshire through North Carolina, the Commission has established a policy determining that a state's indirect cost recovery is limited to the percentage that the Commission is authorized on the cooperative agreement for states' conduct of the APAIS (Appendix A). If this funding proposal is approved, the additional headboat assignments for these states will be funded through existing APAIS agreements with ASMFC at the indirect rates previously negotiated and included in the budget table.

In-Kind Contributions

In-kind contributions total \$20,328 or 15% of the total cost (requested funds and in-kind contributions, combined). A summary of costs associated with in-kind contributions is provided in Table 4. Included in this amount is MRIP staff time from NOAA Fisheries to perform quality control on the data, produce and review catch and effort estimates for the headboat fisheries of the Atlantic Coast, and serve as liaison between the For-Hire contractor, the Atlantic States, and Atlantic Coast data collection program. The estimated cost for 5% of one full time staff person is \$10,000. As the coordinator for state conduct of the APAIS from ME through GA, ACCSP will provide pre-printed data collection forms on waterproof paper and staff time for data entry, quality control, and all central coordinator tasks related to conducting the additional at-sea data collection at an estimated value of \$8,000. The state of Florida will provide supplies (measuring boards, scales, and other equipment); pre-printed data collection forms on waterproof paper; staff time for data entry, quality control, and database management; and oversight of field data collections at an estimated value of \$10,328.

Funding Transition Plan

The funding history for this maintenance proposal is summarized in Table 5. This proposal has decreased from previous years' award amounts (Tables 5 and 6). Since the 2017 data collection period is ongoing and the budget/accomplishments comparison for this year are incomplete, the summary

of costs for the previous year is provided in Table 6. The decrease from FY16 to FY17 was due to many factors, including three states not requesting headboat add-ons (ME, DE, SC) and several states transitioning away from ACCSP funds. Three states (RI, NY and CT) now have ACCSP support staff funded through the cooperative agreement for state conduct of the APAIS, which allowed them to partially transition away from ACCSP funding this year by reducing their requests for personnel and fringe to zero (RI and NY) or just one state biologist in CT (down from two last year). Four states reduced personnel from 2 to 1.5 staff per trip. In addition, some states are now better able to cover the full cost for all or a portion of add-on sample. Rhode Island and Massachusetts are only requesting ACCSP funds for 50% and 82% of additional trips, respectively (Table 2). Rhode Island will cover the costs for 8 trips with a combination of state license receipts and Sportfish Restoration funds, and Massachusetts will conduct 4 trips with state funds.

With the exception of Florida, states that could not complete all add-on samples in 2016 (Table 7) reduced the number of add-on samples requested in this proposal (Table 2), further reducing the funding request from last year. Florida was unable to sample 10 trips during wave 5 due to Hurricane Matthew, which skirted the South Atlantic coast during early October, 2016 (Figure 1). The storm forced evacuations along most of the Atlantic coast of Florida, and caused significant damage to coastal ports and roads in northeast Florida. Additional trips completed in Wave 6 reduced the deficit in Florida to 7 trips by the end of the calendar year. There are no further reductions in this proposal, as states are concerned that further reductions may compromise precision of the estimates.

With state conduct of the APAIS underway since 2016 and this year's request from NMFS for ACCSP to develop and submit a regional 5 year Implementation Plan for the MRIP on the Atlantic Coast, the Recreational Technical Committee (RTC) is now looking ahead to a longer-term funding transition plan for this sampling. Current base sample levels funded by NOAA Fisheries as part of the new Atlantic Coast cooperative agreement for state conduct of the APAIS are not adequate to prevent backslide in catch and effort estimates if this maintenance proposal is phased out beginning in 2019. The RTC will request full funding for a new base sample, to include sample previously supported through this maintenance proposal, in the regional 5 year MRIP Atlantic Coast Implementation Plan. This request will include coverage for the Atlantic coast from Maine through Florida.

References

- Sauls, B., A. Gray, C. Wilson and K. Fitzpatrick. 2015a. Size distribution, release condition, and estimated discard mortality of Red Snapper observed in for-hire recreational fisheries in the South Atlantic. SEDAR41-DW33. SEDAR, North Charleston, SC.
- Sauls, B., A. Gray, C. Wilson and K. Fitzpatrick. 2015b. Size distribution, release condition, and estimated discard mortality of Gray Triggerfish observed in for-hire recreational fisheries in the South Atlantic. SEDAR41-DW34. SEDAR, North Charleston, SC.
- SEDAR (Southeast Data, Assessment and Review). 2016. SEDAR41 Stock Assessment Report South Atlantic Red Snapper. SEDAR, North Charleston, SC.
- Sustainable Fisheries Branch, National Marine Fisheries Service. 2011. Standardized discard rates of U.S. Black Seabass (*Centropristus striata*) from headboat at-sea observer data. SEDAR25-DW13. SEDAR, North Charleston, SC.
- Sustainable Fisheries Branch, National Marine Fisheries Service. 2015. Standardized catch rates of Red Snapper (*Lutjanus campechanus*) from headboat at-sea-observer data. SEDAR41-DW14. SEDAR, North Charleston, SC.

Table 1. Milestones.

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
NOAA Fisheries, sample size/allocation tables produced	x											
At-sea sampling data collections	x	x	x	x	x	x	x	x	x	x	x	x
Semi-annual and final progress reports						X						X
Raw Data Delivery to ACCSP (ME-GA)	X	X	X	X	X	X	X	X	X	X	X	X
Data delivery to ACCSP (FL)			X		X		X		X		X	

Table 2. Headboat at-sea sample allocation (base sample) and additional trips to be conducted during 2018 (updates based on changes from 2017).

State	Number of Vessel Trips								Total Add-On to Base	Add-On ACCSP Funded
	MRIP Base Sample	Jan/Feb	Mar/Apr	May/June	Jul/Aug	Sep/Oct	Nov/Dec			
		Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6			
ME	16								0	
NH	20		1	2	3	1	0		7	100%
MA	44		0	6	10	6	0		22	82%
RI	28		0	4	6	4	2		16	50%
CT	20		0	2	2	2	2		8	100%
NY	50		0	5	6	5	2		18	100%
NJ	56		0	5	6	5	2		18	100%
DE	34								0	
MD	42		1	3	5	3	0		12	100%
VA	34		0	4	5	4	2		15	83%
NC	56		2	5	6	5	2		20	100%
SC	28								0	
GA	0		0	2	3	2	1		8	100%
East FL	0	16	22	22	22	22	16		120	100%
Total	428								247	91%

Table 3. Cost summary for funds requested from ACCSP.

\$134,370 (NH-GA via ACCSP = \$43,824, FL = \$90,546)

NH	COST	MA	COST	RI	COST	CT	COST
Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)	
(10 hr/trip x \$20.60/hr x 7 trips x 2 staff)	\$2,884	(\$236/trip x 18 trips x 1.5 staff)	\$6,372		\$0	(10 hr/trip x \$12.00/hr x 8 trips x 1 staff)	\$960
Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)	
51.07%	\$1,473					62.70%	\$602
Travel (c)		Travel (c)		Travel (c)		Travel (c)	
\$0.54/mi x 7 trips x 54 mi	\$204			2 FI x 8 trips 30 miles @ \$0.535/mile	\$257	\$0.535/mi x 8 trips x 30 mi	\$128
				Headboat fare (\$65/trip x 8 trips x 2 staff)	\$1,040	Headboat fare (2 staff x \$40/trip x 8 trips)	\$640
Total Direct Charges (i)	\$4,561	Total Direct Charges (i)	\$6,372	Total Direct Charges (i)	\$1,297	Total Direct Charges (i)	\$2,330
Indirect (j)		Indirect (j)		Indirect (j)		Indirect (j)	
State indirect = 20% of TDC, charge 10% as per ASMFC policy	\$456	10% of TDC	\$637			State indirect = 23.82% of Salaries	\$229
Sum of Direct and Indirect (k)	\$5,017	Sum of Direct and Indirect (k)	\$7,009	Sum of Direct and Indirect (k)	\$1,297	Sum of Direct and Indirect (k)	\$2,559

Table 3 (continued). Cost summary for funds requested from ACCSP.

NY	COST	NJ	Cost	MD	COST	VA	COST
Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)	
		(8 hr/trip x \$19.00/hr x 18 trips x 0.5 tech staff) + (8 hr/trip x \$13.00/hr x 18 trips x 1 hourly staff)	\$3,240	(8 hr/trip x \$14.5/hr x 12 trips x 1.5 staff)	\$2,088	(8 hr/trip x \$20.00/hr x 15 trips x 1.5 staff)	\$3,600
Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)	
		53.95% tech + 7.65% hourly	\$881	8%	\$167		
Travel (c)		Travel (c)		Travel (c)		Travel (c)	
\$0.54/mi x 18 trips x 85 mi	\$826	[(100 mi/trip*18 trips)/20 mpg]*\$4/gallon	\$360	\$0.535/mi * 12 trips * 4 mi * 1.5 staff	\$433	\$0.54/mi x 30 trips * 50 mi	\$840
Headboat fare (\$60/ trip x 9 trips x 2 staff) + (\$60/trip x 9 trips x 1 staff)	\$1,620	Headboat fare (\$55/trip x 18 trips x 2 staff)	\$1,980	Headboat fare (\$75/trip x 12 trips x 1.5 staff)	\$1,350	Headboat fare (\$50/trip x 15 trips x 2 staff)	\$1,500
Parking and tolls (\$27 x 6 trips)	\$162	Parking and highway tolls	\$200				
Total Direct Charges (i)	\$2,608	Total Direct Charges (i)	\$6,661	Total Direct Charges (i)	\$4,038	Total Direct Charges (i)	\$5,940
Indirect (j)		Indirect (j)		Indirect (j)		Indirect (j)	
		15% of TDC	\$999	10% of personnel and fringe	\$349.44	10% of TDC	\$594
Sum of Direct and Indirect (k)	\$2,608	Sum of Direct and Indirect (k)	\$7,660	Sum of Direct and Indirect (k)	\$4,388	Sum of Direct and Indirect (k)	\$6,534

Table 3 (continued). Cost summary for funds requested from ACCSP.

NC	COST	GA	COST	FL	COST
Personnel (a)		Personnel (a)		Personnel (a)	
		10 hrs/trip x \$13/hr x 8 trips	\$1,040	(10 hr/trip x \$15.00/hr x 110trips x 2 staff) + (10 hr/trip x \$15.00/hr x 10 trips x 1 staff)	\$34,500
Fringe (b)		Fringe (b)		Fringe (b)	
		1.45% FICA x personnel	\$15	34.50%	\$11,903
Travel (c)		Travel (c)		Travel (c)	
\$0.54/mi x 20 trips x 80 mi	\$864	\$0.535 x 29 mi/trip x 8 trips	\$124	\$0.445/mi x 120 trips * 80 mi	\$8,544
Headboat fare (\$75/trip x 20 trips x 2 staff)	\$3,000	Headboat fare (\$75/trip x 8 trips x 1 sampler)	\$600	Headboat fare (2 staff x \$75/trip x 110 trips) + (1 staff x \$75/trip X 10 trips)	\$17,250
Parking and Permits	\$280			Parking and highway tolls	\$240
Total Direct Charges (i)	\$4,144	Total Direct Charges (i)	\$1,779	Total Direct Charges (i)	\$72,437
Indirect (j)		Indirect (j)		Indirect (j)	
20% of TDC	\$ 829			State indirect = 25% of TDC	\$18,109
Sum of Direct and Indirect (k)	\$4,973	Sum of Direct and Indirect (k)	\$1,779	Sum of Direct and Indirect (k)	\$90,546

Table 4. Cost summary for in-kind contributions.

FLORIDA	In kind	NOAA	In kind
Personnel (a)		Personnel (a)	
5% of time for one Research Scientist and two Assistant Research Scientists	\$6,500	5% one full time salary	\$10,000
Fringe (b)		Fringe (b)	
34.50%	\$2,243		
Supplies (d)		Supplies (d)	
pre-printed forms on waterproof paper, measuring boards, scales	\$425		
Other (h)		Other (h)	
Mailing, copying, cell phone service	\$1,160		
Total	\$10,328	Total	\$10,000

Table 5. ACCSP Funding Related to the For-Hire Headboat Fishery: 1999-2017.

Year	Project Description	Funds Received	# At-Sea Trips	Data Delivery (ME-GA)
FY99	Outreach with SC for-hire constituents prior to For-Hire Pilot Study (SCDNR)	\$5,000		
FY00	For-Hire Pilot Study comparing three data methodologies in SC	\$94,082		
FY01	Independent evaluation of SC For-Hire Pilot Study	\$7,695		
FY02	Outreach with for-hire constituents & development of vessel directory prior to implementation of For-Hire Survey	\$66,000		
FY03	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	\$418,972	456	X
FY04	Increase charter and party/headboat sampling levels from ME through GA (100% increase)	\$533,410	456	X
FY05	Increase charter and party/headboat sampling levels from ME through FL (100% increase in general, FL HB sampling added)	\$666,740	565	X
FY06	Increase charter (100% increase) and party/headboat (50% increase ME-GA, FL level funded) sampling levels from ME through FL	\$389,700	560	X
FY07	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL	\$391,940	357	X
FY08	Increase charter (100% increase) ME through GA and party/headboat (50% increase) sampling levels from ME through FL (excluding GA)	\$359,753	310	X
FY09	Increase charter (100% increase in most waves) NH through GA and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, GA)	\$309,279	327	X
FY10	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	\$376,092	293	X
FY11	Increase charter (between 50-100%) NH through GA (excluding ME, CT, RI, MD, RI) and party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, SC, GA)	\$299,591	276	X
FY12	Increase party/headboat (50% increase) sampling levels from NH through FL (excluding ME, CT, RI, VA)	\$159,573	285	X
FY13	Increase party/headboat (50% increase) sampling levels from NH through FL	\$147,707	302	X
FY14	Increase party/headboat sampling levels from NH through FL	\$155,490	314	X
FY15	Increase party/headboat sampling levels from NH through FL	\$168,738	327	X
FY16	Increase party/headboat sampling levels from NH through FL (excluding SC)	\$179,286	327	X
FY17	Increase At-Sea Sampling Levels for the Recreational Headboat Fishery on the Atlantic Coast	\$155,373	247	X

Table 6: Prior complete year (2016) Cost Summary Budget Narrative.

Table 3: ACCSP RECREATIONAL-TECHNICAL COMMITTEE PROPOSAL - 2016 HEADBOAT AT-SEA SAMPLING INCREASES - BUDGET

TOTAL REQUESTED \$182,294											
Description	Cost										
FLORIDA	COST	NEW HAMPSHIRE	COST	MASSACHUSETTS	COST	RHODE ISLAND	COST	CONNECTICUT	COST	NEW YORK	COST
Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)	
(10 hours/trip x \$15.00/hour x 110trips x two samplers) + (10 hr/trip x \$15.00/hour x 10 trips x one sampler)	\$34,500	(10 hours/trip x \$20.60/hour x 10 trips x 1 samplers)	\$2,060	(19 * \$230 * 2 Fis) + (3 * \$230 * 1 Fi)	\$ 9,430	(8 hours/trip x \$15.50/hour x 14 trips x two samplers)	\$3,472	(10 hours/trip x \$12)	\$2,400	(8 hours/trip x \$21.64/hour x 13 trips x 2 observer) + (8 hours/trip x \$21.64/hour x 12 trips x 1 observer)	\$5,674
Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)	
Fringe = 34.5%*total salary	\$11,903	0.5107*personnel	\$1,052					fring = 0.625*personnel	\$1,500	\$4/hr for hourly staff	\$1,003
Travel (c)		Travel (c)		Travel (c)		Travel (c)		Travel (c)		Travel (c)	
\$0.445/mile: 9,600 miles (120 assignments @ 80 mi RT)	\$8,544	\$0.575/mi X 10 assignments @ 54 mi RT	\$310			30 miles per sample * \$0.575/mile * 16 samples = \$276	\$276			85 miles per assignment * 0.58 /mile	\$1,985
Headboat fare (2 samplers x \$75/trip x 110 trips) + (1 sampler x \$75/trip X 10 trips)	\$17,250					(2 samplers x \$65/trip x 16 trips)	\$2,080	(2 observers x \$40)	\$800	\$60/ trip * 38 sampler-trips	\$2,280
Parking and highway tolls	\$240									Parking and highway tolls \$27 * 6 trips	\$162
Supplies (d)											
Total Direct Charges	\$72,437		\$3,422		\$9,430		\$5,828		\$4,700		\$11,104
State of Florida Indirect (25% of TDC)	\$18,109	Indirect (20% of TDC), charge 10% as per ASMFC policy	\$684			State of RI Indirect (15% of TDC)	\$1,008	Indirect (24.08% of TDC)	\$944		
Sum of Direct and Indirect	\$90,546		\$4,106		\$9,430		\$6,836		\$5,644		\$11,104
ASMFC Indirect Charges (XX)											
State Totals	\$90,546		\$4,106		\$9,430		\$6,836		\$5,644		\$11,104

In-kind: (12 observer days) plus 10% indirect

\$4,637 In-Kind: Travel

In-kind: 2 trips (4 person-days)

\$496

In-kind: 3 trips (6 person-days)

\$1,039

NEW JERSEY	Cost	DELAWARE	Cost	MARYLAND	COST	VIRGINIA	COST	NORTH CAROLINA	COST	GEORGIA	COST
Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)		Personnel (a)	
(8 hours/trip x \$19.00/hour x 25 trips x one tech staff observer) + (8 hours/trip x \$13.00/hour x 25 trips x one hourly observer)	\$6,400			(8 hours/trip x \$13/hour x 17trips x 2 samplers)	\$3,536	(8 hours/assignment x \$20.00/hour x 17 assignments x two samplers)	\$5,440	(10 hours/trip x \$16.92/hour x 28 trips x two samplers)	\$9,478	(10 hrs/trip x \$10/hr x 11 trips)	\$1,100
Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)		Fringe (b)	
Fringe = 81%*tech + 7.65%*hourly	\$2,137			=40%*personnel	\$1,414					(0.0145 * FICA x personnel cost)	\$16
Travel (c)		Travel (c)		Travel (c)		Travel (c)		Travel (c)		Travel (c)	
[(100 miles/trip*25)/20 mpg]*\$4/gallon	\$500			75 miles RT * \$0.575/mi * 21 trips * 2 samplers	\$1,811	\$0.56/mile x 1,700 miles (34 trips @ 50 mi RT)	\$952	\$0.575/mile: 9,600 miles (28 assignments @ 80 miles round trip)	\$2,576	(\$0.575/mi x 180 mi/trip x 11 trips)	\$1,139
Headboat fare (2 observers x \$55/trip x 25 trips)	\$2,750	Headboat fare (2 samplers x \$100/trip x 17 trips)	\$3,400	Headboat fare (\$125/trip x 21 trips x 2 samplers)	\$3,150	Headboat fare (2 samplers x \$50/trip x 17 trips)	\$1,700	Headboat fare (2 samplers x \$75/trip x 28 trips)	\$4,200	Headboat Fare (\$75/trip x 11 trips x 1 sampler)	\$825
Parking and highway tolls	\$200			\$10 parking x 21 trips x	\$420			Parking and Permits	\$280		
	\$11,987		\$3,400		\$10,332		\$8,092		\$16,531		\$3,080
State of NJ Indirect (20.29% of tech+hourly), Charge 10% as per ASMFC policy	\$854			Indirect (10% of salary)	\$353.60						
Sum of Direct and Indirect	\$12,841		\$3,400		\$10,685		\$8,092		\$16,531		\$3,080
ASMFC Indirect Charges (XX)											
	\$12,841		\$3,400		\$10,685		\$8,092		\$16,531		\$3,080

In-Kind: DE will provide the personnel and

mileage for 17 trips

In-Kind: Personnel for 2774.4 4 trips

\$832

In-kind: 3 trips (6 person-days) plus 10.29% indirect

\$8,150

Table 7: Prior Complete Year (2016) Summary of Headboat Assignments Completed

State	Number of Vessel Trips								
	MRIP Base Sample	Add-On to Base	Jan/Feb	Mar/Apr	May/Jun	Jul/Aug	Sep/Oct	Nov/Dec	Total completed
			Wave 1	Wave 2	Wave 3	Wave 4	Wave 5	Wave 6	
ME	16	0	-	-	3	7	6	-	16 (0)
NH	20	12	-	3	12	12	6	-	33 (+1)
MA	44	22	-	-	25	37	10	-	72 (+8)
RI	28	16	-	6	13	18	12	5	54 (+10)
CT	20	10	-	-	8	10	7	6	27 (-3)
NY	50	25	-	9	22	24	21	9	85 (+10)
NJ	56	28	-	9	22	25	19	13	88 (+4)
DE	34	17	-	4	13	12	5	4	38 (-13)
MD	42	21	-	6	18	25	19	8	76 (+13)
VA	34	17	-	6	11	18	12	6	53 (+2)
NC	56	28	-	6	20	26	15	9	76 (-8)
SC	28	0	-	6	5	6	9	2	28 (0)
GA	0	11	-	1	2	2	2	2	9 (-2)
East FL	0	120	17	17	22	21	10	26	112 (-7)
Total	428	327	17	73	196	243	153	90	767 (+12)

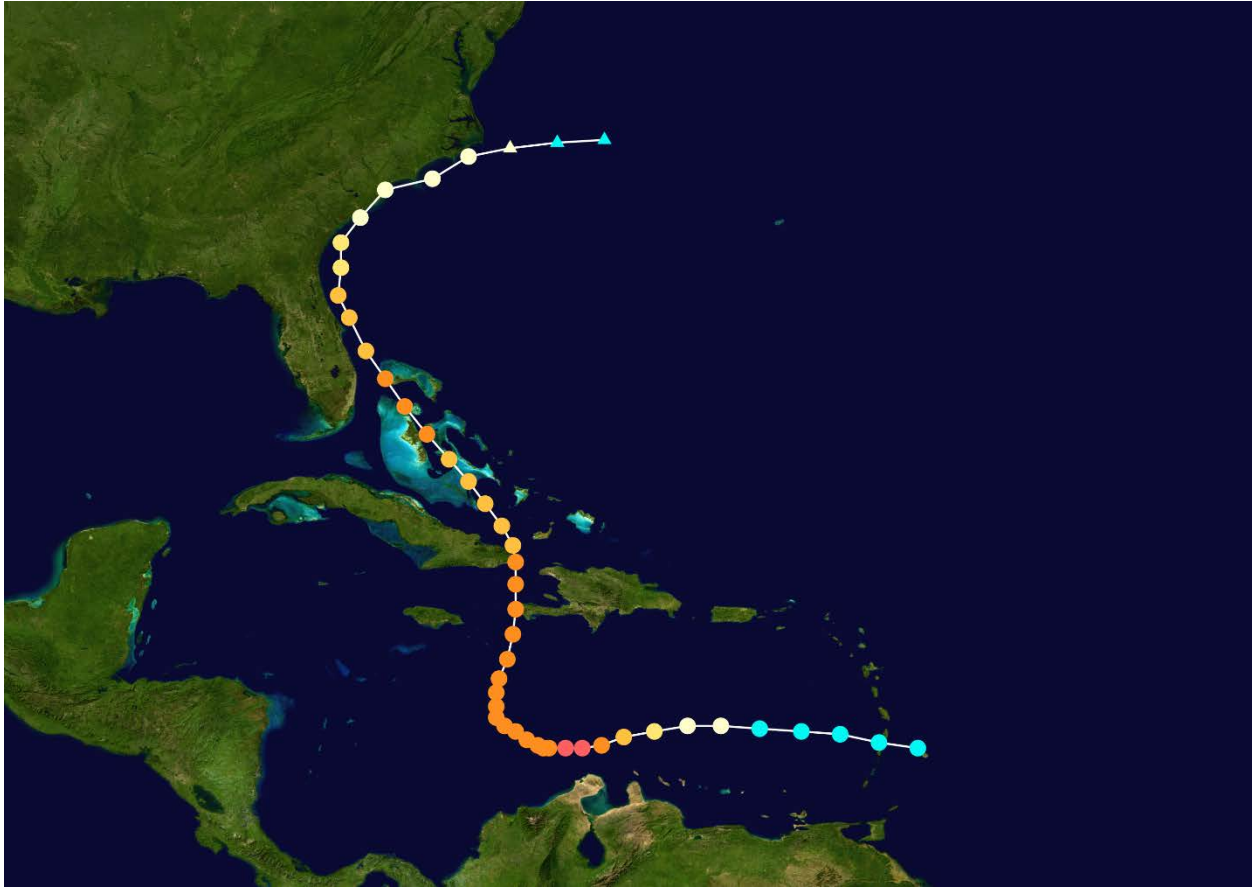


Figure 1. Track of Hurricane Matthew that skirted the South Atlantic coast during early October, 2016.

Credit: Created by Cyclonebiskit using WikiProject Tropical cyclones/Tracks. The background image is from NASA. Tracking data is from Tracking data from the National Hurricane Center's running best track.[1]., <https://commons.wikimedia.org/w/index.php?curid=51942603>

Thomas Sminkey
Statistician (biology)
Office of Science and Technology F/ST1
NMFS, NOAA
1315 East-West Hwy.
Silver Spring, MD 20910
(301)427-8177
tom.sminkey@noaa.gov

EDUCATION

The College of William and Mary, Virginia Institute of Marine Science, M.A. 1986, Ph. D. 1994,
Marine Science
University of Pennsylvania, B.A. 1978, Biology

WORK EXPERIENCE

December 1999 – Present: Statistician, Fishery Statistics, OST, NMFS, NOAA. Participate in team design of recreational fishery monitoring surveys; represent NMFS fishery statistics division on multi-agency technical committees of ACCSP, GulfFIN, SEDAR, and ad-hoc workshops as needed; administer Access-Point Angler Intercept Survey acquisition and conduct on Atlantic Coast by federal contractor; design, implement, and provide technical oversight as Technical Monitor for Hawaii Marine Fishery Survey Cooperative program (MRFSS APAIS in Hawaii); serve as Technical Monitor for GulfFIN Cooperative Agreement grant which includes recreational monitoring APAIS conduct, commercial fishery trip ticket data collections, biological sampling of commercial and recreational fisheries, and other funded tasks; provide advisory and technical support to For-Hire Survey on Atlantic Coast; produce specialty data analyses and data extractions as requested.

July 1998 - December 1999 - RecFIN(SE) Programmer/Analyst, Gulf States Marine Fisheries Commission. Lead development of data processing tools and programs for implementation of the MRFSS Access-Point Angler Intercept Survey field data collection by the Gulf of Mexico States under the coordination of the GulfFIN program of the GSMFC.

PROFESSIONAL SOCIETIES

American Fisheries Society
American Statistical Association
American Society of Ichthyologists and Herpetologists

PRESENTATIONS

Implementation and Evolution of an Access-Point Angler Intercept Survey. American Fisheries Society Annual Meeting. 2015. Portland, OR.

Charter Boat Fishing Effort Estimates and Survey Changes. American Fisheries Society Annual Meeting. 2011. Seattle, WA.

Beverly J. Sauls, Research Scientist

Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute
100 8th Avenue SE, Saint Petersburg, FL 33701
(727) 502-4719, Beverly.Sauls@MyFWC.com

Education

University of South Florida, M.S., College of Marine Science, Marine Resource Assess. Program, 2013
Christopher Newport University, B.S., Biology, 1993

Professional Experience

Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute,
Research Scientist, September 2001 to present

- Design, implement, supervise, and oversee the conduct of fishery-dependent data collection programs for recreational fisheries throughout the state of Florida. Accomplishments include:
 - Chaired Marine Recreational Information Program (MRIP) For-Hire Workgroup (2006-2012) and led project team to design and pilot test a regional-scale electronic logbook reporting system for charter vessels in the Gulf of Mexico.
 - Designed and implemented a large-scale at-sea observer program on for-hire recreational fishing vessels combined with a mark-recapture study of regulatory discards, and developed a quantitative model to estimate discard mortality.
 - Worked collaboratively with NMFS and statistical consultants to design and implement specialized data collection programs to supplement the general MRIP survey in Florida.

Maryland Department of Natural Resources, Fishery Management Plan Writer, Jan. 1994 to June 1998

- Led development of Fishery Management Plans for the Chesapeake Bay Program.

College of William and Mary, Virginia Inst. of Marine Science, Lab Technician, June 1989 to Dec. 1993

- Collected quantitative data utilizing radio and sonic telemetry and aerial surveys. Compiled over ten years of mark-recapture data for marine turtles and summarized migration patterns.

Current Appointments

- Atlantic Coast Cooperative Statistics Program, state representative on Operations Team and Recreational Technical Committee
- Gulf States Marine Fisheries Commission, state representative on FIN Committee and Data Management Subcommittee
- Southeast Data Assessment and Review (SEDAR), Data Workshop Panelist for South Atlantic and Gulf of Mexico stock assessments

Select Peer-Reviewed Publications

2016. Sauls, B., A. Strelcheck and R. Cody. Survey methods for estimating red snapper *Lutjanus campechanus* landings in a high-effort recreational fishery managed with a small annual catch limit. In progress (accepted, pending revisions).

2014. Sauls, B. Relative survival of gags *Mycteroperca microlepis* released within a recreational hook-and-line fishery: application of the Cox regression model to control for heterogeneity in a large-scale mark-recapture study. *Fisheries Research* 150: 18-27.

2012. Sauls, B. and O. Ayala. Circle hook requirements in the Gulf of Mexico: application in recreational fisheries and effectiveness for reef fish conservation. *Bulletin of Marine Science*. 88: 667-979.

Appendix 1. Policy on indirect cost recovery.



