Atlantic States Marine Fisheries Commission

Atlantic Striped Bass Management Board

August 5, 2015
1:15 – 2:45 p.m.
Alexandria, Virginia

Draft Agenda

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

1. Welcome/Call to Order (*D. Grout)* 1:15 p.m.

2. Board Consent 1:15 p.m.
   - Approval of Agenda
   - Approval of Proceedings from May 2015

3. Public Comment 1:20 p.m.

4. Technical Committee Reports (*C. Godwin*) 1:30 p.m.
   - Fleet-specific Fishing Mortality Reference Points
   - Estimated Harvest Reduction in 2015 from Implementation of Addendum IV

5. Consider Approval of 2015 FMP Review and State Compliance (*M. Appelman*) 2:35 p.m.
   Action

6. Other Business/Adjourn 2:45 p.m.

The meeting will be held at The Westin Alexandria, 400 Courthouse Square, Alexandria, Virginia; 703.253.8600

MEETING OVERVIEW

Atlantic Striped Bass Management Board Meeting
Wednesday, August 5, 2015
1:15 – 2:45 p.m.
Alexandria, Virginia

Chair: Doug Grout (NH) Assumed Chairmanship: 02/14	Technical Committee Chair: Charlton Godwin (NC)	Law Enforcement Committee Rep: Kurt Blanchard (RI)
Vice Chair: Jim Gilmore (NY)	Advisory Panel Chair: Kelly Place (VA)	Previous Board Meeting: May 5, 2015
Voting Members: ME, NH, MA, RI, CT, NY, NJ, PA, DE, MD, DC, PRFC, VA, NC, NMFS, USFWS (16 votes)		

2. Board Consent

- Approval of Agenda
- Approval of Proceedings from May 2015

3. Public Comment – At the beginning of the meeting, public comment will be taken on items not on the agenda. Individuals that wish to speak at this time must sign-in at the beginning of the meeting. For agenda items that have already gone out for public hearing and/or have had a public comment period that has closed, the Board Chair may determine that additional public comment will not provide additional information. In this circumstance, the Chair will not allow additional public comment on an issue. For agenda items that the public has not had a chance to provide input, the Board Chair may allow limited opportunity for comment. The Board Chair has the discretion to limit the number of speakers and/or the length of each comment.

4. Technical Committee Reports (1:30 – 2:35 p.m.)

Background

- In May 2015, the Board tasked the Technical Committee to develop fishing mortality (F) reference points for the ocean and discard fleet consistent with the Chesapeake Bay F reference points.
- The Technical Committee compiled a memo that details fleet-specific fishing mortality reference points and the methodology for projecting management-level changes to reach F target (**Briefing Materials)**.
- In February 2015, upon approval of final state regulations per Addendum IV, the Board tasked the Technical Committee to estimate the reduction in harvest for the 2015 fishing season using the final state regulations.
- The Technical Committee compiled a memo that details the harvest reduction estimate for 2015 (**Briefing Materials)**.

Presentations

- Technical Committee Reports by C. Godwin

5. Consider 2015 FMP Review and State Compliance (2:35 – 2:45 p.m.)

Background

- State Compliance Reports are due annually on June 15 (**Briefing Materials)**
- The Plan Review Team reviewed each state report and drafted the 2015 FMP Review (**Supplemental Materials**)

Presentations • Overview of the 2015 Fishery Management Plan Review by M. Appelman
Board Actions for Consideration • Accept the 2015 Fishery Management Plan Review

7. Other Business/Adjourn

DRAFT PROCEEDINGS OF THE

ATLANTIC STATES MARINE FISHERIES COMMISSION

ATLANTIC STRIPED BASS MANAGEMENT BOARD

The Westin Alexandria
Alexandria, Virginia
May 5, 2015

These minutes are draft and subject to approval by the Atlantic Striped Bass Management Board. The Board will review the minutes during its next meeting.

TABLE OF CONTENTS

INDEX OF MOTIONS

Draft Proceedings of the Atlantic Striped Bass Management Board Meeting May 2015

ATTENDANCE

Board Members

Terry Stockwell, ME, proxy for P. Keliher (AA)
Steve Train, ME (GA)
Sen. Brian Langley, ME (LA)
Sen. David Watters, NH (LA)
G. Ritchie White, NH (GA)
Doug Grout, NH (AA)
Sen. David Watters, NH (LA)
Dennis Abbott, NH, Legislative proxy
Jocelyn Cary, MA, proxy for Rep. Peake (LA)
Bill Adler, MA (GA)
Bob Ballou, RI (AA)
Mark Gibson, RI, Administrative proxy
David Borden, RI (GA)
Eric Reid, RI, proxy for Sen. Sosnowski (LA)
Rep. Craig Miner, CT (LA)
David Simpson, CT (AA)
Lance Stewart, CT (GA)
James Gilmore, NY (AA)
Emerson Hasbrouck, NY (GA)
Paul Risi, NY, proxy for Sen. Boyle (LA)
Russ Allen, NJ, proxy for D. Chanda (AA)
Tom Fote, NJ (GA)
Adam Nowalsky, NJ, proxy for Asm. Andrzejczak (LA)
Leroy Young, PA, proxy for J. Arway (AA)
Loren Lustig, PA (GA)
Roy Miller, DE (GA)
David Saveikis, DE (AA)
John Clark, DE, Administrative proxy
Craig Pugh, DE, proxy for Rep. Carson (LA)
Del. Dana Stein, MD (LA)
Tom O'Connell, MD (AA)
Bill Goldsborough, MD (GA)
John Bull, VA (AA)
Rob O'Reilly, VA, Administrative proxy
Michelle Duval, NC, Administrative proxy
Martin Gary, PRFC
Steve Meyers, NMFS
Mike Millard, USFWS
Bryan King, DC