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asmfc.org

Dr. Louis B. Daniel, III (NC), Chair Douglas E. Grout (NH), Vice-Chair Robert E. Beal, Executive Director

Vision: Sustainably Managing Atlantic Coastal Fisheries

Policy on Indirect Cost Recovery

The Commission has established a policy determining that a subcontractor's indirect cost recovery is limited to the percentage of indirect cost recovery that the Commission is authorized on the cooperative agreement. The Commission can make exceptions to this policy on a case by case basis.

Approved by the Executive Committee 2.4.15

MAINE • NEW HAMPSHIRE • MASSACHUSETTS • RHODE ISLAND • CONNECTICUT • NEW YORK • NEW JERSEY • DELAWARE
PENNSYLVANIA • MARYLAND • VIRGINIA • NORTH CAROLINA • SOUTH CAROLINA • GEORGIA • FLORIDA



United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southeast Fisheries Science Center
NOAA Beaufort Laboratory
101 Pivers Island Road
Beaufort, NC 28516 USA

August 17, 2017

Elizabeth Wyatt
Program Coordinator
Atlantic Coastal Cooperative Statistics Program
1050 N. Highland St
Suite 200A-N
Arlington, VA 22201

Dear Ms. Wyatt

I wish to thank you and the panel for reviewing my proposal. After consideration of your comments, I respectfully re-submit my proposal to be considered for funding by the ACCSP for FY2018: "Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets."

I made note of the change in timing of the SEDAR56 Black Sea Bass assessment in the proposal. The other comment regarding sampling targets cannot be directly addressed by myself. I am unable to find sampling targets for each of the fisheries from which we receive samples. Further, to address whether sampling targets are being met would require a detailed analysis of the number of trips sampled or interviewed, and the number of lengths and age structures obtained in each. The steward of each fishery data set is better suited to complete that analysis because I may misinterpret the data or not have complete access to all of it. In terms of samples that get read by my shop, we very rarely sub-sample the age samples we receive, unless we do not have time to process all samples due to some deadline imposed by the SEDAR schedule. In most cases, all the age samples for the major species coming into my shop get processed and read, in part thanks to the funding efforts of ACCSP.

Your past funding for processing and aging of biological samples has made a tremendous difference in the data and science we are able to provide for stock assessment and management of important fish stocks in the U.S. South Atlantic. Thank you for your support.

Sincerely,

Jennifer Potts

Attachment:
Updated FY2018 Proposal

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

Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries

Submitted by:
Jennifer Potts
NOAA National Marine Fisheries Service
SEFSC/Beaufort Laboratory
101 Pivers Island Rd.
Beaufort, NC 28516
Jennifer.Potts@noaa.gov

NOAA National Marine Fisheries Service ACCSP
Funding Proposal: Continue aging of US South Atlantic reef fish species.

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page15-16.

Page 1

Applicant: NOAA Fisheries Service, Southeast Fisheries Science Center, Beaufort, NC

Principal Investigator:
Jennifer C. Potts

Project Title: Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational

Project Type: Maintenance

Requested Award Amount: \$251,600

Requested Award Period: For one year, beginning after the receipt of funds

Original Date Submitted: June 19, 2017

Objectives:

The primary objective of the proposed work is to continue processing and aging ACCSP-prioritized reef fish species in support of stock assessments for those species. This project aims to cover **100% of the biological module and item 2, biological data, of the Program Goals as stated in the FY2018 RFP**. The goal of this project is to process prioritized age samples as they are received annually. Another goal is to process prioritized samples that have been stored for many years. Focal species have been and/or will be assessed through the Southeast Data, Assessment, and Review (SEDAR) process and periodically updated in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The NMFS Beaufort Laboratory receives the majority of the fishery-dependent age samples collected within the **U.S. South Atlantic. Our laboratory works closely with other regional ageing laboratories to provide age data inputs for the stock assessment models**. Thus, another objective of this study is **to participate in ageing workshops and exchange reference, or calibration sets, of processed otolith samples**. These collaborations will allow us to collectively address issues of **consistency in processing methodology and interpretation of age structures** between laboratories, allowing data sets to be combined for stock assessments. Staff at the NMFS Beaufort Laboratory have been actively involved in the **GSMFC/ASMFC Age Manual** update currently underway. The manual will further standardize processing and age reading methodology throughout the entire Atlantic coast. Also, because the NMFS Beaufort Laboratory receives biological samples from various state agencies and federally managed fishery-dependent surveys, the data associated with each sample will be verified, standardized to ACCSP protocols, and logged into the Beaufort bio-sample inventory (BFT) or the Bio-sample Database (BSD) linked directly to the NMFS Trip Interview Program database, which can be shared with ACCSP. **Metadata associated with the age data from fishery-dependent sources will be provided to ACCSP in accordance with the Atlantic Coast Fisheries Data Collection Standards** (http://www.accsp.org/sites/default/files/ACCSP_StandardsandAppendices2012_Final05082012.pdf). **All of these objectives directly fulfill the mission statement of the ACCSP 2014 – 2018 Strategic Plan.**

Need:

NOAA Fisheries Service (NMFS) in the southeast region has instituted the Southeast Data, Assessment and Review (SEDAR) process for conducting stock assessments, through which model outputs are used to inform management in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). After fifty-three SEDARs, the most cited research recommendation has been the need for more comprehensive, validated, and consistent age composition data. The Atlantic Coast Cooperative Statistics Program (ACCSP) Biological Review Panel has also had extensive discussions about this issue (Technical Source Document V). In concurrence with the SEDAR and ACCSP recommendations is research conducted by Yin and Sampson (2004) and Siegfried et al. (2016). Their studies looked at the many factors influencing stock assessment models (e.g., length of data series, natural mortality,

fishery selectivity curve, fishing mortality, recruitment, survey biomass index, fishery and survey age composition, fishing effort, and sampling error in catch data). Of the factors affecting estimates of ending biomass and projected catch, Yin and Sampson's study suggests improvement to the models can be made with increased age composition sampling, for the least cost. Siegfried et al. found that increased age composition data, specifically commercial age composition, had the greatest effect on the accuracy of assessments.

NMFS Beaufort Laboratory is in a unique position of holding fishery-dependent age data for many of the most important reef fish species of the U.S. South Atlantic dating back to the 1970s. These collections have been greatly enhanced because state natural resource agency partners and NMFS Southeast Fishery Science Center have placed greater emphasis on collecting age structures along with fish lengths from the fishery landings. Following the NMFS review of stock assessment science, a National Otolith Sample Size Working Group has been formed by NMFS to explore the question of how many age structures are sampled and how many are needed for a reliable stock assessment. This group has brought a lot of attention to the need for more age structure sampling. ACCSP has also funded or is reviewing proposals for funding state agencies to collect biological samples from the commercial fishery. **The Beaufort Laboratory now is receiving upwards of 25,000 age samples per year from commercial and recreational fishery landings contributed by many agencies including the North Carolina Division of Marine Fisheries (NCDMF), South Carolina Department of Natural Resources (SCDNR), Florida Fish and Wildlife Commission (FWC), NMFS Headboat Survey, and NMFS Trip Intercept Program (TIP).** These new samples will provide the age composition data for stock assessments, but funding is required for processing and ageing the samples.

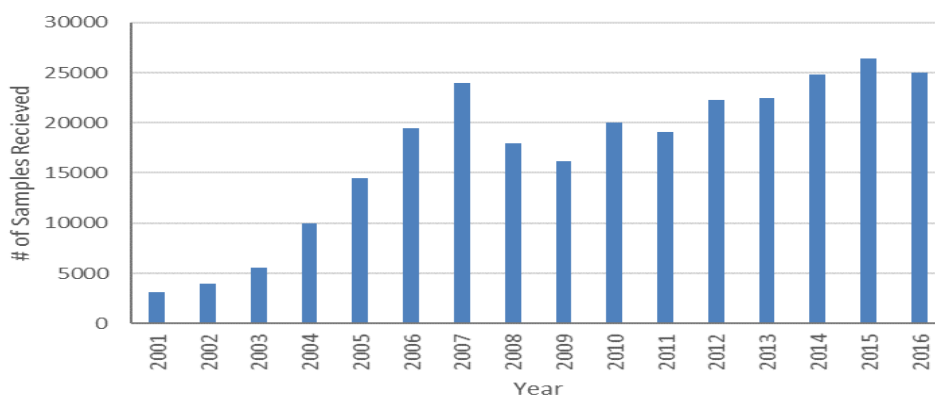
Another strong research recommendation from several SEDARs pertained to age and growth studies of the same species performed by more than one laboratory. Researchers have been asked to standardize processing techniques, be consistent in age determination analysis, and resolve ageing discrepancies between laboratories. **The NMFS Beaufort Laboratory works closely with SCDNR, NCDMF, FWC and NMFS Panama City Laboratory to exchange processed samples for age comparison studies. Recently, Virginia Marine Resources Commission (VMRC) and Old Dominion University (ODU) have collaborated with NMFS Beaufort in ageing of blueline tilefish and snowy grouper.** Funding is required to support workshops to discuss processing methodology and interpretation of the aging structures. As a result of these workshops, **consistency in ageing will be met and paired age readings will be used to create age error matrices that will be used as input data to stock assessment models.**

Validation of ages is another critical factor in stock assessments. Consistency between age readers produces precision, but accuracy is more important. Several southeast regional laboratories are currently conducting age validation projects for reef fish species. NMFS Beaufort Laboratory is finishing age validation studies on red porgy and gray triggerfish through chemical marking and rearing experiment; SCDNR is conducting age validation studies on deep-water species such as blueline tilefish and wreckfish (Lytton et al, 2016) using bomb radio-carbon in otoliths; and NMFS Panama City has used radiometric age validation techniques on

golden tilefish (Lombardi-Carlson and Andrew, 2015). The regional laboratories are also collaborating with other state agencies and universities to expand the validation studies. These data will improve our between lab consistency in ageing, direct age workshops and improve stock assessments for management of the fisheries.

Aging of reef fish species and fiscal support of that work at the Beaufort Laboratory have evolved over the years. Initially, aging studies conducted by FTE staff of the Beaufort Laboratory were done on a species-by-species basis, but not specifically for stock assessment purposes. Those studies were also considered snap shots in time, rather than many years’ worth of samples. Following the retirement of the lead scientist, leaving one FTE to carry on the work, and with the advent of the SEDAR process, a more concerted effort was needed to age fish for stock assessments. In 2003, one contract position was added to the lab funded through MARFIN funds, and the lab was able to provide a total of 4,300 ages for two species. MARFIN funded the aging work through 2009, but then could no longer support it. Expanded annual stock assessment (EASA) funds were used to support one contract position, from 2008 - 2014. The number of assessments requested each year increased, and commensurately the number of age samples collected and sent to Beaufort increased (Figure 1). With the support for biological sampling by ACCSP, the Beaufort Laboratory turned to ACCSP for funding in 2012, 2013, 2015 - 2017, which is the primary source of funding for production ageing work at the Beaufort Laboratory. Through ACCSP (3 positions), EASA funding (1 position) and two NMFS FTE staff (part time on this project), the lab was able to show an increase in production processing from 5,000 to currently 24,000 age samples per year and from 4,300 to currently 18,000 actual ages per year for stock assessments. Also, the lab was able to process and age valuable samples collected prior to 1990 which included economically valuable species such as red snapper, gag, red grouper, black sea bass, and gray triggerfish. These data were able to show potential shifts in age structure (e.g., age truncation), growth, and effects of minimum size limits over time. All of these elements are important indicators in stock assessments.

Figure 1. Number of age samples received at the Beaufort Laboratory 2001 – 2016.



Results/Benefits:

The NMFS Beaufort Laboratory has been collecting samples and aging reef fish species for 40 years, and is able to provide those data for assessment models for species of the snapper grouper complex of the U. S. South Atlantic. Funding for this project would be directed at the processing and aging of fish from the 2018 - 2019 proposed SEDAR species list, as well as continued processing of the highest priority species to ACCSP and in the SAFMC Snapper Grouper FMP. That work will begin during the summer of 2018, following the completion of the data input requirements for greater amberjack and red porgy. Work will already be underway processing scamp for which the lab holds more than 10,000 samples dating back to the late 1970s. Also, ongoing efforts to stay up to date on black sea bass, vermilion snapper, gag, red grouper, snowy grouper, blueline tilefish and tilefish (golden) will be continued. The data provided will reduce uncertainty about the stock assessment models of important commercial and recreational species. Also, the data would be used to characterize fishery landings and provide information on year class strength, effects of fishing on age structure, and growth of fish in the population.

Nine species currently managed in the SAFMC Snapper Grouper FMP are listed in the upper 25% of the ACCSP Bio-Sampling Priority Matrix. One of these species, black sea bass is scheduled for a SEDAR assessment **to begin in October 2017**, and red porgy is scheduled in 2018, and scamp, snowy grouper and tilefish in 2019. Thus, it is important to continue processing and reading the age samples collected. Past funding from ACCSP has allowed the Beaufort Laboratory to meet the SEDAR schedule.

Along with the nine snapper-grouper species in the Priority Matrix, the Beaufort Laboratory includes seven additional species as our top priority for age processing (Table 1). Those fifteen species make greater than 75% of total samples received annually. To process and read the annual samples received would take at least 400 person days to complete. In Addition, of those species, lane snapper and white grunt have not undergone a SEDAR assessment, nor are they on the SEDAR schedule to date. The Beaufort Laboratory has inventoried over 25,000 white grunt samples and approximately 8,000 lane snapper samples dating back to the early 1980s. Over 900 days will be needed to process and read the backlog of white grunt and lane snapper. The estimate of time required does not include the time spent verifying all the data and updating the inventories, exchange of calibration sets with other laboratories and age workshops, data analysis and report writing.

During the past several years, there have been changes to the SEDAR schedule by the SEDAR Steering Committee that have caused the NMFS Beaufort Laboratory staff to shift their species of focus. Due to the changes, the staff has had to sub-sample the collection for particular species, namely vermilion snapper, gray triggerfish and red grouper, to meet shortened deadlines, thus possibly compromising the data for the stock assessment. **By funding this proposal, NMFS Beaufort would be able to maintain the current number of staff, to continue to process primary reef fish species on an annual basis, and to process the back-log of samples held since the 1970s and the previously excluded age structures due to sub-sampling.** Prioritized species of the

SAFMC Snapper Grouper FMP are listed in Table 1 along with the number of age samples received in 2012 - 2016. The annual cost estimate per species for processing and aging of the samples has also been calculated and included in Table 1. The cost estimate does not include inter-laboratory calibration component of study. **Samples from yellowtail snapper, mutton snapper and black grouper are sent to Florida's FWC in cooperation with that lab to age those species. FWC returns the age data to the Beaufort Laboratory for inclusion in the BFT and BSD.** The annual processing would allow the staff to respond to changes in the SEDAR schedule with less loss of data integrity.

Table 1. 2012-2016 Fishery-dependent age samples of the top priority species received at the NMFS Beaufort Laboratory. Estimated annual cost to process and age each species based on average salary cost and time per sample. Estimate does not include inter-laboratory calibration, age workshops, or data analyses.

Species	2012	2013	2014	2015	2016	Annual Cost to Age
BLACK SEA BASS	2333	2289	2196	2423	1448	\$30,250
SNOWY GROUPE	949	644	818	861	787	\$22,966
BLUELINE TILEFISH	1200	811	494	262	328	\$17,512
GRAY TRIGGERFISH	1161	1008	1112	1125	1594	\$33,948
GAG	1261	734	890	650	585	\$17,485
RED GROUPE	812	448	521	230	349	\$10,016
TILEFISH	1713	1035	911	558	895	\$28,924
RED PORGY	937	868	939	673	740	\$23,520
RED SNAPPER	338	700	912	64	0	\$8,547
VERMILION SNAPPER	4902	4219	4121	3751	5187	\$94,132
SCAMP	1021	647	825	452	752	\$20,918
GRAY SNAPPER	322	607	1336	1238	1325	\$20,490
WHITE GRUNT	995	1635	2374	2415	2649	\$42,729
LANE SNAPPER	333	544	830	562	950	\$13,661
Total	18277	16189	18279	15264	19605	\$385,097

The total number of otoliths or spines that can be processed and read in a single year is dependent on several factors, including the number of trained personnel in the lab, the type of processing required, and the difficulty in interpretation of the structure. Processing techniques include low-speed saws that may result in higher quality sections and allow for more than one section per sample, or a high-speed saw that results in one section and is adequate for easier to age fish. The three staff hired through ACCSP funds along with two FTEs will be able to process

NOAA National Marine Fisheries Service ACCSP
Funding Proposal: Continue aging of US South Atlantic reef fish species.

Sections of the proposal identified to help with the ranking process are highlighted in green with a summary on page15-16.

and read 20,000 age samples in one year. Funding of this proposal will allow for the continuation of the processing of age structures collected on an annual basis to meet the prioritized needs of SEDAR. The funds will also allow us to process through back-logged samples. Without these additional staff, stock assessment uncertainty will increase because of less-than-adequate age data inputs, and assessment biologists will be less likely to determine the effects of fishing on size composition or age structure of the populations.

The people hired into these contract positions would be required to participate in SEDAR Life History Groups. They would become intimately knowledgeable of the data associated with the age samples and with the methodology to age the fish. They would contribute to discussion of each species as an expert. The contract biologist would be required to contribute to analysis of the life history data inputs for the SEDAR assessment and contribute to the report writing.

Various state and federal laboratories each house their own collections of age samples, such as fishery-independent survey samples or special project samples. They will be working independently to process and read samples of many marine fish species. They will then work collaboratively by combining data with the other laboratories to give more complete life history information to assessment biologists. The funding of this proposal will ensure greater coordination between laboratories for exchanging processed samples and ensuring reader precision between laboratories.

Approach/Procedures:

Biological samples collected by port agents at various locations from North Carolina through the east coast of Florida will be shipped to the Beaufort Laboratory. Once received, staff will review the electronic and hard copy data for each sample, ensure the samples are properly labeled, sort the samples by species and store them for future processing. All sample data collected by port samplers will be entered into a searchable database that will be updated and maintained. **This information can be shared with ACCSP and NMFS SEFSC bio-sample databases. Staff will also respond to requests for samples from other regional ageing facilities, thus creating greater cooperation with those facilities.**

Staff of the NMFS Beaufort Laboratory will be responsible for processing the fishery-dependent age structures of species needed for SEDAR stock assessments. The samples will be sectioned and aged following the methods of Potts and Manooch (1999) and Cowan et al. (1995) in concurrence with other fish ageing laboratories and the GSMFC/ASMFC Age Manual. The age data will be recorded for each sample and provided to assessment biologists. After the data have been vetted through the SEDAR process or published, they will be made available to ACCSP and the NMFS Bio-sample databases.

All staff involved with these studies will be trained by the principal investigator, who has 27 years of experience ageing marine fish. Also, they will be required to read reference collections and meet acceptable standards of between reader consistency with no bias. Image analysis

software will be used to take pictures of the age samples, apply measurements to them and annotate the images for training purposes. The staff will cross train with researchers at other laboratories. Age workshops will be held to standardize sample processing methodology and interpretation of the age structures, followed by exchanges of each lab's calibration sets. Many of the ageing laboratories in the Southeast region have worked together and exchanged information in the past, making cooperation between these facilities easier.

NMFS Beaufort Laboratory will provide to ACCSP metadata for all age samples in accordance with ACCSP's standards included in Atlantic Coast Fisheries Data collection Standards part 3

(http://www.accsp.org/sites/default/files/ACCSP_StandardsandAppendices2012_Final05082012.pdf). "Other Biological Standards: Until these documents are completed and the methodologies approved as standard partners are encouraged to submit metadata on any biological data submitted to the ACCSP. These metadata parameters should include the following by species, for each data type (e.g., otoliths, fecundity, etc.): 1. Agency submitting data 2. Name of principle investigator 3. Description of interpretation methodologies used."

Geographic locations:

Biological samples for ageing will be collected from **commercial and recreational fishery landings from North Carolina through the east coast of Florida and the Florida Keys through routine, on-going sampling activities.** Recently, samples of deep-water reef fish species (e.g., blueline tilefish and snowy grouper) caught off of Virginia and Maryland have been included in the stocks from the U.S. South Atlantic. Funding for this proposal will result in contract research support personnel to be located at NMFS/SEFSC, Beaufort, NC.

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Milestone Schedule:

TASKS	J	J	A	S	O	N	D	J	F	M	A	M
Receiving and storing hard parts	X	X	X	X	X	X	X	X	X	X	X	X
Processing hard parts	X	X	X	X	X	X	X	X	X	X	X	X
Ageing hard parts			X	X	X	X	X	X	X	X	X	X
Provide hard parts to cooperative institutions		X	X	X	X	X	X	X	X	X	X	X
Provide samples for reference collections	X	X	X	X	X	X	X					
Quarterly progress reports			X			X			X			
Final Report												X

Project Accomplishments Measurement:

The ultimate accomplishment measurement of this project will be the successful completion of all age data for SEDAR scheduled species in FY2018-2019. Five species are currently on the schedule for 2018 – 2019 which include red porgy, greater amberjack, scamp, snowy grouper and tilefish. The work will have been begun prior to the funding of this project. Some processing has already been done on those species, but the high volume of red porgy, scamp, and snowy grouper will take most of the staff’s time to complete in time to meet the SEDAR schedule. Also, the lab intends to continue the aging of samples collected in 2017 for the species listed in Table 1. As a result of age validation projects, red porgy and gray triggerfish samples previously aged may need to be re-aged, creating a heavy workload on the staff.

Cost Summary:

	ACCSP	NMFS In-Kind	Total
Personnel Services/Salaries			
P.I. Salary		\$83,000	\$83,000
FTE Biologist salary		\$55,500	\$55,500
Contract staff (3)	\$245,000		\$245,000
Subtotal	\$245,000	\$138,500	\$383,500
Fringe Benefits			
\$138,500 *30%		\$41,550	\$41,550
Travel			
For age workshops (3 people * 1 trip)	\$1,600		\$1,600
Supplies			
Consumables (slides, saw blades, chemicals)	\$5,000		\$5,000
Facilities Cost Recovery Fee		\$61,000	\$61,000
AGO Fee		\$7,350	\$7,350
TOTAL	\$251,600	\$248,400	\$500,000

BUDGET NARRATIVE for REQUESTED FUNDING

July 1, 2018 – June 30, 2019

Category	Cost	Justification
Personnel	\$245,000	Contract staff positions are negotiated pricing through the federal government. (2080 hrs x \$39.26/hr x 3 staff).
Travel	\$1,600	Travel for 3 contract personnel to age workshop for 3 days (\$1,600).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$251,600	

BUDGET NARRATIVE for NMFS IN-KIND FUNDING
July 1, 2018 – June 30, 2019

Category	Cost	Justification
Personnel	\$138,500	Includes 83% of PIs time and full time of FTE biologist. The personnel are directly involved with the day to day processing and aging of samples, laboratory management and data analyses.
Fringe Benefits	\$41,500	Fringe benefits are calculated on the partial salaries of the two FTE positions listed.
Cost Recovery Fee	\$61,000	The Beaufort Laboratory is in a unique position of cross-line office ownership of the facility. National Ocean Service owns the facility and National Marine Fisheries Service must reimburse NOS for direct costs such as utilities and administrative services, referenced above as “Cost Recovery Fee”, which is calculated on a per person basis. No other NMFS Laboratory in the Southeast Region is required to pay such a fee. The Southeast Fisheries Science Center has agreed to pay the fee for the requested personnel in this proposal, due to the importance of the proposed work.
AGO Fee	\$7,350	As of October 1, 2016 NOAA’s Acquisitions and Grants Office charges a fee for all contract services.
Total	\$248,400	

Maintenance Project:

Table 2. History of related projects funded by ACCSP.

Funding Year	Project Title	ACCSP Funds	In-Kind Funds
2017	Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$256,038	\$232,809
2016	Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$254,706	\$266,306
2015	Continued processing and aging of biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	250,831	\$264,601
2013	Processing and aging biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$205,636 (partially funded; requested amount \$249,946)	\$98,800
2012	Processing and aging biological samples collected from U.S. South Atlantic commercial and recreational fisheries in response to ACCSP bio-sample targets	\$236,440	\$74,915

Table 3. Budget Narrative from FY 2017 (A), FY2016 (B), FY 2015 (C), FY 2013 (D), and 2012 (E) funding.

A. FY2017

Category	Cost	Justification
Personnel	\$249,438	Contract Biologist position to take lead on project (2080 hrs x \$43.10); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$37.69). These labor costs are negotiated pricing through the federal government.
Travel	\$1,600	Travel for 3 contract personnel to age workshop for 3 days (\$1,600).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$258,038	

B. FY2016

Category	Cost	Justification
Personnel	\$252,480	Contract Biologist position to take lead on project (2080 hrs x \$43.10); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$39.14). These labor costs are negotiated pricing through the federal government.
Travel	\$1,500	Travel for 3 contract personnel to age workshop for 3 days (\$1,500).
Supplies	\$3,726	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$254,706	

C. FY2015

Category	Cost	Justification
Personnel	\$244,531	Contract Biologist position to take lead on project (2080 hrs x \$42.25); Two contract technician positions to process age samples and assist in ageing (2 x 2080 hrs x \$37.68). These labor costs are negotiated pricing through the federal government.
Travel	\$1,300	Travel for 3 contract personnel to age workshop for 3 days (\$1,300).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide storage, saw blades, etc.
Total Request	\$250,831	

D.FY2013

Category	Cost	Actual	Justification
Personnel	\$218,828	\$205,636 Note: All money went to contract labor cost. Supplies and travel were paid by other projects.	Contract Biologist position to take lead on project (1928 hrs x \$41.50); Two contract technician positions to process age samples and assist in ageing (2 x 1928 hrs x \$36.00). These labor costs are negotiated pricing through the federal government.
Travel	\$6,600.00		Travel for 3 contract personnel to age workshop for 5 days (\$3,600). Travel for two contract personnel to SEDAR Data Workshops for 7 days (\$3,000). These personnel will be required to participate in SEDAR Life History groups in order to represent data they have recorded.
Vehicle	\$616.00		Cost to use government vehicle for travel to Charleston, SC for age workshops and SEDAR meetings (\$0.55/mi).
Supplies	\$12,000		Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide boxes, saw blades, etc. Required upgrade of image analysis software used in training and creating digital reference.
Total Request	\$249,946		

E. FY2012

Category	Cost	Justification
Personnel	\$213,565	Contract Biologist position to take lead on project (1928 hrs x \$40.77); Two contract technician positions to process age samples and assist in ageing (2 x 1928 hrs x \$35.00). These labor costs are negotiated pricing through the federal government.
Travel	\$6,000.00	Travel for 3 contract personnel to age workshop for 5 days (\$3,000) – Age workshop for Blueline tilefish, gray triggerfish and snowy grouper; Travel for two contract personnel to SEDAR Data Workshops for 7 days (\$3,000) – Participant in Life History group for SEDAR32 (blueline tilefish and gray triggerfish).
Vehicle	\$616.00	Cost to use government vehicle for travel to Charleston, SC for age workshops and SEDAR meetings (\$0.55/mi).
Supplies	\$5,000	Estimated cost of supplies to process 20,000 age samples in one year. Supplies include embedding materials, slides, slide boxes, saw blades, etc.
Overhead	\$11,259	Allowable NOAA overhead charge of 5% of total request (\$225,181). Used for administrative costs and IT equipment for new contract personnel.
Total Request	\$236,440	

Table 4. Accomplishments from the 2012 (A), 2013 (B), 2015 (C), and 2016 (D) funding year cycles. Number of samples that have been sectioned and number of samples aged by species.

A. 2012

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Black Sea Bass	1,000	3,300	2011 - 2012
Blueline Tilefish	800	3,117	2003 - 2012
Gray Triggerfish	700	6,240	1990 - 2012
Snowy Grouper	2,400		2010 - 2012
Red Porgy	1,300		2012
Red Snapper	300		2012
Gag	6,000		2005 - 2012
Vermilion Snapper	3,120		2012

B. 2013

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Gag Grouper		6,551	2007 - 2012
Red Snapper		1,210	2010 - 2013
Gray Triggerfish		2,457	2012 - 2013
Gray Triggerfish from SCDNR collection		8,471	1991 - 2013
Blueline Tilefish		1,851	2012 - 2013
Black Sea Bass		1,935	2012 - 2013
Red Porgy	3,600		2012 - 2013
Tilefish	2,340		2011 - 2013
Vermilion Snapper	3,000		2012 - 2013
Scamp	1,200	300	1983 - 2013

C. 2015

Species	# of Samples Sectioned	# of Samples Aged	Sampling Years
Tilefish		4,297	2011 - 2014
Blueline Tilefish	1,566	1,566	2014 - 2015
Red Grouper	742	742	2014 - 2015
Black Sea Bass		2,395	2012 - 2013
Vermilion Snapper	5,670	11,759	2012 - 2015
Gag Grouper		1,182	2014 - 2015
Scamp	5,913		1983 - 2015
Gray Snapper	4,448		2006 - 2014
Greater Amberjack	428		2006 - 2014

D. 2016

Species	# of Samples Sectioned	# of Samples Aged	SEDAR
Black Sea Bass		9,037	SEDAR 56
Vermilion Snapper	7,400	13,676	SEDAR 55
Gray Snapper	4,725	7,945	SEDAR 51
Greater Amberjack	687	131	Due 2018
Red Porgy	1635		Due 2018
Scamp	1,300	10,055	Due 2018
Lane Snapper	3971	1735	

Summary of Proposal for Ranking Purposes

Proposal Type: *Maintenance*

Primary Program Priority:

Biological Sampling: 100% of age samples collected from the nine SAFMC Snapper Grouper FMP species within the top 25% priority matrix will be processed and aged. The age data will be loaded into Bio-Sample Database housed at the NMFS SEFSC and made available for the SEDAR process. After the age data are vetted through the SEDAR process, those data will be made available to the ACCSP database. Until the module for biological data is developed within ACCSP Data Warehouse, metadata for age data will be provided to ACCSP.

Project Quality Factors:

Multi-Partner/Regional Impact Including Broad Impact:

Age samples from species managed through the SAFMC Snapper Grouper FMP will be collected and shipped to the NMFS Beaufort Laboratory for processing and ageing for stock assessment purposes. These age samples will be representative of the commercial and recreational fisheries operating from Virginia and North Carolina through the east coast of Florida. The samples will be collected by various state agencies and NMFS sampling programs. In cooperation with these programs, the Beaufort Lab will standardize data, inventory, and process the samples.

The Beaufort Laboratory will work collaboratively with several state and federal laboratories and universities through age workshops and exchanges of reference collections to ensure consistency in age data for input to SEDAR assessments. The partners include NCDMF, SCDNR, FWC, USC-Aiken, VMRC, ODU, NMFS Panama City.

Contains funding transition plan/Defined end point:

Once the lab has cleared the back-log of samples dating back to the 1970s, less staff would be needed to process the annual age samples at the current rate of accrual. Samples from most of the priority species have had the back-log cleared. All new samples received from those species are processed annually. The back-log from one other primary species remains to be processed –White Grunt (n > 25,000). The Beaufort Lab will be requesting funding assistance to accomplish that work and then start to reduce the amount of contract labor required to keep abreast of the annual samples. Also, funding through federal congressional budgets to enhance stock assessment data inputs would allow the Beaufort Laboratory to hire permanent federal employees and not have to rely on funding from ACCSP.

In-kind Contributions:

NMFS is providing 50% of the total project cost.

Improvement in data quality/quantity/timeliness:

Continued funding of this project would allow the Beaufort Laboratory to approach a level of processing of all age samples received from the South Atlantic Snapper Grouper fishery on an annual basis. When this level of processing is reached, the lab will be able to provide up-to-date age composition data for stock assessment purposes. The age samples would not need to be sub-sampled to meet schedule changes to SEDAR.

Potential secondary module as a by-product:

Other South Atlantic snapper grouper species in the SAFMC Research Prioritization Plan, but not in the current priority matrix will also be aged and data made ready for SEDAR assessments in the future.

Impact on stock assessments:

Funding of this project will address one of the top research recommendations coming from SEDAR and recent publications on improving the accuracy of stock assessments - more comprehensive, validated and consistent age composition data. Age workshops and reference collections will enhance consistency in methodology and age data between partner laboratories.

CURRICULUM VITAE

Jennifer Chrestensen Potts
Research Fishery Biologist
NOAA/NMFS/SEFSC
101 Pivers Island Road
Beaufort, NC 28516-9722

EDUCATION

North Carolina State University B. S. 12/1988 Fisheries & Wildlife Sciences

East Carolina University M. S. 5/1997 Biology (Ecology)

PROFESSIONAL EMPLOYMENT

6/97 - present

Position: Research Fisheries Biologist.

NOAA/NMFS/SEFSC, Beaufort Laboratory, 101 Pivers Island Road, Beaufort, NC 28516-9722.

Responsibilities include Team Leader of Life History Team; collecting, cataloging, preparation and analysis of age samples; preparing manuscripts for peer review publication; Participation in SEDAR process – Life History Group Leader for South Atlantic assessments; training staff in ageing laboratory; reviewing proposals for federal government funding (i.e., MARFIN and S-K); reviewing manuscripts for peer review journals.

2/90 - 6/97

Position: Biological Technician (Fisheries).

NOAA/NMFS, Beaufort Laboratory, 101 Pivers Island Road, Beaufort, NC 28516-9722.

PUBLICATIONS

Peer Reviewed Publications (Selected)

Potts, J. C., and M. L. Burton. 2017. Preliminary observations on the age and growth of dog snapper (*Lutjanus jocu*) and mahogany snapper (*Lutjanus mahogoni*) from the Southeastern U.S. PeerJ 5:e3167; DOI 10.7717/peerj.3167

Burton, ML, Potts JC. 2017. Age, growth and natural mortality of cubera snapper *Lutjanus cyanopterus* from the southeastern United States. Bulletin of Marine Science, 93(3):815 – 828 DOI 10.5343/bms.2016.1116.

Shertzer, K. W., J. Fieberg, J. C. Potts, and M.L. Burton. 2017. Identifying growth morphs from mixtures of size-at-age data. Fisheries Research, 185:83 – 89. DOI

10.1016/j.fishres.2016.09.032.

- Burton, M. L., J. C. Potts and D. R. Carr. 2016. Age, growth and natural mortality of blackfin snapper *Lutjanus buccanella* from the southeastern United States and U.S. Caribbean. *Gulf and Caribbean Research*, 27:66-73. DOI: 10.18785/gcr.2701.10.
- Potts, J. C., M. L. Burton, and A. R. Myers. 2016. Age, growth, and natural mortality of schoolmaster (*Lutjanus apodus*) from the southeastern United States. *PeerJ* 4:e2543; DOI 10.7717/peerj.2543
- Burton, M. L., J. C. Potts and D. R. Carr. 2015. Age, growth, and natural mortality of yellowfin grouper (*Mycteroperca venenosa*) from the southeastern United States. *PeerJ* 3:e1099; DOI 10.7717/peerj.1099
- Burton, M. L., J. C. Potts and D. R. Carr. 2015. Age, growth and natural mortality of coney, (*Cephalophilis fulva*) from the southeastern United States. *PeerJ* 3:e825; DOI 10.7717/peerj.825.
- Burton, M. L., J. C. Potts, D. R. Carr, M. Cooper, and J. Lewis. 2015. Age, growth and mortality of gray triggerfish (*Balistes capriscus*) from the southeastern United States. *Fishery Bulletin* 113:27–39.
- Burton, M. L., J. C. Potts, and D. R. Carr. 2014. Age, growth, and mortality of Yellowmouth Grouper from the southeastern United States. *Marine and Coastal Fisheries: Dynamics, Management and Ecosystem Science* 6:33-42.
- Potts, J. C., and C. S. Manooch, III. 2002. Estimated ages of red porgy (*Pagrus pagrus*) from fishery-dependent and fishery-independent samples and comparison of growth parameters. *Fishery Bulletin* 100:81-89.
- Potts, J. C., and C. S. Manooch, III. 2001. Differences in the age and growth of white grunt from North Carolina and South Carolina versus southern Florida. *Bulletin of Marine Science* 68:1-12.
- Potts, J. C., C. S. Manooch, III, and D. S. Vaughan. 1998. Age and growth of vermilion snapper, *Rhomboplites aurorubens*, from the southeastern United States. *Transactions of the American Fisheries Society* 127:787-795.
- Manooch, C. S., III, and J. C. Potts. 1997. Age and growth of red snapper, *Lutjanus campechanus*, collected from North Carolina through east coast of Florida. *Journal of the Elisha Mitchell Society* 113(3):111-122.
- Manooch, C.S., III, and J.C. Potts. 1997. Age, growth, and mortality of greater amberjack from the southeastern U.S. *Fisheries Research* 30:229-240.



COMMERCIAL FISHERIES
RESEARCH FOUNDATION

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August 18, 2017

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

Dear Elizabeth,

The RI DEM and CFRF have reviewed the suggestions provided by the ACCSP Operations and Advisory Committee members for our proposal titled "Advancing Fishery Dependent Data Collection for Black Sea Bass in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach". We have revised the proposal to address these suggestions, and for clarity, we have also responded to each suggestion individually below.

1. When adding vessels this year, were any recreational vessels added as indicated in the first year of the project, or are they all commercial?
 - *The F/V Priority Too is the recreational (charter) vessel that was selected for the Research Fleet during Year 1. The two additional vessels that will be added to Research Fleet as part of the proposed project will be commercial vessels that regularly interact with black sea bass during the winter months. Given the offshore distribution of black sea bass during this time of year, it is anticipated that the new participants will be offshore trawlers or offshore lobstermen.*
2. The underlining is significant and makes it hard to read the proposal.
 - *Proposal components that address ranking criteria have been switched from underlined to bolded text for easier readability. We have also made an effort to reduce the quantity of bolded text.*
3. How do the PIs envision the new data being used in the black sea bass stock assessments? Are the sampling approach and data variables designed to seamlessly plug into the black sea bass model? Or is the data sorely needed across fisheries-dependent sources and therefore the comprehensive, multi-gear sampling will address the data gaps? If that's the case, no changes to the proposal text are requested.
 - *As explained in the "Need" section of the proposal, black sea bass data is sorely needed from fisheries dependent sources across its range (particularly in Southern New England). The CFRF and RI DEM have worked very closely with black sea bass stock assessment scientists (Jason McNamee, Steve Cadrin, and Gary Shepard) since the beginning of the project, to ensure that data collected by the Research Fleet is*

streamlined for incorporation into the stock assessment. Please see page 10 under the subsection "fishery-dependent data collection" for further explanation.

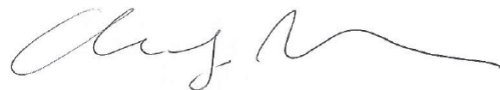
4. Pg. 16 Funding Transition Plan only described current 2-year window. Is there a long-term funding strategy, given the new data will need to develop a time series to be most valuable to the stock assessment and management of the fishery? Does CFRF still have an RFP or otherwise have funding to provide?
 - *The CFRF has pursued funding from a variety of sources for the Black Sea Bass Research Fleet and will continue to do so to ensure the long-term utility of the data to the assessment and management of this data poor species. At this time, the CFRF has two proposals for the Black Sea Bass Research Fleet that are being considered for funding. The CFRF no longer has internal funds to cover research projects or issue RFPs, as the multi-year NOAA awards that enabled the CFRF to operate such programs expired in December 2015. Since then, the CFRF has relied exclusively on competitive research awards to support all of its operations, collaborations, and research projects.*
5. Page 19: In-direct charges are significantly reduced from year 1. Please provide more justification for this.
 - *In Year 1 (proposed in 2015), the CFRF used its FY2015 approved indirect cost rate of 54.49% to compute a match rate differential of 34.49%. In Year 2 (proposed in 2017), the CFRF used its FY2017 approved indirect cost rate of 42.53% to compute a match rate differential of 22.53%. Thus, the indirect costs provided as in-kind match by the CFRF in Year 2 were reduced from Year 1, due to a reduction in the CFRF's federally approved indirect rate (54.49% in 2015 to 42.53% in 2017) and the associated in-kind differential. Please see budget justifications in proposal for indirect cost explanations.*

Please do not hesitate to contact us if the Operations and Advisory Committee have any further questions.

Sincerely,



Jason McNamee
Chief, RI DEM Marine Fisheries



Anna Malek Mercer, PhD
Executive Director, CFRF

Proposal for Funding made to:
Atlantic Coastal Cooperative Statistics Program
Operations and Advisory Committees
1050 N. Highland Street, Suite 200 A-N
Arlington, VA 22201

Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

Submitted by:

Jason McNamee
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and

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Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are **bold** and a summary is provided on pages 25-26.
Changes from the initial proposal are highlighted in **yellow**.

Applicant Name: Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF)

Project Title: Advancing Fishery Dependent Data Collection for Black Sea Bass (*Centropristis striata*) in the Southern New England and Mid-Atlantic Region Utilizing Modern Technology and a Fishing Vessel Research Fleet Approach

Project Type: New (Year 2)

Principal Investigators: Jason McNamee, Chief of Marine Fisheries, Rhode Island Department of Environmental Management; Anna Malek Mercer, PhD, Executive Director, Commercial Fisheries Research Foundation

Requested Award Amount: \$135,648

Requested Award Period: May 1, 2018 – April 30, 2019

Date Submitted: June 19, 2017

Objective:

This proposal is a request for financial support for an additional 12 months of biological catch, effort, and bycatch sampling by the Black Sea Bass Research Fleet, which was successfully piloted in 2016. With Year 1 funding from ACCSP, the Research Fleet sampled over 1,903 black sea bass from 93 locations between Narragansett Bay to Hudson Canyon from November 30, 2016 to June 15, 2017, and will continue data collection through April 30, 2018. **All biosamples data collected by this project were delivered to the ACCSP in June 2017.**

The goal of the proposed project is to seamlessly continue the Research Fleet's sampling efforts to develop year-round time series of black sea bass (*Centropristis striata*) catch, bycatch, and biological data for five different gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) throughout the Southern New England (SNE) and Mid-Atlantic (MAB) region. The continuation of this project is critical to the evolution of black sea bass assessment and management efforts by the Atlantic States Marine Fisheries Commission, Mid-Atlantic Fisheries Management Council, Northeast Fisheries Science Center, and Atlantic Coastal Cooperative Statistics Program as the Black Sea Bass Research Fleet produces spatially and seasonally distinct data that is currently lacking for this data poor species.

Project components include: 1) **Continue and expand the existing fishery dependent data collection program that utilizes fishing vessels and modern electronic technology to collect and relay catch and bycatch data (number, length, sex) and fishery characteristics (location, gear type, effort, habitat) for black sea bass from across the SNE/MAB region throughout the**

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are **bold** and a summary is provided on pages 25-26.
Changes from the initial proposal are highlighted in **yellow**.

year; 2) Internal data analysis to address research questions about spatiotemporal patterns in black sea bass biological and fishery characteristics and gear-specific selectivities; and 3) **Communication of project data and results to the Atlantic Coastal Cooperative Statistics Program (ACCSP), black sea bass stock assessment scientists, managers, and members of fishing industry.**

In summary, the general goals of the proposed project are:

- 1) **Collect and communicate critically needed fishery dependent black sea bass data (catch and effort, bycatch, and biological) in a cost effective way using modern electronic technology and fishermen's time on the water;**
- 2) Contribute to the evolution of the northern Atlantic black sea bass stock assessment and associated management measures;
- 3) Demonstrate a model for fishery dependent data collection, management, analysis, and utilization that can be duplicated in a cost effective way in other regions of the black sea bass range and in other fisheries.

Specific objectives include the following:

- **Continue the Black Sea Bass Research Fleet for an additional 12 months to develop seasonal characterizations of northern Atlantic black sea bass biology and distribution;**
- Expand the Black Sea Bass Research Fleet to include two additional F/Vs that interact with black sea bass during winter months to ensure full seasonal data coverage;
- Maintain and evolve the On Deck Data app to meet the data needs of scientists and the logistical needs of participant fishermen;
- **Collect fishery dependent black sea bass data from five gear types (trawl, lobster/crab pot, fish pot, gillnet, rod and reel) across the SNE/MAB region to characterize the size and sex distributions of black sea bass catch and bycatch and investigate the spatial and temporal trends of the fishery;**
- **Communicate black sea bass biosamples data to ACCSP every six months;**
- Conduct internal analyses of the project database to: 1) Characterize the selectivities and CPUE of five gear types the SNE/MAB region, and 2) Assess spatial and temporal trends in species' catch and bycatch composition and fishery characteristics;
- Explore the development of gear-specific fishery dependent indices that utilize different data error structures, standardization techniques, and Bayesian applications;
- Communicate to a broad audience the benefits and value inherent in this type of collaborative data collection program.

Need:

As asserted in the ACCSP Biological Review Panel's biological sampling priority matrix, black sea bass is a top priority for data collection, receiving a high ranking for inadequate biological

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

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sampling as well as being a high priority for managing stakeholders (ASMFC, NMFS, and state agencies) (ACCSP 2017) . The lack of adequate data for northern Atlantic black sea bass is an issue of regional importance, as this highly valuable stock ranges from Cape Hattaras to the Gulf of Maine (Musick & Mercer 1977, Moser & Shepherd 2009). In part due to the dearth of data throughout the black sea bass range, assessment and management efforts have not been reflective of the shifting distribution and growing abundance of the species (Bell et al. 2014). As stated by ASMFC (2013), high priority data needs for black sea bass include: biological characterization of commercial catch and discards, and expanded sampling of all sizes across the species temporal and spatial range to develop more reliable catch-at-age and CPUE. Ultimately, cost-effective sampling programs, such as the Black Sea Bass Research Fleet, are needed to collect these data and inform and evolve the stock assessment to consider the complex life history and spatial structure of black sea bass.

Fishery dependent data has become an important source of information that is used as a term of reference for many stock assessments, but in the case of the northern Atlantic black sea bass stock, a good fishery dependent source of information is not yet available. Thus, this project seeks to bolster the fishery dependent data sources for this population in an effort to provide better information from across the temporal and spatial distribution of this species, which are poorly covered at this time.

By virtue of the species' association with rocky habitats, black sea bass are poorly sampled by standard trawl gear (DeCelles et al. 2013, Steimle et al. 1999, Drohan et al. 2007, Waltz et al. 1979). Nevertheless, the primary index of abundance for the northern Atlantic black sea bass stock is derived from the Northeast Fishery Science Center's (NEFSC) bottom trawl survey (NEFSC 2011). The limited coverage of black sea bass habitat and semi-seasonal (spring/fall) sampling schedule of the NEFSC trawl survey limit the suitability of this data for the stock assessment (ASMFC 2013). **As such, the ASMFC Black Sea Bass Technical Committee and ACCSP Biological Review Panel identified expanded collection of biological data as a top priority for improving the black sea bass stock assessment (ASMFC 2013, ACCSP 2017).**

Other regions have adapted sampling and analytical techniques to better fit the life history and habitat associations of the black sea bass (Southern Atlantic and Gulf of Mexico stocks). These stock assessments rely heavily on fishery-dependent indices of abundance (SEFSC 2013). Such fishery-dependent indices of abundance, however, have not yet been developed for the northern black sea bass stock due to insufficient data. This project aims to address this need by maintaining and expanding the existing Black Sea Bass Research Fleet to conduct year-round biological sampling of black sea bass catch and bycatch within the trawl, lobster/crab, fish pot, gillnet, and rod and reel fisheries in the SNE/MAB region.

Ultimately, the proposed project will help to meet ACCSP's mission of improving data quality for fisheries science. In addition, this project, and its integration with the ACCSP data housing program, will lend to the other mission of the ACCSP, namely by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen.

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

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Collecting timely scientific data across a species range is imperative for successful fisheries management, as more robust data enables fisheries science to be as comprehensive as possible, which in turn supports informed and efficient decision making by managers. Furthermore, stock assessment scientists rely on robust biological, catch and effort, and bycatch data to help improve the quality of stock assessments. In these ways, the proposed project meets all of the main elements of the mission of the ACCSP program.

Results and Benefits:

The results of the proposed project include:

- **Improved quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, made available via the ACCSP;**
- **A vetted source of year-round black sea bass data that can be used to inform the stock assessment and management of this data poor species;**
- **Coordinated data transmission procedures with the ACCSP that build upon the CFRF's existing data communication practices with ACCSP's Senior Data Coordinator;**
- **A demonstrated method to cost effectively collect data for a commercially and recreationally important species not easily sampled through trawl surveys, and from areas and times of year not accessed by existing survey programs;**
- **Improved collaboration and trust between fishermen, scientists, and managers;**
- **Improved accuracy and credibility of the stock assessment and management plan for the northern Atlantic black sea bass stock;**

The benefits of the proposed project are:

- **Address priorities of ACCSP, ASMFC, and MAFMC by providing critically needed black sea bass data from the SNE/MAB region to support assessment and management efforts that reflect the current state of the resource;**
- Provide an efficient and constructive way for fishermen to be involved in the scientific process by using modern technology to collect quantitative black sea bass data during routine fishing practices;
- **Fill black sea bass data gaps in areas, habitats, and times of year not covered by standard survey techniques;**
- **Evolve and improve the black sea bass stock assessment by providing expanded biological data from retained and discarded black sea bass from a variety of gear types;**
- Support regional science and management agencies, including ACCSP, ASMFC, MAFMC, ACCSP, and state agencies in their efforts to sustainably manage the black sea bass resource;
- Support diversification and resilience of fishing communities in the many states across the Atlantic coast with a black sea bass fishery;

- Provide a model for cost-effective fishery dependent data collection efforts in other regions and fisheries.
- Build strong working partnerships between fishermen, scientists, and managers that will contribute to the sustainable management of the nation's living marine resources;
- Build confidence in efficacy of the northern Atlantic black sea bass stock assessment and management process.

Data Delivery Plan:

An important component of the proposed project is the compilation and communication of fishery and biological data to the ACCSP, participant fishermen, stock assessment scientists, and management teams. The CFRF will maintain the black sea bass database for internal project analyses (described below), but will also regularly share the project data with other users, regardless of any internal publication endeavors. **All data collected during Year 1 of this project was delivered to the ACCSP in June 2017.**

Following the routine established during Year 1 of the project, copies of the black sea bass database will be sent semi-annually (every six months) to the ACCSP, Atlantic States Marine Fisheries Commission, and Mid Atlantic Fishery Management Council semi-annually (via CFRF or Jason McNamee, member of ASMFC Black Sea Bass Stock Assessment Committee, Southern Demersal Working Group, and MAFMC Black Sea Bass Monitoring Committee or the CFRF). These data are made available in a format that is compatible with the ACCSP database so they can be readily used in the black sea bass stock assessment and other analyses. **All data provided to the ACCSP adheres to ACCSP data collection standards and is accompanied by a suite of metadata.** At the end of the project, data will also be made available to fishery scientists at the NMFS Northeast Fisheries Science Center, for further analysis. A vessel ID system will be used to maintain the confidentiality of participant fishing vessels.

In an effort to provide regular feedback to fleet participants, the project team will compile and distribute individual data reports every three months (quarterly). Vessel-specific data reports will include the following summary statistics: number of catch sampling sessions, amount of effort sampled (number of trawls, hooks, traps), average depth of sampling, percentage of black sea bass catch retained for sale, percentage of black sea bass catch discarded, number of black sea bass biologically sampled, sex distribution of black sea bass sampled, minimum/maximum length of black sea bass sampled, and average length of black sea bass sampled. Additional summary statistics will be available upon request. Data reports were compiled and distributed to Research Fleet participants during the first year of the project, in March 2017 and June 2017.

Completed Data Delivery to ACCSP:

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are **bold** and a summary is provided on pages 25-26. Changes from the initial proposal are highlighted in **yellow**.

During the first year of the project, the CFRF and RI DEM worked with the ACCSP Data Coordinator, Julie Defilippi Simpson, to coordinate data formats, metadata, and delivery procedures for the Research Fleet's black sea bass biosamples data. As a result of these efforts, the black sea bass biosamples data collected during the first six months of this project (December 2016 - May 2017) were incorporated into the ACCSP database in June 2017. The project team will maintain a semi-annual data delivery schedule to ACCSP throughout the proposed project.

Approach:

The proposed project seeks to collect, communicate, and analyze critically needed catch, bycatch, and biological data for incorporation into the ACCSP biosamples database and ultimate application in the northern Atlantic black sea bass stock assessment. Project components include: 1) Maintenance of the current Black Sea Bass Research Fleet and expansion to incorporate new vessels ; 2) Collection of fishery-dependent biological (catch and bycatch) black sea bass data and fishery characteristics for 12 months in the SNE/MAB 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.

Maintenance and Expansion of Black Sea Bass Research Fleet and Data Collection App:

During the first pilot year of this project, the CFRF and RI DEM were successful in developing the Black Sea Bass Research Fleet for fishery dependent data collection, including the development of a Project Steering Committee, solicitation and selection of participant fishing vessels, development of the On Deck Data app and SQL database, refinement of sampling protocols, construction of sampling equipment, training of Research Fleet participants, on-time initiation of data collection (December 2016), data delivery to ACCSP (June 2017), and professional and industry outreach. The project was implemented by the PIs, CFRF staff, and a Project Steering Committee, which consists of members of the fishing industry as well as state and federal fisheries scientists and managers. The Project Steering Committee was essential in developing sampling protocols, reviewing app interfaces, and establishing data communication procedures that are scientifically sound and logistically feasible. More information about the accomplishments of the project, including a real-time count of black sea bass sampled by the Research Fleet, is available on the project website: www.cfrfoundation.org/black-sea-bass-research-fleet.

If funded, during the second year of the project, the CFRF and RI DEM will maintain the eight fishing vessels currently operating in the Research Fleet as well as seek to expand the fleet by an additional two vessels. Over the course of the first year of the project, it became apparent that in order to achieve year-round black sea bass sampling, additional Research Fleet F/Vs that

interact with black sea bass during winter months are needed. To ensure a fair and transparent fleet expansion, the CFRF and RI DEM will issue an open call for F/V applications. A Review Committee will rank applicants and select the two new F/Vs for the Black Sea Bass Research Fleet. The CFRF staff will notify the selected F/Vs and will work with them to establish work agreements, introduce them to sampling equipment, and train them on sampling protocols.

The black sea bass data collection app, On Deck Data, was developed during the first year of the project to enable Research Fleet participants to collect standardized black sea bass data as well as day-to-day observations. **On Deck Data prompts participant fishermen to record a suite of session data (location, depth, habitat type, etc.), effort data (mesh size, length of trawl, hooks fished, etc.), and biological data (length, sex, disposition) while at sea.** To account for the multi-gear nature of the black sea bass fishery, the On Deck Data app prompts gear-specific data entry for Research Fleet participants (Table 1).

Table 1. Summary of fishing effort data collected by the Black Sea Bass Research Fleet.

Trawl	Gillnet	Commercial Rod & Reel	Charter	Lobster/Crab Traps	Fish Pot
Mesh Size (inches)	Number of Net Panels Per String	Time Spent Fishing (hours)	Time Spent Fishing (hours)	Soak Time (days)	Soak Time (days)
Tow Time (hours.decimal)	Length of Net Panels (feet)	Number of Rods Fished	Number of Rods Fished	Number of Traps	Number of Traps
Sweep Length (feet)	Mesh Size (inches)	Humber of Hooks Used	Number of Hooks Used	Escape Vent Size (inches)	Escape Vent Size (inches)
	Soak Time (days)			Escape Vent Shape	Entrance Size (inches)
	Net Height (feet)				
	Tie Downs (inches)				

The On Deck Data app will be maintained throughout the project to allow for efficient data collection and wireless data submission by Research Fleet participants. The CFRF and RI DEM will continue to work with the app developer (Don Coxe Consulting) to address any issues that arise and to update the app to maintain functionality.

The Black Sea Bass Research Fleet will continue to follow the fishery-dependent sampling protocols that were successfully implemented during the first year of the project to collect

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

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catch and effort, biological, and bycatch data from the SNE/MAB region. **The percentage of project effort devoted to each of these modules is as follows: Catch and Effort 30%, Biological 40%, Bycatch 30%. The estimated effort devoted to the catch and effort module is based upon sampling during the roughly 154 days of open black sea bass fishing season in Rhode Island in 2016 (42% of the year). The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for 12 months. Finally, the project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species.**

Fishery-Dependent Data Collection:

The Black Sea Bass Research Fleet started collecting data on November 30, 2016 and, if this proposal is funded, will continue to do so through April 30, 2019. The Black Sea Bass Research Fleet currently consists of eight fishermen based in Rhode Island, chosen strategically to provide data coverage from across the SNE/MAB region, throughout the year, from a variety of gear types: F/V Excalibur (Offshore Trawl), F/V Johnny B (Fish Pot, Rod & Reel, Lobster Pot), F/V Laura Lynn (Fish Pot, Rod & Reel, Lobster Pot), F/V Matrix (Lobster/Crab Pot), F/V Nancy Beth (Gillnet), F/V Priority Too (Charter, Rod & Reel), F/V Second Wind (Offshore Trawl), and F/V Sweet Misery (Gillnet, Lobster Pot). **The selected Research Fleet represents nearly every commercial gear type which interacts with Black sea bass as a target and bycatch species as well as incorporating the recreational sector by including a charter vessel.** Two additional commercial F/Vs that interact with black sea bass during the winter months will be added to the Research Fleet to ensure year-round data coverage. **It is anticipated that the new F/Vs will be offshore trawlers or offshore lobster/crab to ensure sampling of black sea bass from winter habitats.**

Participant fishermen will use Samsung Tab A tablets pre-programmed with On Deck Data black sea bass data collection app, described above, to efficiently and accurately record and transmit data. As such, the proposed project will advance the use of electronic technology in at sea biological data collection, management, and analysis efforts.

The goal for each participant is to conduct at-sea catch sampling sessions during three fishing trips each month (Nelson 2014). **Thus, the black sea bass research fleet will aim to sample 30 trips per month, for a total of 360 trips over twelve months.** The realized sampling frequency, however, will be depend on a variety of factors, including weather, seasonal black sea bass distribution, and fishery closures. Given the population inferences implied in the project objectives and the aggregating nature of black sea bass, a biological sampling (length/sex) minimum of 50 black sea bass per location will be the required (Zhang & Cadrin 2012). With a goal of sampling three locations per month, the Research Fleet may sample up to 18,000 black sea bass over the course of the year.

At each sampling location, participant fishermen will use the On Deck Data app to record the date, time, location, statistical area, depth, habitat type, target species, gear type, effort deployed (see Table 1), total number/pounds of black sea bass retained and discarded, and length/sex/disposition of at least 50 black sea bass. Sampling date, time, and location will be automatically recorded by the internal tablet GPS. Standardized fish measuring boards will be used to ensure a consistent measure of fish length to the nearest centimeter. Data will be wirelessly uploaded to a MySQL database once a vessel returns to port and continually monitored by the project team. This data communication, review, management, and storage process was established and vetted during the first year of the project.

As outlined above, all participant fishermen will aim to sample black sea bass during three fishing trips per month regardless of black sea bass fishery closures. Thus, each fishing vessel will need an exempted fishing permit to retain black sea bass on deck for biological sampling when the commercial fishing season is closed. A scientific collector’s permit, issued by RI DEM, will also be required for vessels fishing within state waters. These permits were successfully acquired during the first year of the project and will be extended through subsequent years of data collection and expanded to cover new Research Fleet participants.

The ultimate application of these data will be the black sea bass stock assessment. To achieve this goal, the project team has worked directly with black sea bass stock assessment scientists (Gary Shephard, NEFSC; Steve Cadrin, SMAST) since the beginning of the project to ensure that Research Fleet data is of the necessary quality and structure for utilization in the stock assessment. Beyond the general lack of biological data for black sea bass, Gary Shepard also noted the utmost need for a comprehensive discard characterization of black sea bass, which has been addressed and targeted by the Research Fleet sampling design.

Internal Data Analysis:

As described above, the Black Sea Bass Research Fleet was able to operate effectively and deliver data in an efficient manner during the first year of the project, sampling over 1,903 black sea bass from 93 locations between Narragansett Bay to Hudson Canyon from November 30, 2016 to June 15, 2017. These data are summarized in the Table 2. **Ultimately, as mentioned above, this data is destined for incorporation in the black sea bass stock assessment.**

Table 2. Summary of data collected by the Black Sea Bass Research Fleet as of June 15, 2017.

Total Black Sea Bass Sampled	1,903
Percent Male	21.9%
Percent Female	52.6%
Percent Unknown	25.5%
Minimum Size (cm)	7
Maximum Size (cm)	62

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Average Size (cm)	33.8
Percent Discarded	48.9%
Percent Retained	51.1%

In addition to application to the black sea bass stock assessment, the data derived from the Black Sea Bass Research Fleet will also be used to characterize the catch, bycatch, and biological characteristics of black sea bass in the SNE/MAB region, including gear selectivities and spatiotemporal patterns in catch composition. Preliminary analyses of Research Fleet data reveal that the size spectra of discarded and retained black sea bass are unique, with discarded fish exhibiting a tri-modal distribution and a mean of 28.7 cm, and retained (landed) fish exhibiting a bi-modal distribution and a mean length of 38.8 cm (Figure 1). Interestingly, the mean size of discarded black sea bass is greater than the enforced minimum size (27.9 cm), indicating that black sea bass are being discarded primarily due to fishery closures and landing limits, rather than size limits. Further analysis indicates distinct spatial patterns in black sea bass size spectra during the winter months, suggesting size-based seasonal aggregation of the northern Atlantic black sea bass. An additional 12 months of sampling by the Research Fleet will provide a better understanding of these seasonal and spatial dynamics.

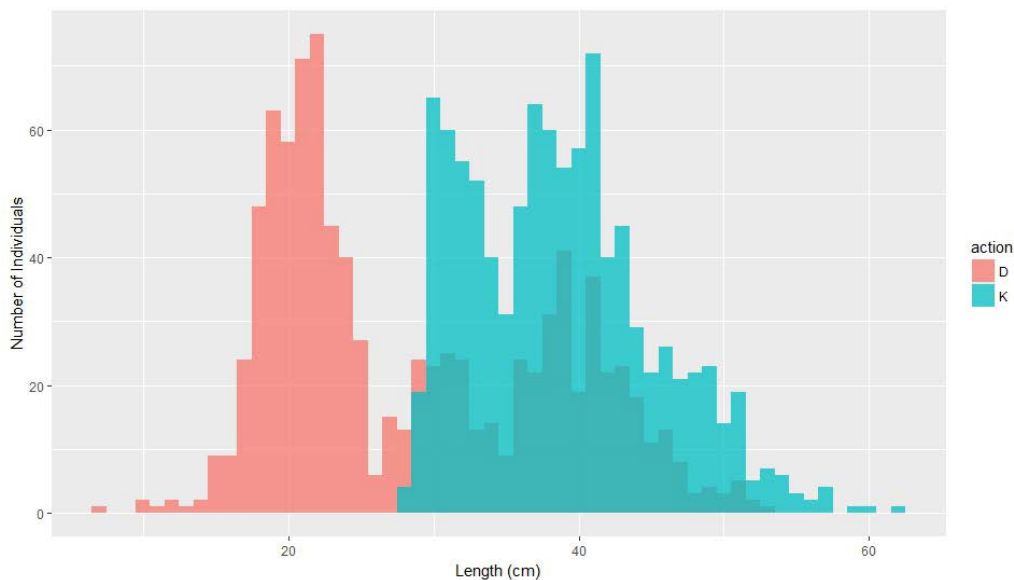


Figure 1. Size spectra of black sea bass sampled by the Research Fleet between November 30, 2016 and June 5, 2017. Red bars indicate discarded fish. Blue bars indicate retained (kept) fish.

During the second year of the project, the project team will thoroughly explore and analyze the data collected by Research Fleet, including: size spectra, sex ratios, catch per unit effort (CPUE), black sea bass retention and discard rates, and seasonal activity of Research Fleet. All metrics will be explored by gear type, space, and time, as the data permits. Specifically, internal data

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analyses will seek to answer the following research questions: 1) Are there spatial (latitudinal) patterns in the length frequency or sex ratio of black sea bass?, 2) Are there seasonal differences in black sea bass catch composition (length frequency and sex ratio)?, 3) Are different life stages of black sea bass apparent in commercial fisheries catch in specific areas or at different times of year?, and 4) What are the selectivities (min, max, mean length) of different gear types (trawl, fish pots, gillnet, lobster/crab pot, rod and reel) that harvest black sea bass?

The open-source statistical software package R will be used for data analysis. Length frequencies will be generated by plotting logarithmic frequency against geometric length class (Warwick 1984, White et al. 2007) and Kolmogorov-Smirnov tests will be used to assess differences in black sea bass length frequency distributions between gear types, seasons, and latitude. A logistic regression model will be used to assess the sex ratio of the black sea bass population as a function of length. Spatial and seasonal differences in black sea bass sex ratio will be assessed using a series of parallel logistic regression models. Generalized Linear Models will be used to explore patterns of variation in catch rates and derive standardized CPUE following Maunder and Punt (2004).

In addition to addressing the aforementioned research questions, the project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits. These analytical techniques may include standardization of these disparate gear types through generalized linear modeling approaches and/or hierarchical modeling techniques. Resultant data and analytical outputs will be regularly shared with the ACCSP, participant fishermen, stock assessment scientists, and fisheries managers for further analysis and application.

Outreach and Education

Education, outreach, and ongoing communication are considered to be an integral part of the overall work plan for the proposed project. These components of the proposed project support the goal of fostering collaborative working partnerships among scientists, managers, and members of the fishing industry through all phases of research, from the fine-tuning of sampling strategies through the analysis and sharing of data and results.

The primary outreach/education goal of the proposed project is to share and disseminate information on two topics: 1) the lessons learned from utilizing modern technology and the participation of fishermen in a research fleet approach to collect and relay much needed data to inform stock assessments and ultimately management measures for the sustainability of economically important species; and 2) the findings from analysis of the black sea bass catch, bycatch, and biological databases derived from this project.

A secondary goal is to share and disseminate project information to a variety of interest groups including: 1) commercial fishing industry members; 2) fisheries scientists and managers based

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in state/regional/federal agencies; 3) outside researchers who will utilize this information to inform their own research efforts in the region; and 4) interested others who are seeking information on new data collection/ocean monitoring techniques and approaches, and/or trends in black sea bass abundance and distribution in the SNE/MAB region.

There are a number of work elements embedded in the project work plan that are aimed at specifically addressing outreach and education goals, including:

1. Ongoing communication with project team members, including the members of the Black Sea Bass Research Fleet through personal meetings, group meetings, e-mail briefings, and phone conversations.
2. **Periodic project briefings to key individuals outside the project team, including ASMFC, MAFMC, NMFS NEFSC, and NMFS GARFO staff, members of the black sea bass fishing fleet, and interested others through direct e-mail/mail correspondence, including periodic newsletters describing the project progress.**
3. Regular postings of project information on the CFRF website, including descriptions of the fishermen involved, the equipment being used, the type of data being collected, and findings, as this information becomes available over the course of the project (www.cfrfoundation.org/black-sea-bass-research-fleet).
4. Organization of a research session at the end of the project involving managers, scientists, and members of the commercial and recreational fishing industries to share project findings and discuss experiences and results.
5. Issuance and distribution of a written summary report.
6. Participation in professional conference(s) to share project methods, findings, and conclusions.

Geographic Location:

At-sea sampling will be conducted within the northern Atlantic black sea bass stock area (SNE/MAB region), potentially including statistical areas 521 to 631. The final distribution of at sea data collection will depend on the fishing locations of participant fishermen. Project administration, and data management and analyses will be conducted at the Commercial Fisheries Research Foundation office in Kingston, Rhode Island and the RI DEM marine laboratory in Jamestown, Rhode Island.

Project History Table:

<u>Funding Year</u>	<u>Title</u>	<u>Original Project Dates</u>	<u>Extension Through</u>	<u>Funded Amount</u>	<u>Description</u>
2016	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	September 1, 2016 – August 31, 2018*	N/A	\$137,827.00	Piloted the research fleet technique for collection of fishery dependent catch, effort, bycatch, and biological data in the multi-gear black sea bass fishery

**Note: The original project included eight months of sampling by the Black Sea Bass Research Fleet (December 2016 to July 2017), but sampling has been extended to March 2018 due to reduced Research Fleet interaction with black sea bass during winter months. This proposal requests a start date of May 1, 2018 to enable continuous sampling by the Research Fleet.*

Milestone Schedule:

MONTH 1 May	MONTH 2 June	MONTH 3 July	MONTH 4 August	MONTH 5 September	MONTH 6 October	MONTH 7 November	MONTH 8 December	MONTH 9 January	MONTH 10 February	MONTH 11 March	MONTH 12 April
Research Fleet data collection	Research Fleet data collection	Research Flet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection	Research Fleet data collection
Renew permits	Renew permits						RI DEM Permit Reporting				
Purchase & prepare sampling equipment for new F/Vs	Distribute sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment	Maintan sampling equipment
Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database	Maintain data collection app, server, and database
Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis	Data QA/QC, review, and analysis
	Data Reports to Fleet Participants			Data Reports to Fleet Participants			Data Reports to Fleet Participants			Data Reports to Fleet Participants	
	Share data with ACCSP, ASMFC, MAFMC					Share data with ACCSP, ASMFC, MAFMC				Share data with ACCSP, ASMFC, MAFMC	
						Write progress report			Write final report	write final report	Write final report
Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach	Maintain project website; Outreach

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Project Accomplishment Measurement (Metrics and Achieved Goals):

Project Goal		Metric 1	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6	Metric 7	Metric 8	Metric 9	Metric 10
Collection & communication of biological and fishery data for black seabass (BSB)	Year 2 Proposal Metrics	Maintenance of BSB data collection app, wireless data transfer, and SQL database	Use of BSB data collection app (On Deck Data) by participant fishermen	Maintenance of eight existing BSB Research Fleet participants and addition of two new participants	Twelve months of biological and fishery data collection for BSB	Collection of ~18,000 measurements of BSB length and sex over twelve months	Collection of ~360 records of BSB catch and discard rates over 12 months	Collection of ~360 records of BSB fishing location, depth, habitat, gear type, effort, catch over 12 months	Compilation of BSB biological and fishery data into SQL database	Compilation and distribution of quarterly data reports to Research Fleet participants	Formatting and distribution of BSB biosamples data to ACCSP, ASMFC, MAFMC
	Year 1 Achievements	Development of the On Deck Data app for black sea bass data collection, server processes, and SQL database	Piloting of the BSB data collection app (On Deck Data) by participant fishermen	Solicitation, selection, and training of eight BSB Research Fleet participants	Six months of biological and fishery data collection for BSB (as of June 2017)	Collection of 1,903 measurements of BSB length and sex over six months (as of June 2017)	Collection of 93 records of BSB catch and discard rates over six months (as of June 2017)	Collection of 93 records of BSB fishing location, depth, habitat, gear type, effort, catch over 12 months	Compilation of BSB data into SQL database (bsb_fleet, bsb_session, bsb_sample, bsb_random tables)	Compilation and distribution of quarterly data reports to Research Fleet participants in March 2017 and June 2017	Formatting and distribution of BSB biosamples data to ACCSP in June 2017
Reduce uncertainties in BSB stock assessment	Year 2 Proposal Metrics	Provide BSB data from areas, habitats, and times of year not covered by standard survey techniques	Distribution of BSB data to ACCSP, ASMFC, MAFMC, NEFSC	Communication of data and project findings to BSB stock assessment scientists	Utilization of data by BSB stock assessment scientists	Exploration of fishery dependent indices of abundance for BSB					
	Year 1 Achievements	Provided BSB data from months, areas, and habitats not sampled by existing surveys	Distribution of BSB data to ACCSP in June 2017	Communication with BSB stock assessment scientists (Gary Shephard, NEFSC, Steve Cadrin, SMAST)							
Assess spatial & temporal patterns in BSB fishery & catch	Maintenance Proposal Goals	Calculation of CPUE for different gear types, times of year, and locations	Calculation of discard rates for different gear types, times of year, and locations	Calculation of size and sex distributions of retained BSB catch	Construction of BSB length frequencies by gear type, time of year, and location	Completion of Kolmogorov-Smirnov tests of BSB length frequency by gear type, month, and location	Completion of logistic regression models of BSB sex ratio as a function of length	Comparison of logistic regression models of BSB sex ratios by gear type, time of year, and location	Development of GLMs of BSB catch rates and standardized CPUE	Publication of peer-reviewed paper	
	Year 1 Achievements	Preliminary data analysis of BSB length and sex data	Development of size spectra for discarded and retained BSB	Creation of maps Research Fleet sampling coverage	Preliminary exploration of spatial and temporal trends in BSB size spectra						
Demonstrate model approach for cost efficient fishery dependent data collection	Year 2 Proposal Metrics	Utilization of modern technology to collect biological data during routine fishing practices	Approval of project approach, protocols, and outcomes by BSB scientists, managers, and fishermen	Application of data to stock assessment and resource management	Maintenance of communication between all project partners, participants, and end users	Development of working partnerships between participating fishermen, scientists, and managers	Completion of tasks within project budget				
	Year 1 Achievements	Successful utilization of modern technology to collect biological BSB data during routine fishing practices	Approval of project approach and protocols by BSB scientists, managers, and fishermen (Project Steering Committee)	Communication with BSB stock assessment scientists (Gary Shephard, NEFSC, Steve Cadrin, SMAST)	Maintenance of communication between all project partners, participants, and end users	Development of working partnerships between participating fishermen, scientists, and managers	On track to complete tasks within project budget	Establishment of a Project Steering Committee consisting of state and federal fisheries scientists and managers and members of the fishing industry	Development of project website, media articles, and outreach materials		

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Cost Summary and Funding Transition Plan:

This proposal represents a 2% cost reduction from Year 1's proposal of a similar scope. The drop is due primarily to a reduction in the personnel costs, a reduction in the app development costs, and the requirement of less sampling supplies. All of these changes are reflected in the CFRF sub-contract (section F of the Budget Table) and are explained below.

- Personnel costs were reduced by 16% mainly due to a reduction in the CFRF Research Associate support.
- Travel increased by 200% due to the necessity of more port visits and attendance of a professional conference for project outreach.
- Supplies were reduced by 40% due to the need only for supplies for fleet expansion by two new vessels and for replacements for two existing vessels.
- Contractual costs were reduced by 80% due to the completion of the data collection app (On Deck Data) and the need only for maintenance of the app and database.
- Other costs were increased by 41% due to the fishing vessel sampling being increased to 12 months versus eight months and the expansion of the research fleet by two vessels. The fishing vessel stipend remains the same at \$600 per month per vessel.
- Total direct costs decreased by 2% overall.

The CFRF has pursued funding from a variety of sources for the Black Sea Bass Research Fleet and will continue to do so to ensure the long-term utility of the data to the assessment and management of this data poor species. At this time, the CFRF has two proposals for the Black Sea Bass Research Fleet that are being considered for funding.

Budget table:

	Year 1 (New Project - Funded FY2016)			Year 2 (Proposed)		
	Award	In-Kind	Total	Proposal	In-Kind	Total
TOTAL	\$ 137,827	\$ 65,245	\$ 203,072	\$ 135,648	\$ 52,301	\$ 187,949
% Contribution by Funding Source	68%	32%	100%	72%	28%	100%
Object Class Category	Award	In-Kind	Total	Proposal	In-Kind	Total
A Personnel						
- RI DEM - Jason McNamee		\$ 10,142	\$ 10,142		\$ 10,347	\$ 10,347
- RI DEM - Contractor		\$ -	\$ -		\$ 2,047	\$ 2,047
- RI Dem - Intern		\$ 1,436	\$ 1,436		\$ -	\$ -
Total RI DEM Personnel Costs	\$ -	\$ 11,578	\$ 11,578	\$ -	\$ 12,394	\$ 12,394
B Fringe Benefits	\$ -	\$ 4,057	\$ 4,057	\$ -	\$ 4,214	\$ 4,214
C Travel	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
D Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
E Supplies	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
F Contractual - CFRF						
a. Personnel						
- Executive Director	\$ 5,460		\$ 5,460	\$ 9,240		\$ 9,240
- Research Scientist	\$ 45,500		\$ 45,500	\$ 32,760		\$ 32,760
- Business Manager	\$ 4,000		\$ 4,000	\$ 4,400		\$ 4,400
Total CFRF Personnel Costs	\$ 54,960	\$ -	\$ 54,960	\$ 46,400	\$ -	\$ 46,400
b. Fringe Benefits	\$ 5,496	\$ -	\$ 5,496	\$ 4,640	\$ -	\$ 4,640
c. Travel	\$ 1,000	\$ -	\$ 1,000	\$ 3,000	\$ -	\$ 3,000
d. Equipment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
e. Supplies						
- Research Supplies	\$ 4,000	\$ -	\$ 4,000	\$ 2,000		\$ 2,000
- Office Supplies	\$ 1,000	\$ -	\$ 1,000	\$ 1,000		\$ 1,000
Total Supplies	\$ 5,000	\$ -	\$ 5,000	\$ 3,000	\$ -	\$ 3,000
f. Contractual Programmer for On-Deck Data - database	\$ 10,000	\$ -	\$ 10,000	\$ 2,000	\$ -	\$ 2,000
Total Contractual	\$ 10,000	\$ -	\$ 10,000	\$ 2,000	\$ -	\$ 2,000
g. Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
h. Other Costs						
- Fishing Vessel Stipends	\$ 38,400	\$ -	\$ 38,400	\$ 54,000	\$ -	\$ 54,000
- Executive Assistance	\$ -	\$ 5,000	\$ 5,000	\$ -	\$ 5,000	\$ 5,000
Total Other Costs	\$ 38,400	\$ 5,000	\$ 43,400	\$ 54,000	\$ 5,000	\$ 59,000
i. Total Direct Charges	\$ 114,856	\$ 5,000	\$ 119,856	\$ 113,040	\$ 5,000	\$ 118,040
j. Indirect Charges						
- Proposed at 20% of CFRF Direct Charges	\$ 22,971	\$ 1,000	\$ 23,971	\$ 22,608	\$ 1,000	\$ 23,608
- Approved Rate Differential proposed as In-Kind	\$ -	\$ 41,338	\$ 41,338	\$ -	\$ 26,594	\$ 26,594
Total Indirect Charges	\$ 22,971	\$ 42,338	\$ 65,309	\$ 22,608	\$ 27,594	\$ 50,202
k. Total CFRF Costs	\$ 137,827	\$ 47,338	\$ 185,165	\$ 135,648	\$ 32,594	\$ 168,242
G Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
H Other Costs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
I Total Direct Costs	\$ 137,827	\$ 62,973	\$ 200,800	\$ 135,648	\$ 49,202	\$ 184,850
J Indirect Charges	\$ -	\$ 2,272	\$ 2,272	\$ -	\$ 3,099	\$ 3,099
K Total Proposal Costs	\$ 137,827	\$ 65,245	\$ 203,072	\$ 135,648	\$ 52,301	\$ 187,949

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Budget Justification – Year 2 (New Project, Proposed):

The total proposed federal budget requested by the Rhode Island Department of Environmental Management (RI DEM) and the Commercial Fisheries Research Foundation (CFRF) for all components of the work is \$135,648 for 12 months. The voluntary non-federal match funds provided by the RI DEM and CFRF is \$52,301. The total proposal value is \$187,949. The proposed timeframe is May 1, 2018 to April 30, 2019.

The proposed budget justification for object class category items include the following:

- A. Personnel: \$12,394 In-Kind (RI DEM). RI DEM staff will play an advisory/support role in the proposed project, providing guidance on research protocols, assisting with statistical analyses as needed, exploring gear-specific indices of abundance and alternative modeling approaches as time permits, support in the procurement and storage of samples, and communicating project results to fishery governance system via existing participation in technical committees and working groups.

- B. Fringe Benefits: \$4,214 In-Kind (RI DEM). Fringe costs are charged on RI DEM FTEs only. RIDEM Annual Fringe benefit rates are:

Retirement 24%	Deferred Compensation 0.4%
FICA 6.2%	Medicare 1.45%
Health care \$21,937/year	Dental \$1,132/year
Vision Mercer \$165/year	Assessed Fringe 4.25%
Retiree Health 6.75%	

- C. Travel: There are no direct travel charges.

- D. Equipment: There are no direct equipment charges.

- E. Supplies: There are no direct supplies charges.

- F. Contractual: The CFRF will conduct most of the work involved in this project, with administrative and technical assistance provided by RI DEM as In-Kind. These services will be charged to the grant as contractual costs and are outlined below to provide more detail as to how the funding will be used:
 - a) Personnel: \$46,400 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project :
 - 1. Executive Director – Proposed at 10% of time for 12 months = \$9,240
 - 2. Research Scientist – Proposed at 50% of time for 12 months = \$32,760.

The CFRF Research Scientist is the primary individual responsible for fleet organization, maintenance, and support, as well as data management, communication, and analysis.

3. Business Manager – Proposed at 10% of time for 12 months = \$4,400
- b) Fringe Benefits: \$4,640 federal. This includes a percentage for payroll taxes and worker's compensation insurance prorated in accordance with % of salary paid from program. Benefits proposed at 10% of personnel costs based on historical analysis.
- c) Travel: \$3,000 federal. Travel costs include travel support (mileage) for project staff to provide support at docks to Research Fleet participants, to participate in meetings with the Research Fleet, stock assessment scientists, and managers, and to participate in one industry/professional conference for two personnel to share and disseminate project methods, findings, and conclusions.
- d) Equipment: \$0. There will be no equipment costs on this project.
- e) Supplies: \$3,000 federal. This category includes research supplies and project office supplies.
 1. Research Supplies: \$2,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 4 vessels (2 new vessels and 2 existing fleet vessels) for the duration of the project. The two sets of sampling equipment for existing Research Fleet vessels are replacements for equipment that is damaged.
 2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$25/month), project office and meeting supplies, etc.
- f) Contractual: \$2,000 federal + \$19,707 match = \$21,707 total. This includes costs associated with:
 1. Programmer (\$2,000 - federal) - CFRF hiring an outside computer programmer to maintain the On Deck Data application and database coding for data relay and storage, to address any issues that arise, and to update the app to maintain functionality.
- g) Construction: There are no construction costs.
- h) Other Costs: \$54,000 federal + \$5,000 match = \$59,000. This includes:
 1. Fishing vessel stipends (federal) for 10 vessels for 12 months at \$600 per month. A fleet of 10 vessels will be utilized each month to obtain the proposed biological samples. The total stipend is computed at 75% due to fluctuations in vessel sampling associated with weather, vessel maintenance, and seasonal black sea bass distribution.
 2. Executive Assistance (in-kind match) covers the administration assistance for the project (including, review of fleet applications and invoices, work agreements,

progress/final reports) by the CFRF President and Vice President, who provide these services at no cost. Costs proposed at \$250 per day for 10 days for 2 people over the duration of the project.

- i) Total Direct Charges: \$113,040, federal + \$5,000 in-kind = \$118,040 total. This is the total direct charges for cost items a-h.
- j) Indirect Charges: \$22,608 federal + \$27,594 in-kind = \$50,202 total. Indirect general and administrative costs are calculated as 20.0% of federally requested Total Direct Charges (\$113,040). 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's FY2017 Indirect Cost Rate Agreement dated 4/7/17 is for 42.53% based on FY2016 actual costs. The 22.53% indirect cost rate differential is a voluntary nonfederal match by CFRF. CFRF has historically averaged around 20% of Indirect G&A which is proposed for this project.

G. Construction. There are no construction costs on this grant

H. Other Costs. There are no other costs associated with this grant.

I. Total Direct Charges: \$135,648 Federal + \$49,202 In-Kind = \$184,850 total. This is the total direct charges for cost items A-H.

J. Indirect Charges: \$3,099 In-Kind (RIDEM). Indirect charges are charged on RIDEM Salaries only. The Negotiated Indirect Cost Rate for FY2017 is 25%. (Total personnel is \$12,394 x 25% = \$3,099.)

Budget Justification - Year 1 (New Project, Funded in 2016):

The total proposed federal budget requested by RI DEM and CFRF for all components of Year 1 of the project was \$137,827 for 12 months. The voluntary non-federal match funds provided by RI DEM and CFRF was \$65,245. The total proposal value was \$203,072. This project was funded by ACCSP and initiated on September 1, 2016.

A. Personnel – IN-KIND – RI DEM FTE salary for Jason McNamee \$67,613 * 15% = \$10,142.

- IN-KIND – RI DEM Intern salary at \$10,692 * 13.4% = \$1,436.

B. Fringe costs are charged on RI DEM FTEs only

Annual Fringe benefit rates are:

Retirement 24%

Deferred Compensation 0.4%

FICA 6.2%

Medicare 1.45%

Rhode Island Department of Environmental Management & Commercial Fisheries Research Foundation
ACCSP Funding Proposal (New Project – Year 2): Fishery Dependent Sampling for Black Sea Bass (*Centropristis striata*)

Proposal components that address the ranking criteria are **bold** and a summary is provided on pages 25-26.
Changes from the initial proposal are highlighted in **yellow**.

Health care \$21,937/year
Dental \$ 1,132/year
Vision Mercer - \$165/year
Assessed Fringe 4.25%
Retiree Health 6.75%

Fringe benefit charges for Jason McNamee were \$4,066.

- C. Travel – There were no direct travel charges.
- D. Equipment – There were no equipment purchased.
- E. Supplies – There were no direct charges for supplies.
- F. Contractual – The CFRF conducted most of the work on the grant with technical assistance provided by RI DEM as in-kind match. These services will be charged to the grant as contractual costs and are outline below to provide more detail as to how the funding will be used.
 - a) Personnel: \$54,960 federal. This includes the wages for the following CFRF personnel for time spent working directly on the project :
 - 1. Executive Director – Proposed at 5% of time for 12 months = \$5,460
 - 2. Research Scientist – Proposed at 70% of time for 12 months = \$45,500
 - i. The CFRF Research Associate was the primary individual responsible for fleet development, organization, maintenance, and support, as well as data management, communication, and analysis. The proposed coverage of 70% of the Research Scientist’s time was based upon the CFRF’s experience with the development and administration of the lobster research fleet, with additional hours included for data analysis.
 - 3. Business Manager – Proposed at 10% of time for 12 months = \$4,000
 - b) Fringe Benefits: \$5,496 federal. This includes a percentage for payroll taxes and worker’s compensation insurance prorated in accordance with % of salary paid from program. Benefits proposed at 10% of personnel costs based on historical analysis.
 - c) Travel: \$1,000 federal. Travel costs included travel support (mileage) for project staff to participate in meetings with research fleet and out-of-state meetings with ACCSP, ASMFC, and MAFMC staff.
 - d) Equipment: \$0. There were no equipment costs on this project.
 - e) Supplies: \$5,000 federal. This category includes research supplies and project office supplies.

1. Research Supplies: \$4,000 - Costs of tablets, waterproof cases, stylus & fish measuring board. Proposed at \$500 per set x 8 vessels for the duration of the project.
 2. Office Supplies: \$1,000 – Costs to cover database storage and website fees (\$25/month), project office and meeting supplies, etc.
- f) Contractual: \$10,000 federal + \$17,906 match = \$27,906 total. This includes costs associated with:
1. Programmer (\$10,000 - federal) - CFRF hired an outside computer programmer to develop a tablet application for black sea bass data collection (On Deck Data), set up wireless data transfer to and storage in a SQL database, and assist with beta testing.
 - i. This cost estimate was based on the CFRF's past experience programming a tablet application for lobster and Jonah crab data collection and developing reliable wireless data transfer and storage. The black sea bass data collection app developed for this project built upon the On Deck Data app platform, developed by the CFRF in 2013.
- g) Construction: \$0. There were no construction costs on this project.
- h) Other Costs: \$38,400 federal + \$5,000 match = \$43,400. This includes:
1. Fishing vessel stipends (federal) for 8 vessels for 8 months at \$600 per month. A fleet of 8 vessels will be utilized each month to obtain the samples required.
 2. Executive Assistance (in-kind) covers the administration assistance of the project (including, review of fleet applications and invoices, work agreements, progress/final reports). Costs proposed at \$250 per day for 10 days for 2 people over the duration of the project.
 3. Administrative costs were charged at a 20%, which totals \$22,971 Federal and \$42,338 Match.
- i) Total Direct Charges: \$114,856 federal + \$5,000 match = \$119,856 total. This is the total direct charges for cost items a-h.

j) Indirect Charges: \$22,971 federal + \$42,338 match = \$65,309 total. Indirect general and administrative costs are calculated as 20.0% of federally requested Total Direct Charges (\$114,856). 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 FY2015 Indirect Cost Rate Agreement dated 5/13/15 is for 54.49%. The 34.49% indirect cost rate differential is a voluntary nonfederal match by CFRF. CFRF has historically averaged around 20% of Indirect G&A which is proposed for this project.

- G. Construction – There was no construction conducted with this grant.
- H. Other costs – There were no other costs associated with this grant.
- I. Total Direct Charges: \$138,827 federal + \$62,973 match = \$203,072 total. This is the total direct charges for cost items A-H.
- J. Indirect Charges are charged on RI DEM Salaries only. The Negotiated Indirect Cost Rate for FY 16 was 16%. Total personnel was \$11,578 * .16 = \$2,272.

Summary of Proposal for Ranking Purposes

Type: New (Year 2)

Primary Program Priorities:

This project follows fishery-dependent sampling protocols to collect black sea bass catch and effort, biological, and bycatch data from the SNE/MAB region. The percentage of project effort devoted to each of these modules is as follows: 40% Biological, 30% Catch and Effort, 30% Bycatch. Thus, Biological sampling is the primary program priority. The estimated project effort devoted to biological sampling reflects the collection of black sea bass length and sex data by participant vessels during three trips per month for twelve months (approximately 360 trips and 18,000 black sea bass total).

Project Quality Factors:

Multi-Partner/Regional impact including broad applications:

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. Furthermore, the social and economic implications of this work could be extensive, as project data contributes to the improvement of the northern Atlantic black sea bass stock assessment and potentially the creation of new economic opportunities. From a collaboration perspective, this project provides a unique opportunity for the RI DEM and CFRF, to implement a fisherman-based research fleet to address ACCSP priorities, drawing upon networks of partners in industry, fisheries research, and management. This project will help RI DEM and CFRF demonstrate that, with support from ACCSP, they have the ability to bring stakeholders together, outside of a contentious management environment, to collect, communicate, and analyze critically needed data to address the data needs of the data poor northern Atlantic black sea bass.

Greater than year 2 contains funding transition plan and justification for continuance:

This proposal is for a one year study to continue an industry-based research fleet approach to biological, catch, and bycatch sampling for northern Atlantic black sea bass. The project was widely successful in its first year, with over 1,900 black sea bass sampled in the first six months. An additional year of funding would result in the development of the first year-round biosamples database for this data poor species. Ultimately, long term maintenance of this project will provide invaluable data to the ACCSP, ASMFC, and MAFMC, and improve the assessment and management of the northern Atlantic black sea bass resource.

In-kind contribution: The total project cost is \$187,949. In-kind contributions provided by RI DEM and CFRF are \$19,707 and \$32,594, respectively. Thus, RI DEM and CFRF will provide 28% of total project costs.

Improvement in data quality/quantity/timeliness:

The proposed project addresses the critical need to improve the quality, quantity, and timeliness of biological, catch and effort, and bycatch data for the northern Atlantic black sea bass, which the ACCSP Biological Review Panel identified as having inadequate biological sampling and high program priority. Ultimately, the proposed project will help to meet ACCSP's mission of improving data quality for fisheries science by contributing to a single data management system that will meet the needs of fishery managers, scientists, and fishermen.

Potential secondary modules as by-products:

The potential secondary modules are catch and effort (30 %) and bycatch sampling (30%). The estimated effort devoted to the catch and effort module is based upon sampling during the roughly 156 days of open black sea bass fishing season in Rhode Island in 2016 (42% of the year). The project effort allocated to the bycatch module reflects sampling efforts conducted while the commercial black sea bass fishing season is closed and while participant vessels are targeting other species.

Impact on stock assessment:

The northern Atlantic black sea bass stock assessment was recently approved for management (December 2016), but the new model requires spatially and temporally comprehensive data that is currently lacking. Thus, the proposed project aims to provide critically needed biological data from retained and discarded black sea bass, and fishery data from a variety of gear types to continue to evolve and improve the black sea bass stock assessment. The project team will also explore novel fishery dependent indices for the black sea bass stock assessment, as time permits.

Innovative:

The innovative and cost-effective nature of the proposed project, which relies upon collaboration between a Program partner and the fishing industry, can provide an opportunity for fishermen to constructively engage in the data collection process for black sea bass and provide a model for future data collection efforts in other regions and fisheries. In addition to demonstrating a novel sampling approach, the proposed project also leverages modern technology to improve the efficiency of data collection and communication.

Properly Prepared:

This proposal follows the guidelines provided in the ACCSP Funding Decision Document.

Principal Investigators:

The co-Principal Investigators of the proposed project are: Jason McNamee (Chief, RI DEM Marine Fisheries) and Anna Malek Mercer (Executive Director, CFRF). Curriculum vitae are provided in the following pages.

Jason McNamee will play an advisory/support role in this project, given his existing commitments at the RI DEM Division of Fish and Wildlife. More specifically, Jason will provide advice for sampling protocols, act as a liaison to the existing black sea bass assessment/management world, and assist with data analysis as his time permits (data review/analysis will primarily be the role of the CFRF Research Associate). In his role as both a technical committee member, a member of the demersal working group, and a member of the contracted stock assessment team for the MAFMC, Jason McNamee will be able to help the project with capturing the correct information and making sure this information is formatted appropriately for inclusion in future northern Atlantic black sea bass stock assessment projects.

Anna Mercer, CFRF Executive Director, will provide administrative and technical support throughout the project, including staff oversight and report composition. She will also assist the CFRF Research Associate with Research Fleet management, data analysis, and outreach tasks.

Thomas Heimann, CFRF Research Associate, will be the primary individual responsible for Research Fleet maintenance and support, as well as data management, communication, and analysis. As the current CFRF Program Administrator for the Black Sea Bass Research Fleet, Heimann has gained extensive experience with the work involved in initiating and supporting an industry based research fleet.

Jason Earl McNamee
519 Congdon Hill Rd
Saunderstown, RI 02874
Day Phone: 401-423-1943
Email: jason.mcnamee@dem.ri.gov

WORK EXPERIENCE

RI Department of Environmental Management 12/2002 - Present

Jamestown, RI US

Chief, Marine Resource Management

Duties:

- Management of the Marine Fisheries program for the RI Dept. of Environmental Management
- Management of a staff of 20 professionals in the field of marine fisheries
- Manage operating budgets for multiple federal grants and state accounts
- Creation of grant proposals for marine fisheries projects
- Management of the Ft Wetherill Marine Laboratory building and research vessels
- Membership on several technical panels: the New England Council Science and Statistics Committee (Chair), Atlantic States Marine Fisheries Commission Menhaden (chair), Tautog (chair), and Summer Flounder/Scup/Black Sea Bass technical and stock assessment committees, Biological and Ecological Reference Point committee
- Support to the RI Marine Fisheries Council
- Creation and administration of the RI Marine Fisheries Institute
- Principal investigator (PI) on the Narragansett Bay juvenile seine survey
- PI for the Narragansett Bay Menhaden monitoring program
- Small vessel operation
- Production and review of multiple annual technical and grant completion reports
- Perform stock assessment analyses

Skills developed: Personnel and budget management experience; Supervisory experience; Good statistical and computer skills (ADMB, R, Microsoft software, ADAPT, JMP, ASAP, Oracle Discoverer, web design); Species identification experience; Experience using water quality instrumentation (DO meter, pH meter, Gas Chromatograph, Conductivity meter, flow meter); GIS Experience (Arcview and R); Field work experience; Experience in the construction and maintenance of technical research equipment; Seine, fyke net, trawl net, gillnet, fish pot, and electroshock surveying; Small boat handling (State of Rhode Island and Coast Guard certified)
Supervisor's Name: Larry Mouradjian
Supervisor's Phone: 401-222-4700 ext. 2414

RI Department of Environmental Management 4/2000 - 12/2002

Providence US

Senior Natural Resource Specialist

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Duties: My duties were to perform all tasks necessary to conduct and complete a Total Maximum Daily Load reports including field work, data collection and processing, and writing of the report. I also participated with other staff to help in the completion of their reports.

Skills developed: Good statistical and computer background (Microsoft software), Experience designing and implementing a personal research project, Experience preparing a federally approved Quality Assurance Protection Plan, Experience using water quality instrumentation (DO meter, pH meter, Conductivity meter), Experience in the collection of water samples for testing (biological and metals), GIS Experience (Arcview) Field work experience, Small boat handling (State of Rhode Island and Coast Guard certified), Experience in the preparation of a federally approved Total Maximum Daily Load report, Experience disseminating information to the public

Supervisor's Name: Christian Turner

Supervisor's Phone: unsure, no longer employed at RIDEM

EDUCATION

University of Rhode Island – Graduate School of Oceanography

Narragansett, RI US

PhD candidate – 1/2011 to Present (projected completion date of 6/2017)

Major: Biological Oceanography

Doctoral Dissertation Topic: Multispecies Statistical Catch-At-Age Model for a Mid Atlantic Species Complex

University of Connecticut

Groton, CT US

Masters of Science Degree - 6/2006

38 Semester Hours

Major: Biological Oceanography

University of Rhode Island

Kingston, RI US

Bachelor's Degree - 5/1996

136 Semester Hours

Major: Zoology

PROFESSIONAL PUBLICATIONS

- ASMFC Lobster stock assessment (2015), ASMFC Menhaden stock assessment (2004, 2012, 2015), ASMFC Tautog stock assessment (2006, 2011, 2015), NEFSC Summer flounder stock assessment (2011, 2013), NEFSC Scup stock assessment (2011, 2015), NEFSC Black sea bass stock assessment (2004, 2016), Interactions between the introduced Asian shore crab, *Hemigrapsus sanguineus*, and three common rocky intertidal littorine gastropods in Southern New England (MS Thesis).
- Taylor, DL, J McNamee, J Lake, CL Gervasi , and DG Palance. 2016. Juvenile winter flounder (*Pseudopleuronectes americanus*) and summer flounder (*Paralichthys dentatus*) utilization of Southern New England nurseries: Comparisons among estuarine, tidal river, and coastal lagoon shallow-water habitats. *Estuaries and Coasts*. 39:1505-1525.

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Anna J. Malek Mercer, PhD

P.O. Box 278 • Saunderstown, RI • 02874 • 401-515-4662 • amalek@cfrfoundation.org

EDUCATION

Graduate School of Oceanography, University of Rhode Island (URI GSO) <i>Doctor of Philosophy in Oceanography (Fisheries Oceanography)</i>	Narragansett, RI August 2015
University of New Hampshire <i>Bachelor of Science in Biology (Marine and Freshwater Biology), Summa Cum Laude</i>	Durham, NH May 2008
School for International Training <i>Coastal Ecology and Natural Resources Management Training</i>	Zanzibar, Tanzania December 2006

PREVIOUS EXPERIENCE (2008 - present)

November 2015-present: Executive Director, Commercial Fisheries Research Foundation, Kingston, RI

- Responsible for developing and administering all functions of the Foundation, including implementation of collaborative fisheries research projects, industry and public outreach, financial management, staff oversight, networking efforts, and fundraising

January 2012-October 2015: Program Administrator, Commercial Fisheries Research Foundation, Kingston, RI

- Developed and managed the Lobster and Jonah Crab Research Fleet and Shelf Research Fleet including: research protocol development, technology coordination/application, permit acquisition, fishing industry outreach and training, at-sea equipment deployment, and database QA/QC.
- Conducted research to identify the research needs and approaches for assessing the potential impacts of offshore wind farm development on fisheries resources in the Northeast region
- Assisted with development of research proposals, CFRF web presence, and project reports

June 2013-present: Field Coordinator, Southern New England Cooperative Ventless Trap Survey, URI GSO, RI

- Coordinated and conducted a fixed gear survey to assess the American lobster population in the Rhode Island/Massachusetts Wind Energy Area, including: development of research protocol, selection and distribution of sampling gear, training of sea-sampling team, coordination and participation in at-sea sampling, database development & management, statistical analysis, and publication composition

August 2009-present: Doctoral Research Scientist, URI GSO, Narragansett, RI

- Led an investigation of the spatial distributions, population structures, and interactions of demersal fish and their habitat in Rhode Island's coastal waters to inform ecosystem-based marine spatial planning
- Carried out field work (otter trawls, beam trawls, and underwater videography aboard commercial fishing vessels), laboratory work (fish stomach content analysis and stable isotope analysis), data management and analysis, and manuscript development for compilation into a doctoral dissertation

August 2009-present: Outreach Scientist, URI Office of Marine Programs, Narragansett, RI

- Lead educational fish trawls aboard the R/V Cap'n Bert for school groups and journalists
- Prepare and present oceanography lectures and exploratory activities for groups of all ages

August 2009-August 2011: Fish Trawl Assistant, URI Graduate School of Oceanography, Narragansett, RI

- Conducted weekly trawl surveys and water column profiles at two sites in Narragansett Bay, RI
- Managed the GSO Fish Trawl database and fulfilled data requests for state and federal agencies

January-May 2009: Tropical Ecology Research Assistant, CIEE Research Station, Bonaire, Netherlands Antilles

- Established a long-term reef monitoring program to assess the effects of coastline development on the reefs surrounding Bonaire, including SCUBA and sedimentation surveys

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- Assisted CIEE faculty with classroom instruction, advised students on independent research projects
- Established collaborations with Bonaire's local government and conservation organizations

June-November 2008: Research Technician, Department of Marine and Coastal Resources, Nantucket, MA

- Completed research on survival, growth and reproduction of the bay scallop, *Argopectens irradians*, including the impact of physical, chemical, and optical water properties and habitat availability
- Assisted with bay scallop stock enhancement efforts, including the care of one million bay scallop seed and the operation of three floating upweller units

February-May 2008: Research Assistant, Ocean Process Analysis Lab, Durham, NH

- Assisted with oceanographic and biological sampling aboard the R/V Gulf Challenger in the Gulf of Maine
- Organized, prepared, and analyzed chlorophyll and CDOM samples collected during cruises

May 2007-May 2008: Honors Thesis Research, University of New Hampshire, Durham, NH

- Completed research concerning the relationship between parasitic trematodes, the common periwinkle and herring and blackback gulls, utilizing experimental cages in the intertidal zone
- Presented findings at the 2008 Benthic Ecology Meetings and UNH Undergraduate Research Conference

PROFESSIONAL PUBLICATIONS (2010 to present)

Malek, A.J., Collie, J.S., and Taylor, D.L. 2016. Dietary guilds and trophic structure of the fish community in Rhode Island Sound and Block Island Sound, USA. *Journal of Fish Biology* 89(3): 1513-36.

Malek, A.J., Collie, J.S., King, J., and LaFrance, M. *In Prep.* Habitat associations of the demersal fish and invertebrate community in a nearshore northwest Atlantic ecosystem.

Byers, J., **Malek, A.J.**, Quevillon, L.E., Altman, I., and Keogh, C.L. 2015. Opposing selective pressures decouple pattern and process of parasitic infection over small spatial scale. *Oikos*.

Malek, A.J., Collie, J.C., and Gartland, J. 2014. Fine-scale spatial patterns in the demersal fish and invertebrate community in a northwest Atlantic ecosystem. *Estuarine Coastal & Shelf Science* 147: 1-10.

Taylor, D.T., Kutil, N.J., **Malek, A.J.**, and Collie, J.S. 2014. Mercury bioaccumulation in cartilaginous fishes from Southern New England coastal waters: Contamination from a trophic ecology and human health perspective. *Marine Environmental Research* 99: 20-33.

Malek, A.J., LaFrance, M.L, Collie, J.S. and King, J. 2010. Fisheries Ecology in Rhode Island and Block Island Sounds *in* Rhode Island Ocean Special Area Management Plan, Volume 2, Report #14

Bohaboy, E., **Malek, A.J.** and Collie, J. 2010. [Baseline Characterization: Data sources, methods, and results in Rhode Island Ocean Special Area Management Plan](#), Volume 2, Report #13

SPECIAL AWARDS/HONORS

- Outstanding Organization of the Year (2016), American Fisheries Society, Southern New England Chapter
- University of Rhode Island Graduate Fellowship Recipient 2012-2013
- URI Graduate School of Oceanography Alumni Award Recipient – 2011 & 2012
- Joshua MacMillan Award in Fisheries Oceanography 2011 (URI Graduate School of Oceanography)
- John Knauss Oceanography Award 2010 (URI Graduate School of Oceanography)

LEADERSHIP

- Board of Directors Member, American Fisheries Society, Southern New England Chapter
- Elected Member, Rhode Island Food Policy Council
- Steering Committee Member, Food to Institutions Rhode Island
- Member, Rhode Island Sea Grant Advisory Council

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Thomas E. Heimann

114 Olney Street Unit 1
Providence, RI 02906
(508)728 3401
theimann@cfrfoundation.org

EDUCATION

NORTHEASTERN UNIVERSITY
Master's: Marine Biology, Jan 2016

Boston, MA

PRESCOTT COLLEGE
B.A. Marine Science, May 2013

Prescott, AZ

RELATED WORK EXPERIENCE

Commercial Fisheries Research Foundation
Research Associate

South Kingston, RI
Sep 2015 – Present

- Research project management position working collaboratively with the Rhode Island fishing industry and Rhode Island Department of Environmental Management. Responsible for management of both Black sea bass Research Fleet and Quahog Research Fleet. Duties include Fleet support and training, sampling protocol development, database management, and outreach.

Northeastern University
Diving Research Methods TA

Nahant, MA
Sep 2015 – Oct 2015

- Employed by Northeastern University to be a teacher's assistant for an intensive AAUS diving research methods course. Duties included demonstrating underwater research and diving skills, minor SCUBA gear maintenance and repair, and supervision of student divers.

Mote Marine Laboratory
REU Intern

Sarasota, FL
May 2012 – Jul 2012

- National Science Foundation funded internship at Mote Marine Laboratory in Florida. Worked closely with a postdoctoral fellow on an independent research project in sensory biology and behavior of the common snook, a local sportfish. Project dealt specifically with the impacts of the hatchery rearing environment on the survival of released fish in the wild. Worked extensively with Microsoft Excel for data analysis.

Sheriff's Meadow Foundation
Property Stewardship Intern

Vineyard Haven, MA
May 2010 – Aug 2010

- Summer Intern position on Martha's Vineyard. Full time employment. Responsibilities included property management, invasive species control, vegetation identification, and tour guide.

CERTIFICATIONS AND SKILLS

- AAUS Scientific Diver
- PADI Rescue Diver
- Small Watercraft Operation
- Microsoft Office Package
- Statistical Language R
- ArcGIS

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References:

- Atlantic Coastal Cooperative Statistics Program (ACCSP). 2017. Biological Sampling Priority Matrix. 4 p.
- Atlantic States Marine Fisheries Commission (ASMFC). 2013. Research Priorities and Recommendations to Support Interjurisdictional Fisheries Management for Black Sea Bass. Special Report # 89. ASMFC, Arlington, VA. 58pp.
- Bell, R. J., Richardson, D.E., Hare, J.A., Lynch, P.D., and Fratantoni, P.S. 2014. Disentangling the effects of climate, abundance, and size on the distribution of marine fish: an example based on four stocks from the Northeast US shelf. ICES Journal of Marine Science: fsu217.
- Drohan, A. F., J. P. Manderson, and D. B. Packer. 2007. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characteristics. 2nd Edition. NOAA Technical Memo. NMFS-NE-200, 78 p.
- Moser, J., and G. R. Shepherd. 2009. Seasonal distribution and movement of black sea bass (*Centropristis striata*) in the Northwest Atlantic as determined from a mark-recapture experiment. Journal of Northwest Atlantic Fishery Science 40: 17-28.
- Nelson, G.A. 2014. Cluster Sampling: A Pervasive, Yet Little Recognized Survey Design in Fisheries Research. Transactions of the American Fisheries Society 143 (4): 926-938.
- Northeast Fisheries Science Center (NEFSC). 2011. 53rd Northeast Regional Stock Assessment Workshop (53rd SAW) Assessment Report. US Department of Commerce, Northeast Fish Science Center Reference Document 12-05; 559 p.
- Maunder, M.N. and A.E. Punt. 2004. Standardizing catch and effort data: a review of recent approaches. Fisheries Research 70: 141-159.
- Musick, J. A., and L. P. Mercer. 1977. Seasonal distribution of black sea bass, *Centropristis striata*, in the Mid-Atlantic Bight with comments on the ecology of fisheries of the species. Transactions of the American Fisheries Society. 106: 12-25.
- Southeast Fisheries Science Center (SEFSC). 2013. Stock Assessment of Black Sea Bass off the Southeastern United States: SEDAR Update Assessment. 102 p.
- Steimle, F. W., C. A. Zetlin, P. L. Berrien, and S. Chang. 1999. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characters. NOAA Technical Memorandum NMFS-NE-143: 1-42.
- Warwick, R.M., 1984. Species size distributions in marine benthic communities. Oecologia 61: 32-41.
- White, E.P., Ernest, S.K.M., Kerkhoff, A.J., Enquist, B.J., 2007. Relationships between body size and abundance in ecology. Trends Ecol. Evol. 22: 323-330.
- Waltz, W., Roumillat, W.A., and P. K. Ashe. 1979. Distribution, age structure, and sex composition of the black sea bass, *Centropristis striata*, sampled along the southeastern coast of the United States. Marine Resources Research Institute, South Carolina Wildlife and Marine Resources Department. Technical Report Number 43, December 1979.

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Zhang, Y. and S.X. Cadrin .2013. Estimating Effective Sample Size for Monitoring Length Distributions: A Comparative Study of Georges Bank Groundfish, Transactions of the American Fisheries Society 142 (1): 59-67.

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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

Rhode Island Department of Environmental Management Proposal:
Voice Recognition and Head boat Survey Mobile Application

Submitted by:

Rhode Island Department of Environmental Management
Fish and Wildlife Division
235 Promenade Street
Providence, RI 02908

Applicant Name: Rhode Island Department of Environmental Management
Division of Fish and Wildlife
Project Title: Voice Recognition and Head boat Survey Mobile Application
Project Type: New
Principal Investigators: Mike Bucko, RI DEM
Requested Award Amount: \$ 48,303
Requested Award Period: One year upon receipt of funds
Original Date Submitted: June 19, 2017

Objective:

To develop, test, and implement a hands-free voice recognition data recording application to be utilized in the field by ACCSP Fisheries Technicians to validate type 3* and type 9** catch data from Rhode Island For-hire vessels utilizing the ACCSP's For hire Dockside Reporter tablet application. This utility would use the ACCSP funded For hire dockside reporter tablet application being developed and tested by the South Atlantic Fishery Management Council (SAFMC) to collect the data.

Need:

The methodology of collecting fisheries dependent data from the for-hire fleet is evolving with the use of hand held devices. **These devices have** great potential as a means to capture and submit data more rapidly than the current FHS methodology. Northeast for-hire captains' holding a NOAA Fisheries permit can already make use of a tablet application funded by ACCSP and developed by Harbor Lights Inc. to meet vessel trip reporting requirements instead submitting paper logbook sheets. The SAFMC working in conjunction with Harbor Lights Inc. under a grant provided by ACCSP has been testing, modifying and developing new modules for the same application with the South Atlantic States for use with their charter boat fleets. **A pilot project is underway** to determine its utility to validate catch information reported via electronic For-Hire logbooks. One feature of the SAMFC application, the dockside validation module will support a utility to use an electronic wireless measuring board to collect fish measurements at the dock. The addition of measuring board utility will be useful to fishery technicians when measuring kept fish at the dock but is perceived to be too cumbersome for rapid collection of fish lengths on a head boat trip. Furthermore, the electronic measuring boards are very expensive to buy, upwards of \$10,000 per measuring board, which is not cost effective for most state partner budgets.

Fishery dependent sampling in the lobster industry has long relied on the use of tape recorders to facilitate rapid measurements of many specimens. The issue with this **methodology** has always been that all recordings must be transcribed into a database, which is time consuming. Using the voice recognition abilities of handheld tablets to directly enter values into a database has potential to eliminate the process of data transcription and provide a means to collect and record many lengths in rapid fashion. Bluetooth wireless headsets have advanced in functionality and can now more effectively distinguish speech and reduce ambient noise. The cost of Bluetooth wireless headsets is cost effective with units generally costing **around \$70.**

**Type 3 data described by APAIS protocols is lengths and weights of available individual catch (whole fish)*

***Type 9 data described by APAIS protocols is the observed and unobserved lengths of discarded whole fish caught on head boats*

Using technology that uses voice recognition for direct data input while handling fish sampled on a head boat has potential to greatly increase the efficiency and accuracy of the fishery technician in the field. A hands-free data recording utility would allow the fishery technician to measure fish faster than the current paper and pencil system. This increase in efficiency would allow for more interviews to be attempted on head boat trips and in turn increase the number of completed interviews. Additionally, removing the extra step of paper and pencil recording would allow the fishery technician to focus more attention on the task of identifying and measuring the fish and thus increase both the accuracy and precision of the length data being collected. The direct data entry into an electronic device will also reduce the amount of time spent in correcting transcription, handwriting, and scanning errors associated with paper based systems. Furthermore, this technology has great potential in other data collection applications and could be applied many fishery dependent and independent sampling programs.

Approach:

The approach to this plan makes several (dependent) assumptions:

- That ACCSP continues to develop its For hire Dockside Reporter application as detailed in the 2016 proposal cycle.
- The application programming interface (API) developed during that project is further modified, if necessary, to be used by this project.
- All software enhancements to the ACCSP Dockside Validation tool developed under this proposal will be done at the request of the ACCSP, and the source code will be licensed to the ACCSP for future modifications, enhancements, or license by the ACCSP if desired.

The application and “talk to text” utility developed for the two tasks below will be tested on board the RIDFW R/V John H Chafee during the initial phases. Observers will ride along with the trawl survey to test the functionality of the microphone, talk to text and record lengths and weight of fish using both pencil and paper forms for comparison. Two staff will be required to test the application, one will measure the fish and call out the lengths into the Bluetooth microphone while the other will document the lengths of the same fish on a traditional paper form. This approach will eliminate individual sampling bias generated from measuring fish as an error source during testing to allow for better evaluation of the voice to text technology. When satisfied the application is working as intended it will be tested on board Head boats using the same two sampler method as on the R/V Chafee. These trips will not coincide with trips already being sampled for APAIS. If possible trips onboard Head boats from the two major companies in Rhode Island will be used to test the utility of the application and account for different conditions from vessel to vessel, particularly noise levels. Sampling at sea will take place on 4 half day Head boat trips. This sample size should be adequate to determine if the application is functioning as intended.

Task 1: Test a voice recognition program to record hands free data input into the current Dockside Reporter application of the ACCSP.

The project proposes to use existing ACCSP tablet-based reporting software compatible with sending electronic dockside intercept data directly to the SAFIS (Standard Atlantic Fisheries Information System) database of the ACCSP. The Dockside Reporting Application was built under the close supervision of partners within the SAFMC, namely NC, SC, GA and FL. This ACCSP application is currently in testing in the 2016 SAFMC proposal entitled: Charter boat Electronic Data Collection.

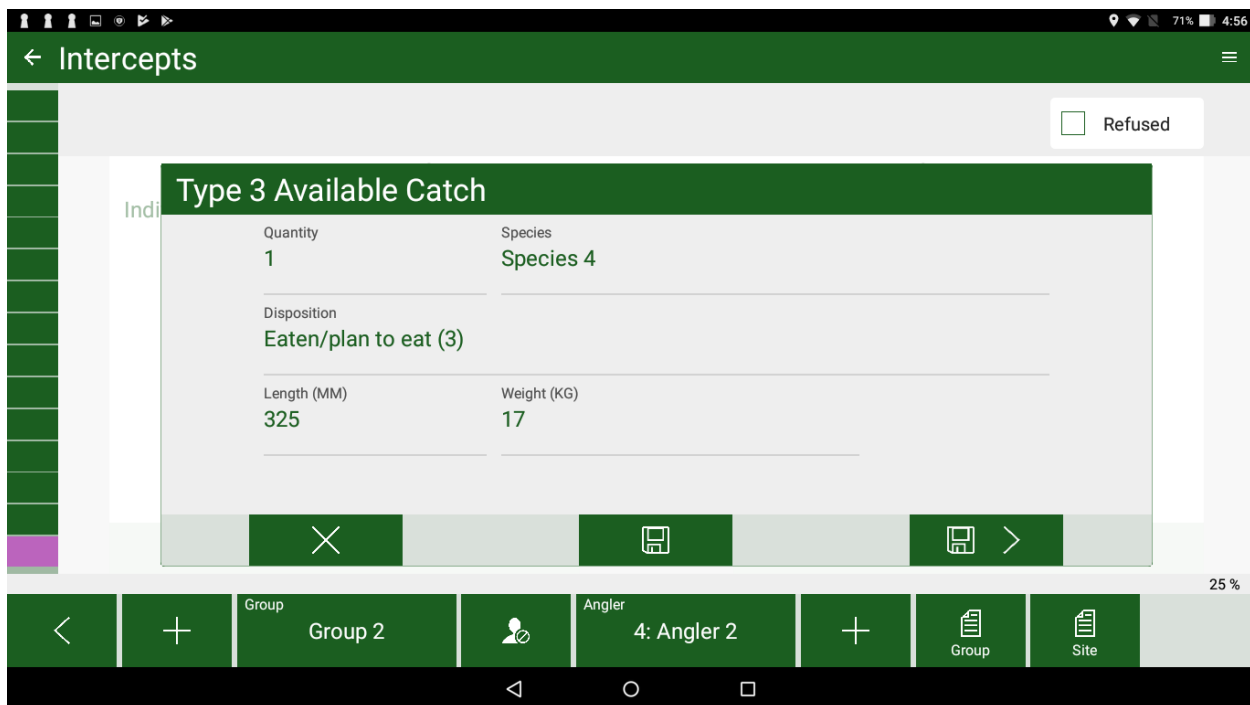
The tablets used to test the application will consist of non ruggedized tablets housed in a protective case (otter box or similar). A ruggedized tablet already in use by Harbor Lights Inc. will be used in addition to these tablets to account for any difference in tablet type. Early results from the SAFMC pilot have indicated that there is no difference in functionality between the two tablets.

The current functionality of this software will be enhanced to support integration of “talk to text” technology in the area of Type 3, available catch data. The Dockside Reporter app will be expanded upon, adding questions and forms currently part of the APAIS Head boat survey. This work will be incorporated into the existing application. Dockside Reporter will additionally be modified to collect information via voice to text to capture information on the type of species along with the length and weight of the harvested catch and its disposition. The software would be compatible with Apple iOS 8.x and Android 4.0.

The application will use free software developed by Google to execute the talk to text functionality. The Google software will be refined to a smaller library of acceptable words to reduce errors and increase voice recognition capability. The use of this software requires connectivity to the internet in order to function. Harbor lights Inc. will supply sky cards to accomplish this while field testing. If the pilot is successful it may be beneficial to determine whether standalone talk to text software should be developed to eliminate the need to be connected to the internet.

At a minimum, participants in the project will be expected to use a simple, non-electronic, measuring board and scale and attempt a voice to text translation for all Type 3 catch on the current APAIS survey form utilizing Dockside Reporter.

The project will gather data about Type 3 catches from dockside observer. The observer, using the For hire Dockside Validation application, will collect data while on board a head boat. When the observer comes to the input screens related to Type 3 catch (Those species kept by the angler), the observer will “park” the tablet, possibly using a harness of some kind. The observer, wearing a Bluetooth microphone, will activate the talk to text feature and gather the length and weight of each fish. The data will be keyed into the tablet via the talk-to-text application.



The talk-to-text application will populate the data elements of:

1. Quantity
2. Species
3. Disposition
4. Length
5. Weight

Upon completion of this project it is expected that data will be collected on species including but not limited to striped bass, black sea bass, cod, summer and winter flounder, scup, bluefish, tautog and dogfish. These data will be uploaded to the data repositories at the ACCSP, which can then be distributed to authorized external organizations.

Task 2: Develop the Head boat portion of the Dockside Validation reporting tool developed by the ACCSP in 2016 for the SAFMC Pilot Project.

The project proposes to work with industry officials to develop the portion of the ACCSP's tablet based For hire Dockside Validation application currently used on Head boats. Coding to the current application will be completed to support all fields currently gathered under the APAIS Head boat interview including type 9 data (discarded/released fish).

As in the collection of type 3 data, when an observer encounters catch that will be discarded/ released (type 9) they will use the voice to text feature to record the length data via the Bluetooth microphone. This project will compare the type 9 data gathered using the current paper and pencil through the traditional APAIS form against the data gathered using the For hire dockside reporting application. The pilot test will focus on Rhode Island Head boats that possess federal for-hire permits.

Results and Benefits:

This project will develop essential technology tools to help strengthen the current For hire Dockside Validation Reporting application in development by ACCSP. The SAFMC pilot project is testing Bluetooth measuring boards to record fish lengths. The goal of this project is to further the utility of the application and reduce costs by replacing the use of the Bluetooth measuring boards with cheaper technology. Eliminating the need for an expensive electronic measuring board, this project would utilize the current simple measuring boards, and instead place the technology into the For hire Dockside Validation Reporting application, thereby eliminating the cost of the electronic boards. This potential cost savings would benefit the For hire dockside validation application by making it more accessible to partners with smaller budgets.

Looking beyond the immediate benefits of costs reductions in measuring boards, the talk-to-text application could potentially drive further efforts to expand this technology to other areas. The ability to populate data fields via talk to text into an application has potential to expedite data collection in other aspects of recreational data collection.

Other long term benefits include:

- Increases sampling efficiency
- Increased reliability of recreational fisheries data collection
- Decreased time delay for data to enter the ACCSP database
- Avoid or decrease data transcriptions errors
- More cost effective data collection

Geographic Location:

The location and scope of this project would cover all of Rhode Island and adjacent state waters fished by Rhode Island Head boat Captains. The work would be based out of the RIDFW Marine Section located in Jamestown, RI.

Table 1. Milestone Schedule (start date dependent upon time of grant award)

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Development and troubleshooting of software for tablet application	X	X	X	X	X	X						
Field tests at sea R/V Chafee							X	X				

Field Tests on at sea Head boats									X	X	X	
Report Writing												X

Project Goals and Metrics

1. Bluetooth microphone linked to tablet application and talk to text data entry is functioning as intended. The Bluetooth microphone should toggle on and off when activated and data collected via talk to text should go into the appropriate fields.
2. Talk to text data quality control mechanism is established. The application will give audible feedback to the fisheries technician on the fly for determination of whether data is entered successfully into the application.
3. Side by side at sea trials between pencil and paper recording and talk to text error rates are 10% or less for row level (individual lengths) data.
4. Application functions on apple iOS and Android tablets.

Table 2. Cost Summary

Description	Calculation	ACCSP Request	Partner-in-Kind
Personnel (a)			
RIDEM	10% of FTE Staff time		\$6,000
Supplies (b)			
Bluetooth Headphones	4 @ \$70	\$280	
iPads and/or Android tablets.	4 @ \$600	\$2400	
Protective cases for tablets	4 @ \$40	\$160	
On board ac/dc chargers	1 @ \$60	\$60	
At Sea Testing (c)			
Head Boat Fare	8 @ \$50	\$400	
Mileage 30 miles @ \$0.535 / mile	8@ \$16.05	\$128	
Contract (d)			
Contract Software Development	160 hrs@ \$175/hr	\$28,000	
Contractor Testing and Onsite Support/Training/Outreach. (Includes travel costs)	75 hrs @\$145/hr	\$10,875	
	Total Direct Charges	\$42,303	
	Total for Project	\$48,303	

Cost Details:

(a) Non-contractor personnel are limited to ACCSP Partner in-kind support – RIDFW will contribute 12.5% of in kind funding towards the project. In kind funding is derived from the calculation of 10% of a full time Principal Biologist’s time that will be spent in support of the project. Additional staff support for the project will be provided by the fisheries technicians hired via a separate grant to facilitate the APAIS add on samples being conducted in Rhode Island. Participation by these staff in this project will not change the number of APAIS add ons requested by RIDFW.

(b) Supplies - Blue Tooth Headphones with a voice microphone built in. Options and styles to be decided later, with a goal of testing different configurations and devices.

(c) At Sea Testing – Two RIDFW Fisheries Technicians will be required for 4 half day trips for at sea testing on board head boats.

(d) Contractor Personnel - HarborLight Software Inc. has an existing working relationship with ACCSP staff members, which will reduce startup and training time associated with the project, allowing more effort to be focused on the development of the requested software and support of the product rollout.

Software Development - 160 total development hours will be required to customize existing talk to text functionality to meet the needs of the project.

- Customization of SAFIS Dockside Reporter to include design and building of the current APAIS headboat forms. Estimated 67 hrs
- Bluetooth voice to text/voice data input to auto populate data forms within Dockside Reporter for Type 3 and Type 9 . Estimated 93 hrs
- Application and product testing estimated at 40 hrs.
- Onsite outreach and training estimated at 35 hrs.

Summary of Proposal for Ranking Purposes

Proposal Type: NEW

Primary Program Priority:

Catch and Effort – This project will continue the ongoing work towards the implementation and validation of an ACCSP approved For-Hire logbook to collect catch data (type 3 and type 9) from Party / Charter and Head boat vessels .

Data Delivery Plan:

- All data collected from the ACCSP Dockside Validation tool and all software developed will utilize https protocol for secure data transmission.
- All data transmitted to the ACCSP databases will be sent in accordance with the ACCSP's current published API's supporting this electronic validation solution.

Project Quality Factors:

Multi-Partner/Regional impacts

This project is building off of previously funded multi-partner/Regional project which developed etrips-M for use by For Hire vessel captains as an electronic logbook to meet state and federal data reporting requirements in the Northeast. The project is undergoing further development via an ACCSP grant to the South Atlantic Fisheries Management Council for dockside validation for etrips-M using electronic measuring boards. This proposal would further the utilities of etrips-M by adding Head Boat specific validation functionality and incorporate wireless headsets and voice recognition. Implementation and validation techniques of For – Hire logbooks have potential to be used region wide and represents the second highest data priority set by the ACCSP Recreational technical committee.

Greater than year 2 contains funding transition plan and/or justification for continuance

This is a one year project.

In-kind contribution:

RIDFW will provide 12% in kind funding derived from 10% of a FTE Biologist's time to implement, evaluate, and report the results of the project (\$6,000).

Improvement in data quality/quantity/timeliness

This project will increase data quality/quantity and timeliness by:

- Providing a hands-free data recording system for at sea and dockside measurement of fish which will allow fishery technicians to focus more on the sampling by removing the encumbering effects of a paper and pencil recording system.
- The hands-free utility will allow fisheries technician to measure more type 3 and type 9 catches because they will not be spending as much time recording data allowing faster movement between sampling events.
- Eliminating paper and pencil will eliminate the need scan or key enter data results allowing for the data to be submitted to ACCSP much faster.

Potential secondary modules as a by-product:

- Biological: This application is designed to enhance the collection of type 3 catch.
- Bycatch/Release: This application is designed to enhance the collection of type 9 catch with has been identified as a priority of the ACCSP Recreational Technical Committee.

Other Factors:

If successful the technology utilized in this project could be expanded to enhance commercial port sampling and observer program functionality by providing a paperless hands-free electronic method to collect specimen lengths and eliminate the need for transcription / key entry of the data into a database.

Innovative:

Bluetooth head sets and voice recognition is a new concept for dockside and at sea collection of fishery dependent data. If successful it could have far reaching impacts and cost saving for both fisheries dependent and independent sampling techniques.

**FY 2018 Atlantic Coastal Cooperative Statistics Program (ACCSP)
Funding Request Proposal – June 19, 2017
Revised – August 21, 2017**

Applicant: South Carolina Department of Natural Resources (SCDNR)
Marine Resources Division, Charleston, South Carolina (SC)

Principal Investigator: Amy Dukes, SCDNR, Fisheries Statistics Section Leader

Project Title: VESL/SAFIS Integration Development

Project Type: New Project: One-year

Requested Award Amount: **\$86,400** (Excludes 5% NOAA Administrative Fee)
SCDNR would request that ACCSP amend the Administration grant to include these funds and contract directly with Bluefin Data, LLC

Contracting Entity: Bluefin Data, LLC, Andrew Petersen, **Chief Operating Officer**

Requested Award Period: One-year, July 1, 2018 thru June 30, 2019, or after receipt of funds

Objective: The objective of this proof of concept project is to integrate a preexisting application programming interface (API) from Bluefin Data's VESL system. This integration would allow the transfer of electronic for-hire data from VESL into SAFIS. Three ACCSP Primary Program Priorities will be incorporated:

- Catch/Effort Data Collection (80%)
- Bycatch/Species Interaction (10%)
- Social and Economic (10%)

Need: The requested funding would allow Bluefin Data to develop and maintain an integration for automatically transferring data between VESL and SAFIS. This project is focused on automatically exporting South Carolina federal for-hire fisheries data, with the intention of using this development as the foundation, proof of concept project, for other fisheries data transfers between VESL and SAFIS. This proposal covers the development & maintenance of the integration to ensure a successful project for one year. The outcome of this proof of concept project will give other Bluefin Data application users, including of ACCSP state partners, the ability to expand and potentially vastly improve their data transfer processes.

Catch and Effort – Since 1993, South Carolina has required vessels to possess a Charter Vessel License for the privilege of operating a charter fishing vessel in the saltwaters of SC (regulatory

authority, Title 50, Section 50-9-560, SC Code of Laws). Additionally, licensed vessel owners/operators are required to complete and submit trip-level reports for all for-hire fishing activities. SC for-hire vessels target many species that are managed by the South Atlantic Fisheries Management Council (SAFMC), the Atlantic States Marine Fisheries Commission (ASMFC), and/or National Marine Fisheries Service (NMFS) (Table 1). Data from mandatory charter vessel reporting are made available internally and to staff of these agencies for stock assessments and other management decisions. Data collected by the charter boat logbooks include: fishing date/time, fishing methods, specific fishing location, trip start locations, target species, number of anglers fishing on the vessel, hours fished, fishing method, depth ranges, number of fish kept (including estimated pounds), and/or number of fish released (including disposition alive/dead). In addition, data collected through this program can act as a quality control measure for the estimates derived from the MRIP For-Hire Telephone Survey and APAIS charter boat mode survey. Charter for-hire trip logs are coded and key entered into a pre-existing database. If reports are incomplete, staff will contact charter vessel owners/captains to fill in any data gaps to ensure accurate and complete information. The computer files will be edited and annual summary reports will be prepared and made available to resource management groups and the public to demonstrate data use (e.g. species composition, catch per unit effort, and seasonality of catch).

Table 1. List of the top 10 species (alphabetically) caught and reported by SC for-hire vessels in 2016.

Atlantic Sharpnose Shark	Black Sea Bass
Bluefish	Flounder, unclassified
Red Drum	Spanish Mackerel
Spotted Sea Trout	Vermillion Snapper

The SCDNR Fisheries Statistic Section (FSS) contracted with Bluefin Data, LLC in 2015 to design the electronic platform called VESL. Licensed SC for-hire vessels, and license holders began using VESL in December 2015. All entered data is integrated into the FSS Compliance Tracking System and catch and effort data is uploaded directly to the pre-existing Charter database. Although this electronic data collection effort began under a volunteer basis, staff are promoting the electronic platform through outreach and education, with the intent of having a vast majority of operators utilizing the platform.

Additionally, future requirements associated with the SAFMC Charter Vessel and Headboat Reporting Amendment will require federally permitted vessels to report electronically weekly beginning in January 2018. Additional data fields are being incorporated into VESL over the following months including number of crew, federal permit ID, charter fee, fuel consumption, and price paid per gallon. Since SCDNR has an established for-hire data reporting program, it was essential to adjust the current VESL application to collect all required federal data fields. This will allow SCDNR licensed for-hire vessels a single reporting application that would suffice both the vessels state and federal requirements.

Costs associated with this proof of concept project and through the contractual agreement will ensure that the electronic for-hire data collections are standardized, that VESL meets the federal requirements, and that data is automatically transferred to SAFIS. This will allow for seamless

data dissemination to all partner agencies requiring the data to assist in monitoring annual catch limit allocations and compliance for the upcoming federal reporting requirements.

Funding Transition:

The requested funds will cover the initial development and one year of maintenance (July 1, 2018 to June 30, 2019). The integration will be built to allow for expansion to other fisheries data from the VESL system. If the outcome of this proof of concept project is positive, it may be appropriate for the ACCSP Administration Grant absorb future maintenance fees to ensure comprehensive data transfers from Bluefin Data, LLC to SAFIS. The integration would be built to handle the dynamic forms that VESL supports, therefore the integration can be used to transfer all types of data (commercial, for-hire, biological) from other ACCSP partners that utilize VESL and other Bluefin applications.

Results and Benefits:

SCDNR staff facilitate a strong partnership between the for-hire fishing sector and state/federal management entities to maintain positive working relationships between all parties. SCDNR will work to maintain open and effective lines of communication with all SC for-hire owners/operators to ensure that everyone understands the importance of timely, accurate and complete data submissions associated with the management of marine fisheries. Furthermore, since SCDNR has an established for-hire reporting program in place, it was essential to adjust the current VESL application to collect all required federal data fields to allow for a single reporting application that would serve multiple data reporting requirements (state and federal in a single report). These data will be used to effectively and efficiently monitor for-hire catch and effort data and be used in future stock assessments and possible regulation changes.

Data Delivery Plan:

All available SC trip-level for-hire catch and effort (bycatch/species interaction, social/economic) data from federally permitted vessels will be made available securely to ACCSP/SAFIS after SCDNR has approved the data through the developed integration.

Approach:

It is the intent of Bluefin Data LLC to have the API developed and in use by July 1st, 2018. The current ACCSP Unified API document outlining the requirements of any API which will communicate with ACCSP has been provided and reviewed by Bluefin Data, LLC. Initial conversations between ACCSP staff and Bluefin LLC have also occurred. The project, if funded, will be considered successful when the following requirements have been met:

- Create a secure data transfer process that requires little to no effort from data managers
- Add ability to control what data is transferred per destination
- Allow automated and manual options for securely transferring data
- Store & present summary information about each export processes
- Allow notifications of successful and/or failed processes to specific users
- Enable performance monitoring and metrics to enable future rolling improvements of the export process
- Work with ACCSP to make both systems communicate
 - This will include remote & in-person meetings as needed

Geographic Location:

The project will be headquartered at the Bluefin Data, LLC studio in Baton Rouge, Louisiana, in conjunction with the SCDNR Marine Resources Division facility in Charleston, South Carolina. Project personnel are responsible for all data collections for SC for-hire fisheries data from all licensed charter vessels along the South Carolina coast.

Milestone Schedule:

Catch and Effort	J	A	S	O	N	D	J	F	M	A	M	J
Task 1 Develop the Integration	X	X	X	X	X	X	X	X	X	X	X	X
Task 2 Develop VESL Report Approval Process			X	X	X	X	X	X	X			
Catch and Effort, Bycatch/Species Interaction, and Social and Economic												
Task 1 Collect and disseminate all SC for-hire data to ACCSP and federal partners	X	X	X	X	X	X	X	X	X	X	X	X

Project Accomplishments Measurement:

Program Priorities/ Project Component	Goal	Measurement
Catch and Effort	Collection and submission of 100% of all SC for-hire fishery products landed at trip-level to SAFIS in accordance with ACCSP standards through the API. Data review will monitor participation, effort, and landings from for-hire fishermen through the electronic logbook program called VESL.	Data entered, verified and delivered to SAFIS/ACCSP through the developed API.
Bycatch/Species Interaction and Social and Economic	Data fields collect discard data including number of fish and fate. Trip price and fuel consumption/price information will be collected from federally permitted for-hire vessels.	Federal permitted vessels will report on a weekly basis beginning in Jan 2018. NMFS SERO/HMS to enforce and regulate. Provide fisheries managers with the best data available on recreational fishing in SC

Cost Summary: BUDGET FOR PROPOSAL PLANNING – FY 2018

Integration Development		
Dynamic Data Export of data in VESL	Modifications to VESL allowing for export data according to SAFIS requirements	\$19,385.00
VESL to SAFIS Integration Application/Runner	The process responsible for executing the data transfer.	\$9,825.00
ACCSP Integration Export Transformer	The formatter that converts data from the VESL format to SAFIS format	\$19,385.00
Report Approval Process		
Information Review Dashboard	Additions to VESL for monitoring data transfer logs	\$19,385.00
Ability to mark reports for export/non-export	Allowing for manual executions of certain reports	\$4,020.00
		\$72,000

Monthly Support		
Hosting	Recurring server, storage, monitoring, and redundancy costs.	
Customer Support	Assistance to users and integrators of the VESL system to ensure consistent and correct flow of information	
		\$14,400 (12 months)

TOTAL: \$86,400

BUDGET NARRATIVE - Proposed Funding Period, FY 2018

Project: VESL Development, Creation of an API
 FFO#: TBD
 Project Period: 1 July 2018 – 30 June 2019
 1 Year Funding: \$86,400
 Prepared by: Amy Dukes (PI) and Andrew Petersen (Contracting entity)

Contractual Services:

Integration Development - \$72,000

Monthly Support Fee - \$14,400, \$1,200 each month for 12 months.

The monthly support will begin when the development process is complete and the system is ready for production. Starting July 1, 2018, this fee will include one-year of hosting, customer support, and system maintenance.

The contractual budgeted funds will be used to pay for the initial development of the integration to transfer SCDNR for-hire data to SAFIS. SCDNR requests that ACCSP amend the Administration grant to include these funds and contract directly with Bluefin Data, LLC.

ACCSP - Ranking Criteria Summary

Proposal Type – New Project

Primary Program Priority – This proposal contains three Primary Program Priorities that fit the current ACCSP Program Design.

- Catch and Effort (70%) – SCDNR collects data from 100% of all licensed for-hire vessels that land in this state on a trip-level basis. The proposed development and production of an API to transfer this data collected through a Bluefin Data, LLC application directly to ACCSP will increase data the timeliness and effectively of the data. Increased efforts to improve and further promote electronic data reporting will be priority. Metadata is not collected.
- Data Delivery Plan - Data will be transmitted to ACCSP/SAFIS through the API.

Project Quality Factors –

- Partners – Although this proposal does not have a multi-state partnership, it does have the capability to allow for expansion to other ACCSP partners with a Bluefin Data, LLC application to utilize the API developed to be utilized to more easily transfer data to ACCSP.
- Funding Transition – This proposal has a defined end date.
- In-kind Contribution – None.
- Data Improvement – Through the initiation of electronic data collection, SCDNR will be improving the timeliness of data. The developed API will provide SAFIS data automatically, and allow federal partners to utilize the data in almost real-time.
- Secondary Program Priority – Although minimal to that of the Catch and Effort data, the data collected and disseminated through the API will allow for some Bycatch/Species interaction and Social and Economic data to be presented.
- Impact on Stock Assessments – The API developed will transfer data that will be used in stock assessments, quota monitoring, management, and regulations.

Other Factors –

- Innovated – There is a need to have ACCSP partner data transferred both securely and in a timely manner for sources outside of SAFIS. This API will allow for both.
- Properly Prepared – This proposal follows the guidelines under the ACCSP Funding Decision Process Document.
- Merit – These funds are essential to allow for-hire catch/effort data collections in SC to be easily and securely transferred to ACCSP. The addition of new SERO federal regulations and the fact that SCDNR already has a for-hire data collection process makes the agency a great candidate to develop this API between Bluefin Data, LLC and ACCSP. This API will be able to expand data transfer options form to other state partners to ACCSP.

Principal Investigator: Curriculum Vitae**Name:** Amy Whitaker Dukes**Professional Address:****Position:** Fisheries Biologist III
Office of Fisheries Management
Fisheries Statistics Section217 Fort Johnson Road
Charleston, SC 29412-9641**Phone:** (843) 953-9365 Voice
(843) 953-9386 Fax**E-mail:**
DukesA@dnr.sc.gov**EDUCATION:**Spartanburg Methodist College (SMC),
Spartanburg SC
Associate in Science, Biology
August 1994 to May 1996Coastal Carolina University (CCU),
Conway, SC
Bachelor of Science, Marine Science
August 1996 to May 1999**CAREER-RELATED EXPERIENCE:**

Jan. 2008 Department of Natural Resources, Charleston, SC

To present Marine Resources Division in the Office of Fisheries Management:
Serves as the Fisheries Management Section Leader, participating in data collection, management, and administration activities associated with the Fisheries Statistics Section

Supervises, coordinates, and oversees daily operations in the collection of both commercial (Trip ticket Program, Trip Interview Program) and recreational (For-hire logbook, MRIP, special projects/programs) fisheries dependent catch/effort data collections and biological sampling efforts; including but limited to establishing and standardizing operational procedures for field sampling and administrative activities, constituent education and outreach activities, data management (compliance, entry and QA/QC), transmission of data to state/federal/partner agency fisheries managers/data users, Commercial and For-hire License and Permit coordination and support, Law Enforcement coordination and support (Magistrate Court Appearances), report writing, grant submissions and administration (applying for funding opportunities, budgeting and allocations) for approximately \$1 million dollars in state and federal funds. Directly supervise 7 staff, collaborate and assist in funding 17 employees. In addition, duties include serving as the agencies representative to several state and federal committees and working groups associated with the funding agencies including but not limited to the National Marine Fisheries Service (Fisheries Science Center), the Atlantic States Marine Fisheries Commission, the Atlantic Coastal Cooperative Statistics Program (Vice-Chair of the Operations Committee, Commercial Technical Committee), and the Atlantic Coastal Fisheries Cooperative Management Act. Active participate with the South Atlantic Fisheries Management Council meeting/discussions, and serves as a panelist with SEDAR Stock Assessments.

Serves as the Tournament Coordinator for the SC Governor's Cup Billfishing Series. The three goals of the Series are conservation, education, and research. All related activities ensure that the goals are met and often exceeded. Fundraising and management of the 501-c-3 funds.

Sept. 2000- Department of Natural Resources, Charleston, SC
To Jan 2008

ACE Basin National Estuarine Research Reserve (NERR): Participation in comprehensive research activities within the ACE Basin NERR. Manage data collection, sampling instrumentation, and compiling of databases in support of the Reserve's participation in the System-Wide Monitoring Program (SWMP). Responsible for entry, verification, editing, and statistical analysis of all data; assist with compilation of technical reports; preparing and delivering of presentations at conferences and workshops; and managing the ACE Basin NERR research budget.

Feb. 2000- Department of Natural Resources, Charleston, SC
To Sept. 2000

Marine Resources Division in the Office of Fishery Management: Assisting in the execution of an East Coast fin fish management plan. Anadromous species of American Shad and both Atlantic and Shortnose Sturgeon were collected, evaluated, tagged and released. Knowledgeable in the principles and practices of fish, statistical analysis, equipment maintenance and boat handling. Additionally, American Eel (elver) Young of the Year Survey; responsible for project set-up, daily sample collection, database management and analysis. (Currently the PI of this project)

Sept. 1999- Department of Natural Resources, Charleston, SC
To Feb. 2000

Marine Resources Research Institute: Sorted plankton samples to collect and identify three species of post-larval Peneaus shrimp. Responsible for continuation of project organization and data management.

UNDERGRADUATE EXPERIENCE (established the principles and practices that propelled my career):

Jan. 1997 Peer-Mentoring Program, Coastal Carolina University, Conway, SC
To May 1999

Co-instructor with the Dean of Sciences for a three hour, fall semester class. Served as a mentor and advisor for freshman Marine Science students throughout their first year of study.

May 1997 - Sea World of Florida, Orlando, FL

To Aug. 1997

Internship, Marine Education Instructor and Animal Care Assistant.

Dec. 1996 Coastal Carolina University, Coke and Topsail Islands, NC

To Dec. 1997

Undergraduate research assistant for a NSF grant-funded project to examine the long-range effects of hurricane damage/erosion on coastal barrier islands and marsh ecosystems. Conducted pre and post hurricane on-site surveys of sediment core sample collection. Analysis and results for the project were presented through reports and oral presentations.

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

Evaluating angler perception, handling practices and maltreatment of Smooth Dogfish, *Mustelus canis*, in the mid-Atlantic recreational rod-and-reel fishery

Submitted by:
Jason Didden
Mid-Atlantic Fishery Management Council
800 North State Street, Suite 201
Dover, DE 19901
Phone: 302-526-5254; E-mail: jdidden@mafmc.org

Mid-Atlantic Fishery Management Council
ACCSP Funding Proposal: Evaluating angler perception, handling practices and maltreatment of Smooth Dogfish, *Mustelus canis*, in the mid-Atlantic recreational rod-and-reel fishery

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in grey with a summary on pages 16-17.

Applicant Name: Mid-Atlantic Fishery Management Council

Project Title: Evaluating angler perception, handling practices and maltreatment of Smooth Dogfish, *Mustelus canis*, in the mid-Atlantic recreational rod-and-reel fishery

Project Type: New Project

Request Award Amount: \$ 46,427

Request Award Period: For one year, beginning after the receipt of funds

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Objective:

The objectives of this project will be 1) to evaluate angler perception of Smooth Dogfish, 2) gauge extent to which improper handling of released/discarded Smooth Dogfish occurs in the mid-Atlantic recreational rod-and-reel fishery, and 3) estimate the mortality associated with these practices.

Need:

The successful management of a commercially and/or recreationally relevant (i.e. high capture rates) species is largely dependent upon a comprehensive understanding of fishery practices and removals and their impact on stock biomass (Davis 2002). One of most concerning sources of fishery removals is the immediate and delayed mortality of the catch that is discarded on regulatory or economic grounds (Davis 2002). This discard mortality (DM) is vital to stock assessments and for setting/evaluating landing limits and other fishing regulations (e.g. possession limits or seasonal closures). Therefore this type of information is clearly important, particularly for species that experience the highest discard rates.

The Smooth Dogfish (i.e. dusky smoothhound), *Mustelus canis*, is a small coastal elasmobranch managed by the NOAA NMFS Highly Migratory Species (HMS) Division that is captured in both commercial and recreational fisheries throughout the U.S. Atlantic Coast (Massachusetts-Florida; Giresi et al. 2014). At present, the Smooth Dogfish population in the U.S. Atlantic is nearing “overfishing” conditions (SEDAR 39) and is categorized as *Near Threatened* on the IUCN Red List (Conrath 2005). In the commercial industry (gillnet, trawl, and longline), smooth dogfish are targeted for their meat and fins, whereas recreational rod-and-reel anglers (headboat, charter, private vessel, and shore anglers) target them primarily for sport. This species is also incidentally captured and discarded at a high rate by both of these industries when targeting other species (SEDAR 39). Over the past 15 years, data provided in the Southeast Data, Assessment, and Review (SEDAR) 39 Stock Assessment Report suggests that Smooth Dogfish is most susceptible to recreational fishing pressures, primarily owing to disproportionately high live-release rates experienced in recent years (Fig. 1A; SEDAR 2015). For example, in 2012 (i.e. latest year with catch estimates for both industries), commercial and recreational fisheries landed 2.2 million and 0.1 million lbs. of Smooth Dogfish, respectively. However, the recreational sector was also responsible for ~4.5 million lbs. of live-releases (as bycatch), which is double the commercial and recreational landings combined (Fig. 1; SEDAR 2015). By 2015, the Marine Recreational Information Program (MRIP) reported over 95% (~1.3 million sharks) of Smooth Dogfish captured in the recreational fishery were discarded, with 75% of those discards attributed to boat-based fishing (~ 14 million day-trips in the mid-Atlantic region for FY 2015; Fig. 1B).

Per HMS FMP guideline 50 CFR 635.21(a)(1), non-harvest (i.e. discarded) Smooth Dogfish must be handled/released without being removed from the water to increase the likelihood of survival. However, based on the personal observations of our project collaborators and conversations with our recreational industry partners (Mike Cerchio and Rich King, personal communication, November 23, 2016), this Federal regulation is not always followed. Moreover,

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Figure 1. Proportion of smooth dogfish (A) landed or discarded in commercial and recreational fisheries (SEDAR 2015) and (B) proportion of recreationally discarded smooth dogfish by shore- and boat-based platforms (NMFS Personal Communication 2016) since 2000.

there is strong evidence that post-capture handling methods for this species range from responsible (e.g. minimal handling time) to purposefully aggressive (i.e. stepping on head to remove hook, dropping on deck, throwing the fish in the air at release) and destructive (i.e. mutilation), prior to discard. This maltreatment (i.e. improper handling), which we hypothesize may frequently occur due to the species' reputation as a nuisance for anglers targeting more coveted species (Mike Cerchio and Rich King, personal communication, November 23, 2016), likely results in high rates of post-release mortality due to the well-documented negative effects of physical and physiological trauma on shark survival (Kneebone et al. 2013; Poisson et al. 2014; Danylchuk et al. 2014; Gallagher et al. 2016).

For the roughly 1.3 million Smooth Dogfish discarded in the recreational fishery, the current stock assessment assumes a DM rate of 17% (~ 221,000 sharks). This estimate is not based on data obtained from Smooth Dogfish capture events in the recreational fishery, but is instead derived from two separate studies on two different shark species where sharks were handled responsibly (Gurshin and Szedlmayer, 2004; Mandelman and Farrington, 2007). As a consequence, **this (17%) DM rate is not highly representative of typical capture conditions because it does not account for the impacts of improper handling techniques, which likely lead to mortality.** Furthermore, the purported prevalence of improper handling of Smooth Dogfish in the recreational fishery suggests this non-representative DM estimate likely results in the underestimation of total recreational discards in the SEDAR Smooth Dogfish stock assessment. However, the extent to which DM may be underestimated is presently unknown due to the lack of direct information on Smooth Dogfish maltreatment/mutilation rates.

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In light of this data gap, a thorough assessment of angler perception, handling practices and behavior is warranted in the recreational rod-and-reel fishery. Collection of this information will provide insight into the occurrence of maltreatment/mutilation of Smooth Dogfish in the recreational fishery and facilitate an evaluation of whether or not the current DM rate estimate is appropriate. Confirmation of the veracity of the assumed DM rate is not only critical for the SEDAR Smooth Dogfish stock assessment, but is also vital to establish and monitor, among other endpoints, more realistic exploitation rates and total allowable catch (TAC). Considering these points, the assimilation of this information is timely in light of recent evidence that recreational discards may be underestimated by 4-6 fold (NMFS, 2016). For example, if underestimation of this magnitude is occurring, the amount of recreational Smooth Dogfish live-releases may be on the order of 13.5 to 22.5 million lbs. rather than the 4.5 million lbs. that is currently estimated. Furthermore, even if recreational discards are not currently being underestimated, assuming that improper handling techniques can lead to high mortality rates (i.e. >90%), a moderate maltreatment/mutilation occurrence rate (i.e. most destructive handling technique) of 50% could result in a Smooth Dogfish recreational DM that is 219% higher than the current estimate.

In addition to impacting the recreational sector, DM rates can also influence commercial quotas. The commercial Smooth Dogfish quota is calculated as the remainder of TAC once the other sources of fishing mortality are accounted for (i.e. recreational landings and DM, commercial DM, and research set-aside programs). Accurate DM estimates for Smooth Dogfish in the Atlantic are therefore particularly important in the recreational industry given the magnitude of the overall catch, high discard rate (e.g. upwards of 4.5 million lbs. discarded annually), and a current post-release DM rate of 17%. This leads to DM consuming a relatively high percentage of the overall annual TAC (11.5%), which greatly reduces (by more than 360,000 lbs.) the already limited commercial quota set forth by the NMFS HMS Fisheries Management Plan. Therefore, any variation in the recreational DM rate (i.e. due to improper handling techniques) will have a large impact on the commercial sector.

Information associated with DM for recreationally important shark species is also currently listed as a high research priority by the NOAA HMS program (NMFS 2014). Our research team recently communicated with NOAA HMS Division, who reinforced the potential benefits of firmly establishing Smooth Dogfish mutilation rates to increase the resolution of the current DM estimate for recreational angling.

Approach:

1. We will employ a multi-faceted approach to: 1) characterize recreational angler attitudes towards Smooth Dogfish; 2) evaluate the range of handling practices that are evident in the recreational fishery, 3) quantify post-capture maltreatment/mutilation rates and 4) **determine the post-release mortality rate of maltreated/mutilated Smooth Dogfish**. To accomplish 1-3, we will administer questionnaires and online surveys to a range of recreational fishery stakeholders (e.g. shore- and boat- based anglers and charter/headboat captains), conduct in-person angler interviews, and directly observe recreational angler behavior during shore-based and charter/headboat trips. **To**

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accomplish 4, we will deploy 10 pop-up satellite archival transmitting (PSAT) tags on maltreated/mutilated Smooth Dogfish captured during shore-based and charter/headboat trips and determine post-release fate through examination of recovered tag data.

In our questionnaire/surveys/interviews for angler, angler perception of Smooth Dogfish will be characterized using binary responses (e.g. target or bycatch; nuisance or not) with an explanation option (i.e. short answer) for each response. To evaluate the range of handling practices we will utilize a combination of binary (e.g. kept in water or brought onto deck/shore) and open ended questions (e.g. explaining the method of handling in more detail). To quantify post-capture mutilation rates we will ask anglers to rank the general release condition (i.e. an ordinal response based upon increasing trauma) of Smooth Dogfish, and explicitly ask if sharks were deliberately harmed. Lastly, for charter/headboat owners, captains and crew, we will also inquire whether any vessel-specific policies and/or handling procedures are conveyed to anglers during trips that encounter Smooth Dogfish. To ensure that respondents provide information specifically for Smooth Dogfish and not other commonly encountered shark species that have similar morphology (e.g. Spiny Dogfish, *Squalus acanthias*), at the beginning of each questionnaire we will include an identification template that photographically highlights the distinguishing morphological characteristics of Smooth Dogfish.

To ensure that angler perception and handling practices are characterized over the full geographic range that Smooth Dogfish are captured in the recreational fishery along the U.S. Atlantic coast, we will post the questionnaire to regional message boards/forums (e.g. www.thehulltruth.com; www.thebassbarn.com; www.njifishing.com; www.noreast.com) and other social media outlets (e.g. Facebook and Twitter). However, given the magnitude of Smooth Dogfish encounters in the mid-Atlantic (i.e., ~ 75% of the coast wide recreational landings; ~31 thousand sharks; 2015) and live-releases (~ 1 million sharks; 2015; Personal communication from the NOAA NMFS, Fisheries Statistics Division, November 28, 2016), we will focus the majority of our efforts/observations in this region. Here, we will first distribute questionnaires via pre-existing collaborations with charter boat captain, Mike Cerchio, and the owner of <http://www.delaware-surf-fishing.com/>, Rich King. We have also budgeted funds to directly observe the behaviors of recreational anglers during headboat trips and shore-based angling efforts in order to directly document the handling practices that are evident in the fishery. These observations will be compared with the results of our angler interviews and surveys to corroborate/confirm their veracity and to evaluate if potential bias exists in the survey results (i.e. differences between respondent's answers and observed behaviors). Given the large number of private boat trips that capture Smooth Dogfish in the region (~ 7.6 million trips in 2016; NMFS 2016), it would be impossible to directly observe and confirm the full range of capture and handling practices and behaviors that are evident in this sector. However, since private recreational angler compliance with fishing regulations is generally high (Sutinen and Kuperan 1999; Gezelius 2003; Bova et al. 2017) we believe that the behaviors of this sector will be best characterized via regional message boards/forums, wherein anglers can report with anonymity.

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To estimate the DM rate of Smooth Dogfish following maltreatment (e.g. aggressive handling during hook removal, purposeful dropping/smacking on deck, and throwing the fish in the air at release) and mutilation (e.g. ripping of flesh during hook removal or laceration of tissue incurred during handling), we will deploy 10 PSAT tags on individuals handled in this manner during the proposed shore-based and charter/headboat observation trips. PSAT tags will be attached to Smooth Dogfish measuring >100 cm fork length (to ensure the animal can support the tag and avoid tag-induced mortality) using standard techniques and will be programmed to collect movement (horizontal and vertical) data for up to 30 days following release. Movement data obtained from tags will be utilized to infer the fate (via a depth-variance survival test) of each released fish (i.e. alive or dead). This will ultimately lead to an estimate of the DM rate (i.e. the proportion of mortalities seen in our tagged sharks) associated with these improper handling practices.

2. Maltreatment/mutilation rates quantified in the previous objective will then be applied to MRIP data to estimate its impact on DM. To accomplish this we will first quantify the number of live-discards for the recreational fishery using MRIP data. Next we will calculate two discard scenarios:

- a. The **first scenario** reflects the number of recreational discard mortalities under the current stock assessment DM rate (17%).

$$DM_{0.17} = \# \text{ live discards} * 0.17$$

- b. The **second scenario** reflects the number of recreational discard mortalities under the current stock assessment (quantified in the first scenario) and the additional mortalities associated with the maltreatment/mutilation occurrence (via questionnaires/surveys/interviews) and DM (via PSAT tagging component) rates quantified in this study.

$$DM_{total} = [(\# \text{ live discards} - DM_{0.17}) * (\text{mutilation}_{rate})] * DM_{rate}$$

These two scenarios will then be compared to provide management with insight into the extent to which DM is being overestimated or underestimated. See Table 1 for step-wise example of this approach.

Table 1. Theoretical step-wise example of how the maltreatment occurrence (Step 3) and maltreatment-mortality (Step 4) rates (quantified in this study) can be applied to recreational discards to better estimate total discard mortality of Smooth Dogfish in the recreational rod-and-reel fishery. From Steps 4 to 6 a range of hypothetical estimates are shown here to illustrate the potential impact of the maltreatment-mortality rate; however, in real-world application of this method we would only include a single rate (i.e. the estimate derived from PSATs in this study).

Step 1:	Determine the total number of recreational discards (using MRIP data).					
# Of total discards	1,300,000					
Step 2:	Apply the stock assessment mortality rate (i.e. 17%) to the recreational discards.					
DM (# of mortalities)	221,000					
Step 3:	Assume that 25% of the remaining discards were subject to maltreatment (i.e. maltreatment occurrence rate quantified in this study).					
# Of maltreated discards	269,750					
Step 4:	Apply maltreatment-mortality rate (quantified with PSATs in this study) estimate to the maltreated discards.					
	10%	25%	50%	75%	90%	100%
DM (# of mortalities)	26,975	67,438	134,875	202,313	242,775	269,750
Step 5:	Combine results from Steps 2 & 4 to approximate DM for true handling practices.					
DM (# of mortalities)	247,975	288,438	355,875	423,313	463,775	490,750
Step 6:	Calculate the percentage inflation of DM (relative to stock assessment estimate).					
Inflation in DM (%)	12.2	30.5	61.0	91.5	109.9	122.1

Results and Benefits:

Results from questionnaires/surveys/angler interviews in this study will provide management with a more realistic understanding of handling techniques (from responsible to improper) that occur in the recreational rod-and-reel fishery. In addition, we will generate a species-specific DM rate for Smooth Dogfish that will represent the most detrimental handling practices evident in the recreational fishery (i.e. a worst case scenario). When combined with our estimate of the occurrence of maltreatment/mutilation in the fishery, this DM estimate will in turn enhance the ability to estimate total fishery mortality (fishery landings and DM and research-set-aside) and work to strengthen the SEDAR Smooth Dogfish stock assessment. Here is an example (based on the current management framework) to demonstrate the potential impact of the results from this study:

The latest SEDAR assessment estimates that ~221,000 Smooth Dogfish were removed from the stock in 2015 due to DM (based on a 17% DM rate). This estimate, however, falls short of taking into account the potentially large source of removals due to maltreatment/mutilation (i.e. the 17% DM rate does not reflect mutilation). If we assume a maltreatment rate of 25% was quantified from the questionnaires/surveys/interviews in this study, this would mean an additional ~269,000 Smooth Dogfish would be subject to potential mortality following release. Now, if we assume a maltreatment-mortality rate of 75% was quantified from the PSATs in this study, this would lead to ~200,000 mortalities of Smooth Dogfish that were unaccounted for by the current management framework.

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Questionnaires/surveys/angler interviews will also better characterize angler perception of Smooth Dogfish. This will better inform regional management bodies (e.g. ASFMC and MAFMC, NOAA HMS) of the extent to which anglers must be educated on improper handling techniques and how best to address the issue in future management frameworks and/or public outreach. Lastly, insight into whether or not anglers are following HMS FMP guidelines (i.e. all Smooth Dogfish must be handled/release without being removed from the water) will better inform enforcement agencies of the extent to which regulations are being understood and followed. This collective information will also ultimately aid in the development/formulation of new fishing regulations (e.g. best-practice handling techniques).

The **ACCSP Program Priorities: *Bycatch/Species Interaction* (project coverage: 75%) and *Social and Economic* (project coverage: 25%)** are well addressed in this through the evaluation of handling practices, quantification of maltreatment/mutilation rates, and characterization of angler perception for Smooth Dogfish, which are predominantly taken as bycatch in the recreational rod-and-reel fishery. This study also directly addresses the **ACCSP Recreational Priority: *Improving Discard/Release Data*** due to the novelty of the information generated by this study on fishery-specific DM rates. **This priority ranks as the #2 Overall Priority and the #2 mid-Atlantic Priority.**

Data Delivery Plan:

Results from this study will be disseminated to the ACCSP in as timely a manner as possible during and after the completion of this project. Following completion of this study, findings will be synthesized into a final report consisting of summarized conclusions (i.e. description of improper handling practices, mutilation rates and impact on DM, and angler perception). As noted, we have corresponded with the NOAA NMFS HMS Division regarding this study, and will provide updates and concluding report/publication directly to those personnel. Via affiliations among our project team, we will also provide preliminary and final data to the ASMFC. Metadata will be provided to the recreational fishing community in the study region via outreach channels among our project team. For example, Rich King's website <http://www.delaware-surf-fishing.com/> had 400,000 hits in 2015 alone. Finally, results of this study will be presented to the scientific community at internationally recognized scientific conferences and in peer-reviewed publications, as well as to various stakeholder groups and the public via seminars.

Geographic Location: Atlantic coast with focus in the mid-Atlantic region

Milestone Schedule:

Table 2. Milestone schedule with an anticipated start date of March 1st, 2018.

Task	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Develop questionnaire	X											
Distribute questionnaires/surveys		X	X	X	X	X						
Direct observations (charter/headboats)		X	X	X	X	X						
Direct observations (shore-based)		X	X	X	X	X						
Download MRIP data		X	X	X	X	X						
PSAT tag deployment				X	X	X						
PSAT tag data recovery					X	X	X					
Examine questionnaire results							X	X	X			
Examine MRIP data							X	X	X			
PSAT tag data analysis							X	X	X			
Construct Final Technical Report										X	X	X
Dissemination of Final Report and results										X	X	X

Project Accomplish Measurement:

Table 3. Timeline for project goals and accomplish measurements (i.e. measurable outcomes).

Month	Goal	Measurable Outcomes
Month 1	- Develop questionnaire	- Completed (Y/N)
Months 2 – 6	<ul style="list-style-type: none"> - Distribute questionnaires to charter/headboat captains and recreational anglers - Direct observation of handling practices and quantification of maltreatment/mutilation rates via headboat trips and shore observations - PSAT tag deployment, data recovery and data analysis - Query/download MRIP data 	<ul style="list-style-type: none"> - Distributed (Y/N) <ul style="list-style-type: none"> o # questionnaires o # platforms - Direct observations <ul style="list-style-type: none"> o # headboat trips o # shore-anglers o # of observed mutilation events - Deployed tags (Y/N); recovered data, assessed fate, estimated DM rate - Downloaded MRIP data (Y/N)
Months 7 – 9	<ul style="list-style-type: none"> - Examine questionnaire results - Examine MRIP data - Adjust 17% DM estimate with fishery-specific maltreatment/mutilation rates 	<ul style="list-style-type: none"> - Handling practices <ul style="list-style-type: none"> o In water vs. on-deck o Responsible vs. maltreatment - Angler perception <ul style="list-style-type: none"> o Nuisance (Y/N) o Target or bycatch species - Fishery-specific mutilation rates - MRIP discard rates:

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		<ul style="list-style-type: none"> ○ Platform ○ Seasonality - Fishery-specific DM estimates with maltreatment/mutilation rates considered
Months 10 – 12	<ul style="list-style-type: none"> - Construction of Final Technical Report - Dissemination of data to stakeholder groups - Public outreach 	<ul style="list-style-type: none"> - Final results in-hand (Y/N) - Final Technical Report including results completed (Y/N) - Final Technical Report in hands of all designated recipients (Y/N)

Cost Summary (Budget and Details):

Table 4. Budget summary.

Cost category	Unit Costs		Request	In-kind	TOTAL
1. Personnel	<i>Salary/month</i>	<i># months</i>			
Jeff Kneebone	\$ 4,750.00	1.0	\$ -	\$ 4,750.00	\$ 4,750.00
Ryan Knotek	\$ 2,083.00	12.0	\$ 24,996.00	\$ -	\$ 24,996.00
Emily Jones	\$ 4,652.00	0.5	\$ -	\$ 2,326.00	\$ 2,326.00
<i>Subtotal Personnel</i>			\$ 24,996.00	\$ 7,076.00	\$ 32,072.00
<i>Fringe Benefits</i>	27.50%		\$ 6,873.90	\$ 1,945.90	\$ 8,819.80
2. Supplies	<i>qty</i>	<i>cost</i>			
Laptop	1	\$ 1,322.00	\$ -	\$ 1,322.00	\$ 1,322.00
Satellite tags	10	\$ 1,250.00	\$ -	\$ 12,500.00	\$ 12,500.00
<i>Subtotal Supplies</i>			\$ -	\$ 13,822.00	\$ 13,822.00
3. Travel					
Ryan Knotek fieldwork			\$ 3,435.00	\$ -	\$ 3,435.00
<i>Subtotal Travel</i>			\$ 3,435.00	\$ -	\$ 3,435.00
4. Other	<i>qty</i>	<i>cost</i>			
Outreach Materials	1	\$ 1,000.00	\$ 1,000.00	\$ -	\$ 1,000.00
Administration of questionnaire	1	\$ 1,000.00	\$ 1,000.00	\$ -	\$ 1,000.00
Headboat charter	10	\$ 75.00	\$ 750.00	\$ -	\$ 750.00
Publication costs			\$ -	\$ 500.00	\$ 500.00
<i>Subtotal Other</i>			\$ 2,750.00	\$ 500.00	\$ 3,250.00
Total Direct Costs			\$ 38,055.90	\$ 23,344.90	\$ 61,399.80
Indirect Costs (22%)			\$ 8,372.08	\$ 5,135.66	\$ 13,507.74
			REQUEST	In-kind	PROJECT TOTAL
TOTAL			\$ 46,426.98	\$ 28,479.56	\$ 74,906.54

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- 1. Personnel:** The New England Aquarium will be contracted by the MAFMC to perform the proposed work and has budgeted \$32,072 (requested: **\$24,966**, **in-kind**: **\$7,076**) in grant funds for personnel costs as follows:

Ryan Knotek, *University of Massachusetts – Boston graduate student*, will commit 12 months of his time at \$2,083/month. **Mr. Knotek will develop the questionnaires/surveys and coordinate their distribution with headboat/charter captains and regional message boards and forums. He will query/collect MRIP data and also travel to Sussex County, Delaware (Rehoboth Beach) to perform in-person interviews (shore- and boat-based) with anglers and headboat/charter captains and directly observe fishing behavior on headboat trips and during shore-angling efforts. He will also deploy 10 PSAT tags during these observation trips. Mr. Knotek will then play the lead role in the data analysis (MRIP data and questionnaire/survey/interview results) and construction of the final technical report, manuscripts, and other deliverables.** He will also be responsible for disseminating study findings through presentations to management bodies, the recreational fishing community and at scientific conferences. A total of **\$24,996 is requested** to cover Mr. Knotek’s salary (standard stipend for University of Massachusetts – Boston).

Dr. Jeff Kneebone, *Associate Scientist, co-PI*, will commit 1 month of his time at \$4,750/month. As a co-PI on the study, Dr. Kneebone will supervise Mr. Knotek’s activities on the project, aid in the study planning and design, liaise with industry partners, and oversee production of project deliverables. As a member of Mr. Knotek’s thesis committee, Dr. Kneebone will also advise and mentor Mr. Knotek. The New England Aquarium will provide **in-kind** contribution of **\$4,750** to cover 1 month of Dr. Kneebone’s salary.

Emily Jones, *Associate Scientist*, will commit 0.5 months at \$4,652/month. Ms. Jones will be responsible for all administrative aspects of the New England Aquarium subcontract, including travel arrangements, ordering of supplies, and grant budgeting. Ms. Jones will also aid in all outreach efforts conducted through the New England Aquarium. The New England Aquarium will provide **in-kind** contribution of **\$2,326** to cover 2 weeks of Ms. Jones’s salary.

The New England Aquarium has budgeted a total of \$8,820 (requested: **\$6,874**, **in-kind**: **\$1,946**) in grant funds for fringe benefits (calculated at 27.5% of personnel costs). Benefits include health care, payroll taxes, retirement benefit program, and other benefits including: worker’s compensation, life and accidental death insurance, parking/public transport assistance, short term disability insurance, unemployment compensation, education assistance, employee assistance program and FSA administration.

- 2. Supplies:** Under contract by the MAFMC, the New England Aquarium will provide **\$13,822** of **in-kind** contributions as follows:

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- \$1,322 in the form of a laptop. As a large portion of the proposed work involves the collection of data via online surveys and questionnaires, a laptop computer is a necessity to achieve the stated objectives.
- \$12,500 in the form of satellite tags. Tags will be obtained using existing credit with tag manufacturers and tags recovered from previous studies.

3. Travel: The New England Aquarium contract also requests **\$3,435** for travel for Mr. Knotek to perform fieldwork and data collection over the course of two trips (15 days total) to Sussex County, Delaware (Rehoboth Beach):

- \$1,500 for hotel (15 days @ \$100/day)
- \$885 for meals and incidentals (15 days @ \$59/day according to GSA rates for Sussex County)
- \$600 for flights (2 round-trip flights to Atlantic City @ \$300/trip)
- \$450 for taxis and other incidentals (15 days @ \$30/day)

4. Other: The New England Aquarium contract has budgeted \$3,250 (requested: **\$2,750**, in-kind: **\$500**) for other costs as follows:

- **\$1,000** requested for outreach materials and expenses.
- **\$1,000** requested to cover costs of administering the questionnaire.
- **\$750** requested to cover 10 trips (at \$75/trip) on a recreational headboat to collect observational and fishery dependent data.
- **\$500** match to cover publication costs.

Indirect costs of \$13,508 (requested: **\$8,372**, in-kind: **\$5,136**) are calculated at the federally negotiated rate of 22.0%, applied to Modified Total Direct Costs (MTDC) of \$48,899 (total direct charges minus costs over \$25,000 for each sub-contract and equipment). A copy of our current rate agreement is attached.

\$46,427 in federal funds is requested with **\$28,480** (38.0%) in in-kind and partner support for a total budget of **\$74,907**.

Investigator(s):

Principle

Jason Didden, Fishery Management Specialist, Mid-Atlantic Fishery Management Council

Scientific Collaborators

Dr. Jeff Kneebone, Post-doctoral Research Scientist, Anderson Cabot Center for Ocean Life, New England Aquarium

Dr. John Mandelman, Vice President and Chief Scientist (Fisheries), Anderson Cabot Center for Ocean Life, New England Aquarium

Ryan Knotek, Ph.D. candidate, University of Massachusetts Boston, School for the

Mid-Atlantic Fishery Management Council

ACCSP Funding Proposal: Evaluating angler perception, handling practices and maltreatment of Smooth Dogfish, *Mustelus canis*, in the mid-Atlantic recreational rod-and-reel fishery

Revisions are highlighted in yellow. Sections of the proposal identified to help with the ranking process are highlighted in grey with a summary on pages 16-17.

Environment – Marine Science and Technology Program

Industry Collaborators

Rich King, Owner operator Delaware Surf Fishing LLC

Capt. Michael Cerchio, headboat/charter captain, Fisherman's Wharf

Literature Cited

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Mid-Atlantic Fishery Management Council
ACCSP Funding Proposal: Evaluating angler perception, handling practices and maltreatment of Smooth Dogfish, *Mustelus canis*, in the mid-Atlantic recreational rod-and-reel fishery

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- National Marine Fisheries Service (NMFS). 2016. Marine Recreational Information Program Fishing Effort Survey Transition Progress Report. NMFS Office of Science and Technology. Available online at: http://www.st.nmfs.noaa.gov/Assets/recreational/pdf/2015_FES_Progress_Report.pdf.
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- SEDAR. 2015. SEDAR 39 – HMS Atlantic Smooth Dogfish Shark Stock Assessment Report. SEADAR, North Charleston, SC. Available online at: <http://sedarweb.org/sedar-39-final-stock-assessment-report-hms-atlantic-smooth-dogfish>.
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Summary of Proposal for Ranking Purposes

Proposal Type: *New Project*

Primary Program Priority:

Bycatch/Species Interaction: ~ 75% of the effort in this study will be dedicated towards gathering information associated with the **bycatch** of Smooth Dogfish in the recreational rod-and-reel fishery (primarily the mid-Atlantic region). This will include the following objectives: 1) characterizing recreational angler attitudes towards Smooth Dogfish, 2) documenting the range of handling practices within the fishery, 3) quantification of mutilation occurrence and mortality rates and 4) combining these rates with fishery-specific discard rates (MRIP data) to evaluate the validity of the current DM rate used in the stock assessment and, if warranted, generate an updated DM estimate that incorporates the impact of maltreatment/mutilation.

Social and Economic: ~ 25% of the effort in this study will be dedicated towards better understanding the **social and economic** perception of Smooth Dogfish caught in recreational rod-and-reel fishery. This objective will be included in the questionnaire with the goals of better understanding the public opinion of these sharks (i.e. nuisance or not) and the impact they have had on the recreational rod-and-reel fishery (i.e. specific to headboat/charter captains).

Project Quality Factors:

Multi-Partner/Regional impact including broad applications:

The development and execution of this study will involve **multiple stakeholders**. This includes representatives from the mid-Atlantic recreational fishing sectors, the University of Massachusetts Boston, New England Aquarium, and ASMFC and MAFMC management bodies. The majority of our effort will be in the **mid-Atlantic** (i.e. region of highest landing/discard rates); however, we will expand our remaining effort across a broader geographic range to include all regions where Smooth Dogfish are recreationally caught (i.e. **broad application**).

Contains funding transition plan/Defined end-point:

This is a 12-month project with a **defined end-point** of February 28th, 2019 (assuming a March 1st, 2018 start date; see Tables 2 and 3 for project timeline).

In-kind contribution:

38.0% (see Table 4 budget summary)

Improvement in data quality/quantity/timeliness:

The questionnaires distributed in this study will utilize a variety of platforms (headboat/charter operations and shore-based anglers) and communication methods (i.e. online forums, social media, and personal communication) to

increase the **quantity** of information for Smooth Dogfish caught in the mid-Atlantic recreational rod-and-reel fishery. In addition, we will use direct observations from headboats and shore fishing to ground truth mutilation rates reported in questionnaires (i.e. ensuring the **quality** of our data).

Potential secondary module as a by-product (in program priority order):

Catch and Effort: In querying MRIP data for Smooth Dogfish discards we will also collect the most recently available catch (i.e. number of Smooth Dogfish caught) and effort (i.e. number of trips) data to make our findings as relevant and up-to-date as possible.

Impact on stock assessment:

The current stock assessment assumes a DM rate of 17%, but this is likely conservative as it was derived from two studies that did not take into account improper handling techniques and/or purposeful maltreatment/mutilation. In doing so, it is possible that the current stock assessment is not accounting for the additional source of mortality associated with the purported mutilation occurring in the fishery. The quantification of mutilation occurrence and mortality rates in this study will allow us to evaluate the efficacy of the current DM estimate used in the Smooth Dogfish stock assessment.

Appendix A: Curriculum Vitae for Principal Investigator

Jason Thomas Didden

716 Bicentennial Blvd • Dover, DE 19904 • 302-397-1131

jdidden@mafmc.org

Education:

Tufts University

Medford, MA 02155

Bachelor of arts with majors in biology and political science, 1997.

University of Delaware, College of Marine and Earth Studies

Newark, DE 19716

Masters in Marine Policy, 2012. Advisors: Lee Anderson and George Parsons.

Research focus: fisheries/marine resources management and economics.

Employment:

Mid-Atlantic Fishery Management Council

800 North State Street Suite 201

Dover, DE 19904

Fishery Management Specialist, February 2007-present

Provide Fishery Management Plan coordination for Atlantic mackerel, squid, butterfish, spiny dogfish, and monkfish (joint with NE) fisheries.

Coordinate Council involvement in river herring/shad conservation.

Coordinate Council participation in the Marine Recreational Information Program (MRIP).

Participate in Council involvement in New England and Highly Migratory Species (HMS) issues, including smooth dogfish.

Lead and/or participate in a wide variety of other fishery management initiatives.

NOAA Fisheries

1315 East West Highway

Silver Spring, MD 20910

Knauss Marine Policy Fellow (Sea Grant), Office of Policy February 2006-February 2007.

Collaborated with Office of Policy staff to provide policy analysis support to the Assistant Administrator for Fisheries on a wide range of issues including

Magnuson-Stevens Act reauthorization, aquaculture, and recreational fisheries

Participated in agency response to National Research Council's *Review of*

Mid-Atlantic Fishery Management Council

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Recreational Fisheries Survey Methods. Led development of white paper on policy-level issues related to recreational fishing statistics improvements. Represented Office of Policy at Highly Migratory Species (HMS) division meeting and attend related events; familiar with Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan.

Gerard J. Mangone Center for Marine Policy

301 Robinson Hall, University of Delaware
Newark, DE 19716
Supervisor: Dr. Biliana Cicin-Sain, 302-831-8086

Research Assistant, January 2005-February 2006

Completed final researching, writing, organizing, and editing for publication of *Recommendations for an Operational Framework for Offshore Aquaculture in U.S. Federal Waters*

Co-led establishment of the Business and Industry Leaders Roundtable and the Ocean Donors Roundtable of the Global Forum on Oceans, Coasts, and Islands.

U.S. Environmental Protection Agency (EPA)

1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Summer Intern - National Center for Environmental Economics, 2003.

Conducted literature review of water quality improvement valuation studies. Compiled catch, angler, and water quality data for Chesapeake Bay.

Covino Environmental Associates

300 Wildwood Ave
Woburn, MA 01801, N.W.

Industrial Hygiene Technician, January 2000 to June 2002,

Provided on-site consulting for air quality issues including asbestos, mold, mercury, respirable dust, oxygen deficiency, and volatile organic compounds. Trained new technicians entering company.

Burlington High School

123 Cambridge St.
Burlington, MA 01803

Science Instructor, November 1998 to July 1999

Japan Exchange and Teaching (JET) Program

Odate City, Akita Prefecture, Japan.

Assistant Language Teacher, July 1997 to July 1998

Mid-Atlantic Fishery Management Council
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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

June 19, 2017

To the members of the Operations and Advisory Committees:

The FY2018 Administrative Budget contains two significant changes. First the ASMFC has reduced its overhead rate from 35% to 24%, the second is an inclusion of one additional Fisheries Data Analyst position required due to the increasing volume of data being managed by the program. A supplemental justification for an additional Fisheries Data Analyst position is attached as an appendix to this cover letter.

As the Programs data holdings have grown and been increasingly used, our ability to keep up with tightening deadlines and increasing quality management responsibilities has been significantly compromised. In addition, electronic reporting first in For-Hire and certainly soon in Commercial fishing sectors will significantly increase the volume of data coming in to SAFIS. We also expect a significant, but temporary increase in support calls coming to staff as new users are brought on and technical problems are discovered and resolved.

Thanks to the reduction in the ASMFC overhead rate, the actual dollar amount of the request has decrease slightly.

Attachment 2 of the FY2018 Administrative Budget request contains the Implementation Plan and provides an overview of the high level tasks and milestones expected for the coming year.

Sincerely,

Michael S Cahall,

Director, ACCSP



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

Appendix I: Justification for additional FTE (Data Team)

The continued success of the Atlantic Coastal Cooperative Statistics Program (ACCSP) in recent years has resulted in an increase in the volume of annual data, with biannual loads processing over 3,000,000 rows of data from roughly 35 sources. The demand for custom data requests rises as ACCSP gradually becomes a primary source for data intensive activities such as management actions and stock assessments along the coast. The growth of the program and expansion into additional modules intensifies the work of the technical committees, with the Data Team responsible for staffing the Standard Codes Committee, Commercial Technical Committee, Biological Review Panel, and Bycatch Prioritization Committee.

The development of the program and demand for data have outgrown the current load and dissemination processes and levels of QA/QC that were first established a decade ago. The Data Team must consistently coordinate and with partners to ensure that the ever changing landscape of data on the coast come together in a precise and judicious manner. Current levels of staffing result in a need for enhanced validation when fulfilling custom data requests for management actions, stock assessments and other data intensive activities for the Commission, regional Councils, State and Federal partners and other requestors.

An additional staff member on the Data Team will allow for the continued maintenance and improvement of our load, dissemination, and QA/QC processes resulting in more dependable and timely data.

Funding Proposal
FY17 ACCSP Administrative Budget

Applicant Name: Atlantic States Marine Fisheries Commission

Project Title: Administrative Support to the Atlantic Coastal Cooperative Statistics Program

Principal Investigator: Michael S. Cahall, Director, ACCSP

Requested Award Amount: \$1,854,249

Request Type: Maintenance/Administrative

Requested Award Period: March 1, 2018 through February 28, 2019

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 collections programs and to integrate those data into a single data management system that will meet the needs of fishery manager, 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 (based on the 2014-2018 Strategic Plan)

1. Manage and expand a fully integrated data set that represents the best available fisheries 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
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 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 will 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. Annual Operations Plans are developed by the ACCSP to provide guidance on further development and implementation of the Program.

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 changes.

In 2000, the first version of the [Data Warehouse](#) was made available to the program partners. Since then, it has grown to encompass a 50 plus 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 \(SAFIS\)](#) was deployed. This system is used to collect Program compliant 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, 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 and the

- 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.

The FY18 Action Plan (Attachment 1) details activities to be conducted by ACCSP staff and committees under the FY18 Administrative Budget. Note that activities 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 composed 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. Administrative support of ACCSP activities is provided by the ASMFC and funded through overhead charges. The ACCSP is continuously evolving as technology and the needs of management and science change over time. Therefore the *Standards* and supporting systems are still in development. 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 Program Coordinator provides assistance to the Director, coordinates Program activities and provides staff support for program and technical committees by drafting, maintaining and coordinating program documents. The Outreach Coordinator publicizes the availability and benefits of the Program. The Software Team Leader coordinates the development and management of ACCSP data management systems. The Systems Administrator manages the information systems infrastructure. The Data Team Leader provides guidance for all data related activities. The Information Systems Specialist, Data Coordinators and

Fisheries Programmer 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 directly participate in data intensive activities such as a stock assessment data workshop as needed. The Information System staff provides expert consultations to partners as they implement new reporting and licensing/permitting systems. They also will continue to support development of SAFIS.

ACCSP staff will follow the FY18 Action Plan during FY18, 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; continued development and implementation of SAFIS; and support of other partner projects (such as the ASMFC lobster trap tag allocation system) by providing technical expertise as necessary.

The ASMFC has basic responsibility for the logistics of all committee meetings which support the development of the ACCSP, including: the ACCSP Coordinating Council, the ACCSP Operations Committee, the Advisory Committee, the Outreach Committees (one which is jointly administered with ASMFC), the Recreational and Commercial Technical Committees and Subcommittees, the Information Systems Committee, the Biological Review Panel, the Bycatch Prioritization Committee, the Standard Codes Committee, the ASMFC Assessment Science Committee (used by ACCSP), and the ASMFC Committee on Economic and Social Science (used by ACCSP). 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 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 FY18 Action Plan (Attachment 1)

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 1999-2016

Year	Funding	Number of Staff
1999	\$907,902	3
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

3. Cost Summary: The ACCSP requests \$1,495,362 for administrative support, committee travel and systems operations during FY18. The addition of the 24% overhead rate raises the request to \$1,854,249.

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 Information Systems Manager are dedicated 100% to the ACCSP, and are full-time employees of the Atlantic States Marine Fisheries Commission. The Systems Manager is a shared position with the ASFMC under the joint supervision of the ACCSP Director and the ASMFC Director of Finance. Fringe benefits which include health care, vision, dental, annual and sick leave are calculated at 27%. Note that personnel associated with the APAIS are funded under separate authority and not accounted for in this document. ASMFC salaries are kept confidential, thus only totals are displayed. In addition an agreement has been put in place with NMFS Highly Migratory Species (HMS) to partially fund the Information Systems Specialist who is largely responsible for maintaining HMS data feeds. Note that the vacant Data Coordinator is a new position required due to the increasing volume of data being managed by the Program.

- ACCSP Director - Michael S. Cahall
- Program Coordinator – Elizabeth Wyatt
- Outreach Coordinator – Alexandra Schwaab
- Information Systems Manager – Edward Martino
- Software Team Leader - Karen Holmes
- Fisheries Programmer – Nicolas Mwai
- Data Team Leader – Julie Simpson
- Information Systems Specialist - Jennifer Ni

- Senior Data Coordinator – Joseph Myers
- Data Coordinator – Heather Konell
- Data Coordinator - Vacant

Salaries and Wages	2018
Total Salary	\$ 919,906
Benefits @27%	\$ 243,505
Total Costs	\$ 1,145,374

5. Travel

Travel is broken down into two general categories; committee meetings and staff travel. The bulk of travel is in support of committee meetings. While significant savings have been achieved by using remote meeting technologies (such as online meetings), face-to-face meetings are often required to complete the tasks assigned. In general, each committee will have at least one face-to-face meeting during the year. 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 sight, 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; Philadelphia, PA; Alexandria, VA; Providence, RI; Jacksonville, FL; Washington, D.C.

The travel budget is based on an estimated \$260 per day multiplied by meetings multiplied by days multiplied by membership plus staff.

Committee Travel	Meetings	Days	Membership	Total	Staff	Total	Grand Total
Advisory Committee	1	1.5	11	\$4,290	1	\$300	\$4,590
Biological Review panel	0	1	12	\$0	1	\$0	\$0
Bycatch Prioritization	1	1	14	\$3,640	1	\$200	\$3,840
Commercial Technical Committee	0	1	14	\$0	1	\$0	\$0
Coordinating Council (with ASMFC)	4	0.5	12	\$6,240	2	\$800	\$7,040
Operations Committee	2	2	12	\$12,480	2	\$1,600	\$14,080
Outreach	1	1	10	\$2,600	1	\$200	\$2,800
Recreational Technical	2	2	14	\$14,560	1	\$800	\$15,360
Information Systems Committee	1	1	13	\$3,380	1	\$200	\$3,580
Total Committees				\$47,190		\$4,100	\$51,480
Staff Travel							
Partner Coordination	4	2	2	\$4,160			
Data Support (Stock Assessment etc)	3	2	2	\$3,120			
IT Support	3	1	1	\$780			
Outreach	4	2	1	\$2,080			
GulfFIN Coordination	2	1.5	1	\$780			
Etrip Support	10	1	4	\$10,400			
Total Staff Travel				\$21,320			
Grand Total							\$72,800

Attachment 2 provides a tentative schedule of the funding cycle and calendar of meetings.

6. Supplies

Supply costs include supplies not covered by the ASMFC overhead. This includes ACCSP specific materials for outreach, smaller information systems items such as network switches and cables.

Supplies	2018
Misc Hardware (cables, network hubs etc)	4,651
Backup Tapes	\$2000
Total	\$6,651

7. Equipment

ACCSP maintains several large server systems and related hardware in support of the Data Warehouse, website, SAFIS and administrative functions. These systems typically have a 5 year life cycle after which they require upgrade or replacement. In cases of the larger items, lease options have been explored, but it appears that, in part due to current staffing, it is more cost effective to own and maintain the equipment internally.

Included are the costs are normal life cycle replacements of laptop and desktop systems, assuming replacement of 3 systems annually. Costs are based upon current market surveys and an estimate of our needs. We assume the replacement of one major infrastructure component (server, router, firewall, etc.) yearly. We assume the replacement of three desktop/laptop systems per year.

Equipment	2018
Infrastructure Replacements (servers, UPS systems, etc.)	\$10,000
Desktop/Laptop Systems	\$5,000
Total	\$15,000

8. Other Costs

Hardware and software support are supplied by a number of different vendors and includes costs associated with licensing and maintenance fees (such as *Oracle* licensing).

The Program maintains two high speed internet connections and associated infrastructure in support of the server systems. The first is the primary internet connection used by all incoming and outgoing public traffic. The second is a dedicated line to the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO). This second line provides full time secure connectivity requested by the Region.

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.

Communications supports high-speed internet connectivity for ACCSP and related systems and a direct secure connection to the GARFO Data Center in Gloucester, MA. Costs are based upon negotiated contracts with Cogent Communications, Level 3 Communications and Verizon.

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 has been steadily rising and a steady stream of new users are adopting the system where agencies will accept electronic reports though SAFIS. In addition, recent management actions indicate that both the Mid-Atlantic and South Atlantic Fishery Management Councils are likely to mandate electronic reporting for the for-hire sector effective January, 2018. Indications are that SAFIS eTrips in both the mobile and on-line versions are likely to be used by the majority of harvesters as the reporting tool. In addition, the majority of trips will be reported to the SAFIS system regardless of the tool selected. There does not currently exist a mechanism to provide consistent support for Partner agency and harvesters.

Funds requested include both costs associated with the initial deployment and ongoing support. Initial startup costs include but are not limited to in-person training workshops for harvesters and Partner Agency personnel and published training guides and videos that will be available via the ACCSP website. ACCSP continue to contract for help desk support for eTrips/Mobile which would include 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.

Other Expenses	2018
Software Support	\$50,000
Hardware Support	\$7,500
Communications	\$27,500
Printing (outreach)	\$2,500
Contract Services	\$150,000
Total	\$237,500

Budget Summary

Budget Summary	2018
Personnel	\$919,906
Fringe Benefits	\$243,505
Travel	\$72,800
Equipment	\$15,000
Supplies	\$6,651
Other	\$237,500
Total Program	\$1,495,362
ASMFC Overhead@24%	\$358,887
Total	\$1,854,249



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FY18 Action Plan for the Atlantic Coastal Cooperative Statistics Program

Purpose

This plan is intended to provide guidance in achieving the goals of the ACCSP in FY2018 (March 1, 2018 – February 28, 2019). References within this plan are to the ACCSP 2014-2018 Strategic Plan

Please note that some of the tasks to be accomplished during FY18 are funded from outside sources.

Strategic Plan Program Goals

1. Manage and expand a fully integrated data set that represents the best available fisheries 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
7. Support nationwide systems as defined in the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

2018 Planned Program Activities: Summary

Planned activities for Fiscal Year 2018 are targeted towards operation, maintenance and expansion of commercial dealer landing and fisherman catch reporting, expansion of the data warehouse to include biological data, deployment of electronic reporting in the for-hire fisheries, and the implementation of processes designed to improve the integrity of data in the Data Warehouse. These activities include: the continued maintenance and deployment of SAFIS based fisherman and dealer reporting, expansion

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of the hand held version of the SAFIS dealer and trips reporting (SAFIS/M) systems, expansion of existing QA/QC procedures and the loading of available legacy biological and bycatch sample data.

The Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS) will be managed through the Program, but planning and execution are covered by a separate process. The Recreational Technical Committee serves as the advisory body for planning and execution of this NMFS program.

Program data staff, working with the appropriate partner staff, will maintain a 'best available' data set to be used where accurate totals are needed (an example might be Fisheries of the United States), and an 'all available' data set to be used for detailed analysis. Staff will provide a yearly matrix showing data sources and suppliers for the combined data sets as preliminary metadata.

Data Warehouse

Catch/Effort

Current data feeds will continue to be maintained and enhanced. Staff will work with program partners to improve timeliness and resolve any data issues that may arise. A routine feedback loop for data will continue to be maintained, providing partners with the opportunity to review data stored in the warehouse. Quality assurance procedures will be implemented in accordance with recommendations from the appropriate committees.

Biological Data

Progress will be made in populating the biological tables in the Data Warehouse. Based on the recommendations of the Biological Committee, staff will work with program partners to feed biological sample data sets to the warehouse where it will be loaded. Use of the new biological query interface will be monitored and adjustments made based on user feedback.

Bycatch Data

Progress will be made in populating the Bycatch data set in the Data Warehouse. Staff will work with program partners to develop and implement routine Bycatch data feeds for priority data sets as identified by the Bycatch Committee.

User Interface (Data Queries)

The new query interface will be monitored and adjusted based on feedback from the end users and research conducted by staff and the Information Systems Committee.

Goal 2 – Data Collection

SAFIS System Maintenance and Enhancements

SAFIS will be maintained and enhanced based on requirements from the program partners. Additional partners will be brought on line as needed. The Program expects to continue to develop and modify handheld versions of both the dealer and trip reporting systems, additional deployments of voluntary angler systems, and electronic reporting in federal for-hire fisheries.

A SAFIS redevelopment process will provide functional requirements for an integrated reporting system based on the prior year's visioning process. A redevelopment plan will be drafted based on these functional requirements and software development will begin.

Other Systems

1. **Lobster Allocation System (LOBSTAH)** – The LOBSTAH system will be fully deployed and in maintenance mode. Staff expect to make minor enhancements as the system and management requirements evolve.
2. **American Lobster Settlement Index (ALSI)** - ALSI will have additional functionality added to make it more user friendly and to give it the ability to perform basic summary analysis tasks.

Ensure that Data are Disseminated and Used (Goals 1, 5, and 6)

Part of the mission of the ACCSP is to facilitate the use of data and better acquaint fisheries managers and scientists with the data managed by the Program. To that end, the ACCSP plans to participate in stock assessment and data workshops whenever ACCSP data might be of assistance to the process. The program will continue to provide custom queries as necessary, and provide access to end users through the on-line query tool

Manage and Execute Outreach

Established outreach processes will continue. These include: routine automated updates for meetings, changes and/or updates in data and significant events, quarterly newsletters, data sheets detailing the status of the Program, articles in 'Fisheries Focus', and the preparation and publication of the Annual Report. Additional opportunities to get the message out to Program constituents and the public will be sought out and exploited and are outlined in the 2014-2018 Communications and Outreach Strategic Plan.

Outreach will maintain a schedule of fisheries related events, reviewing them periodically to identify opportunities to establish or improve stakeholder communications. Appropriate staff will be detailed to these events to ensure that the ACCSP is represented.

The web site will continue to serve as a primary point for providing information to the general public and casual user. The new web site will be deployed and in use providing much better mechanisms to manage the end user experience.

Regional data workshops or presentations will be conducted to provide data consumers with up to date information on the Programs progress and capabilities, and to bring them up-to-date on the data available.

Appropriate Congressional staff and key stakeholders will be kept apprised of the Program through the routine distribution of informational materials.

Participate in Data Intensive Activities

Staff will track various stock assessments, conferences, and other data intensive activities with an eye towards participating as fully as possible. Data will be provided where appropriate. This task would include the presentation of papers or posters in support of Program objectives.

Monitor Program Review Recommendations (All goals)

Implemented recommendations of the Independent Program Review will be monitored and updates provided to the Operations Committee and Coordinating Council as needed.

Manage and Execute the ACCSP Processes (Goals 1, 2, 3 and 4)

Funding Process

As in all years, the ACCSP will continue to manage the funding process, track performance on funded projects, and report to its' constituents on progress towards Program goals. Revisions to the process will be made as needed based on the recommendations from the Independent Program Review or constituent input.

The funding subcommittee will continue to meet in order to refine the funding decision process with a focus on potentially shifting some Program priorities based on current progress. Additional sources of funding will continue to be sought out to fund short term needs (such as the SAFIS redesign).

Program Standards

The Program will conduct routine reviews of standards to ensure that they are both current and relevant. In addition, the Recreational Technical Committee will be working to continue revisions to the Recreational section of the Atlantic Coast Fisheries Data Collection Standards document in order to incorporate the results of the MRIP PSE project, MRIP For-hire project and lessons learned from, the APAIS transition.

Executive Engagement

The Coordinating Council will continue to meet in order to provide Executive level managers with the most up-to-date information and provide greater opportunities for input into Program related activities.

Metrics

Metrics will be monitored. These include the collection of system usage statistics, user surveys, and data load and availability statistics. The metrics will be distributed throughout the year, but will be summarized in the Annual Report.

Support the National Fisheries Information System (FIS) and Marine Recreational Information Program (MRIP) (Goal 7)

ACCSP will continue to participate in both the FIS and MRIP programs, providing resources as appropriate to the various committees of the programs. In accordance with the MSA, ACCSP will provide data for the Atlantic Coast to the FIS when requested.

Summary List of Major Tasks

Program Area – Program Management

- **Manage the funding cycle (Director, Program Manager, Operations Committee, and Coordinating Council)**
 - Manage and follow Funding Decision Process
 - Work with finance and funding committees as needed

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

- Manage the ACCSP Process (Technical Meetings)
 - Commercial Technical
 - Recreational Technical
 - Information Systems
 - Standard Codes
 - Biological/Bycatch
- Participate in FIS and MRIP processes (**Staff and Committees as needed**)
 - Participate in FIS and MRIP processes and meetings as necessary
- Outreach and Education (**Director, Outreach Coordinator, Staff, Committees**)
 - Monitor Program Success Metrics
 - Publish relevant metrics (**Program Manager**)
 - Newsflash
 - Quarterly newsletter
 - Annual report
 - Press Releases
 - Maintain the feedback loop to gauge the success of the Program in meeting the needs of its constituents
 - Participate in face-to-face meetings to increase awareness and support of ACCSP
 - Regularly meet or communicate with policy level constituents
 - ACCSP staff attends stock assessment data workshops
 - Contact partners to receive agendas for monthly advisory committee meetings and attend those that include relevant issues
 - Participate in Council and Commission meetings as needed
 - ACCSP Director will provide ACCSP updates to Coordinating Council
 - Exhibit at appropriate venues
 - Manage media relations to encourage news stories mentioning ACCSP
 - Contact partners to be added to their press release lists and public notices and state newsletter distribution lists
 - Issue press releases when relevant
 - Maintain a media list
 - Publish in fisheries related publications and journals
 - Promote the use of the Data Warehouse
 - Clearly identify to users data available
 - Provide end-user support for use of the query interface
 - Solicit feedback to improve the system
 - Quickly respond to data requests
 - Identify opportunities to offer training sessions or workshops

Program Area – Data Management (Data Team Lead, Data Coordinators)

- Continue catch/effort data quality review and reconciliation with supplying partners (**Data Team Lead, Data Coordinators, Appropriate Technical Committees, Partner Staff**)
 - Monitor data for quality issues and reconcile as necessary
 - Review current standard codes, and make adjustments as necessary.
 - Verify ACCSP data against source data sets
 - Implement data quality processes as recommended
- Support and improve partner catch/effort data loads (**Data Coordinators, Partner Staff**)

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- Complete loading of 2017 Commercial and Recreational Catch/Effort/Landings data into the data warehouse and make it available to the end-user query interface and Fisheries of the United States.
- Continue work on identifying and loading legacy catch/effort data sets
- **Biological Data (Data Coordinators, Biological Committee, Partner Staff)**
 - Continue loading biological data sets as identified by the Biological Committee
 - Continue deployment of the Biological Query System
- **Bycatch Data (Data Coordinators, Bycatch Committee, Information Systems Committee)**
 - Begin loading legacy Bycatch data sets
 - Develop data use requirements
- Provide support for the following fisheries data intensive activities (**Data Coordinators**)
 - Stock Assessment Activities (SEDAR, SAW/SARC, ASMFC and state assessments)
 - Custom data requests
 - FUS
 - Others as necessary
- Maintain and update infrastructure (**Data Team Lead, System Administrator**)
 - Maintain existing infrastructure
 - Upgrade Data Warehouse server
 - Update software as needed
 - Acquire and deploy hardware and software for the MRIP APAIS

Program Area - Software Development and Maintenance

- Maintain SAFIS applications (**Software Team**)
 - eDR
 - eTRIPS
 - eLogbook
 - e1-Ticket
 - SMS
 - HMS
- Continue development of integrated reporting
- Deploy SAFIS mobile application
- SAFIS Auditing (**Software Team, Audit Subcommittee**)
 - Continue auditing enhancements as needed
- Maintain Simple Query Interface (**Software Team, Data Team, Technical Committees**)
- Internal Applications (**Staff**)
 - Enhance website
 - Maintain website
 - Administrative applications



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This tentative list includes dates for fiscal year 2018, including ACCSP committee meetings and relevant dates of the funding cycle. If you have any questions or comments on this calendar please do not hesitate to contact Elizabeth Wyatt, ACCSP Program Coordinator, at elizabeth.wyatt@accsp.org.

March 1:	Start of ACCSP FY18
March 6-10:	South Atlantic Fishery Management Council (SAFMC) Meeting – Jekyll Island, GA
April 4:	Commercial Technical Committee Meeting – Arlington, VA
April 5:	Information Systems Meeting – Arlington, VA
April 11-13:	Mid-Atlantic Fishery Management Council Meeting (MAFMC) – Avalon, NJ
April 13:	Operations Committee Webinar
April 18-20:	New England Fishery Management Council (NEFMC) Meeting – Mystic, CT
April 20:	Advisory Committee Webinar
May 3:	Recreational Technical Committee Webinar
May 8-11:	ASMFC Meeting/Coordinating Council Meeting - Alexandria, VA
May 11:	Integrated Reporting Workshop
May 15:	Request for Proposals Issued
May 23:	Standard Codes Webinar
June 5:	Bycatch Prioritization Committee Webinar
June 5:	Biological Review Panel Webinar
June 6-8:	MAFMC Meeting – Norfolk, VA
June 12-14:	SAFMC Meeting – Ponte Vedra Beach, FL
June 13:	Recreational Technical Committee Webinar
June 19:	Initial proposals are due
June 20-22:	NEFMC Meeting – Portland, ME
June 26:	Initial proposals are distributed to ACCSP Operations and Advisory Committees
Week of July 17:	Review of initial proposals for ACCSP Operations and Advisory Committees (webinar)
Week of July 24:	Feedback submitted to principal investigators
June 25-26:	Recreational Technical Committee Meeting – Arlington, VA
Aug 1-3:	ASMFC Summer Meeting – Alexandria, VA
Aug 14-16:	MAFMC Meeting – Philadelphia, PA
August 21:	Revised proposals due
August 28:	Revised proposals distributed to ACCSP Operations and Advisory Committees
Week of September 4:	Preliminary ranking exercise for Advisors (webinar)
Week of September 10:	FY2016 Proposal Review – Maintenance and New (webinar)
September 20-21:	Annual Advisors and Operations Committee Joint Meeting (TBD)
September 26-28:	NEFMC Meeting – Gloucester, MA

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.

October 10-12: MAFMC Meeting – Riverhead, NY
October 15-19: ASMFC Annual Meeting/ACCSP Coordinating Council Meeting – Norfolk, VA
December 4-8: SAFMC Meeting - Atlantic Beach, NC
December 5-7: NEFMC Meeting – Providence, RI
December 11-14: MAFMC Meeting – Annapolis, MD

RESUME

Michael Sheldon Cahall
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email: mcahall@comcast.net

Education:

- West Virginia University, Morgantown, WV
(Cum Laude) B.M. - Violin Performance
8/83
- Peabody Conservatory of Music, Baltimore, MD
Post Graduate (not completed)
8/84
- College of Southern MD, Leantonartown, MD
Paramedic Certificate
8/11

Skills:

Management

Experienced Project/Program Manager
Worked with widely coordinated/collaborative projects
Good personnel management skills
Able to deliver projects on time, on budget, in scope
Positive 'can do' attitude
Worked within budgets and budgeting processes
Managed IT budgets in numerous organizations
Experience in the budget formulation process

IT Related

Highly Proficient with Oracle RDBMS
16+ years of experience with Database Administration, Design, and Oracle development tools
Good grasp of database design and implementation in both warehousing and OLTP
System Administration/Management
Administered a wide variety of UNIX systems (AIX, HP, LINUX and Solaris)
Managed multiple server NT networks
Skilled with Online Analysis Applications
Functioned as Administrator and Designer
Very familiar with Microsoft Networking
10+ years of Microsoft Network design and management
Familiar with NT/Win200/WinXP networks and management
Able to respond quickly to changes in technology

Other Areas

Worked in a wide variety of subject specialties
Developed Fisheries Information Systems
Comprehensive Commercial/Recreational Data Warehouse
Commercial Data collection systems
Very familiar with Federal and DOD logistics systems (MIL 1388, MILSTRIP, FEDSTRIP)
Developed two logistics management and integration systems for NOAA/NWS
Knowledge of Supply and Logistics life cycle planning
Experience in Commercial Development

American Radiology Services – developed financial and customer tracking warehouse
Developed software to transfer data between disparate applications
Very familiar with federal Information Systems Policies
Managed Contract Efforts
Managed several large Federal Procurements
Contracting Officers Technical Representative Level II Certification
Worked with Various Medical Systems
HL/7 Communication Protocol
Managed Centralized Message System
Developed Patient Information Systems

Employment History (10 year, additional available on request):

Atlantic States Marine Fisheries Commission

Currently serving as the Director of the Atlantic Coastal Cooperative Statistics Program (ACCSP)

2/99 to 8/07

- Information Systems Manager
 - o Manage Information Systems for ACCSP
 - Manage budget, systems operations and system development
 - Manage in house and contract operations and development staff
 - Manage Development and Deployment of Fisheries Data Warehouse
 - Oracle for Solaris V 9.2, LINUX and NT (10.0.1)
 - Microsoft IIS 6.0
 - Business Objects Web Intelligence (OLAP)
 - Designed Data Warehouse for all Atlantic Fisheries Statistics
 - o Designed and Manage Development of Standard Atlantic Fisheries Information System
 - Multi-agency system includes all states on the Atlantic Coast and the NOAA/NMFS
 - Provides on-line data entry for commercial fisheries in the Mid-Atlantic and New England region
 - o Provide Technical Lead for Program
 - Serve as System Admin, Project Lead as required
 - o Assist State and Federal Agencies in advanced software implementations
 - o Consult with technical committees as required
 - o Coordinate between Program and State and Federal Agencies (NOAA/NMFS)