(AA = Administrative Appointee; GA = Governor Appointee; LA = Legislative Appointee)

Ex-Officio Members

Charlton Godwin, Technical Committee Chair
Kelly Place, Advisory Panel Chair

Staff

Robert Beal
Toni Kerns
Mike Waine
Katie Drew
Max Appelman

Guests

John Bullard, NMFS
Thomas Farrugia, US House Cmte. on Natural Res.
Dan McKiernan, MA DMF
Mike Armstrong, MA DMF
Mike Luisi, MD DNR
Alexei Sharov, MD DNR
Jason McNamee, RI DEM
Jack Travelstead, CCA
David Sikorski, CCA
Emily Franke, Chesapeake Research Consortium
Raymond Kane, CHOIR
Brandon Muffley, NJ DFW
Ed O'Brien, MCBA
Marin Hawk, MSC
Meghan Lapp, Seafreeze, Ltd.
Raymond Kane, CHOIR
Justin LeBlanc, NCFA
Christine Hopper, OC
Amy Price, OC
Patrick Paquette, Stripers Forever, MA

The Atlantic Striped Bass Management Board of the Atlantic States Marine Fisheries Commission convened in the Edison Ballroom of the Westin Hotel, Alexandria, Virginia, May 5, 2015, and was called to order at 2:45 o'clock p.m. by Chairman Douglas E. Grout.

CALL TO ORDER

CHAIRMAN DOUGLAS E. GROUT: Good afternoon, everybody. My name is Doug Grout; I'm the Chair of the Striped Bass Management Board. We have about an hour and a half allotted. I'm hoping we can make up some of the time that was lost via our extensive discussions on menhaden.

APPROVAL OF AGENDA

CHAIRMAN GROUT: First of all on the agenda, I have approval of the agenda.

Are there any changes or additions to the agenda? Seeing none; is there any objection to approving the agenda as written? Seeing none; we will take it as approved.

APPROVAL OF PROCEEDINGS

CHAIRMAN GROUT: We also in our briefing packets have the proceedings of our February 2015 meeting. Does anybody have any edits or changes to the meeting minutes? Seeing none; is there any objection to approving the proceedings as written? I will take that as unanimous consent.

PUBLIC COMMENT

CHAIRMAN GROUT: Item Number 3 is public comment for items that are not on the agenda. We don't have anybody signed up, but I just want to check with public. Is there anybody that has public comment for things that are not on this agenda?

TECHNICAL COMMITTEE REPORT

PRODUCER AREA REFERENCE POINTS

CHAIRMAN GROUT: Okay, Item 4 is the technical committee report from Charlton, our Technical Committee Chair. He is going to be talking about our progress report on producer area reference points.

MR. CHARLTON H. GODWIN: The first presentation we're going to go through is the progress on fishing mortality for the reference points for the Chesapeake Bay, Delaware and the Hudson River. Just as an update, January 2015 the technical committee reviewed options for developing fishing mortality reference points for the Chesapeake Bay and recommended a suite of options for further analysis.

At our March 2015 meeting we reviewed these analysis for Chesapeake Bay plus discussed the feasibility of developing fishing mortality reference points for the Delaware Bay and Hudson River spawning stocks. Just as a reminder, due to minimal mixing with the coastal migratory stock, the Albemarle/Roanoke stock has had fishing mortality and spawning stock biomass reference points for a number of years.

We had three basic general options that we have looked at; and we've kind of gone over these some for developing these reference points; some suite of options or the yield-per-recruit based models. The other option was a tag-based fishing mortality reference point; and then the third one was the statistical catch-at-age-based model, so that is just using our current SCAA Model to pull that reference point out.

Just going over the yield-per-recruit models, the analyses resulted in relatively stable estimates of F over time fishing mortality, which leads to the harvest control model which is used to set the Chesapeake Bay quota being driven by exploitable biomass, which in turn has basically

resulted in when we back-calculated what the quotas would have been using this method; there was an extreme – you know, a lot of interannual variance between the quota.

It wasn't a very stable quota. This is not really desirable to the industry or to management. This method also creates a disconnect between the methods used to assess the Chesapeake Bay and the coastal fleet as far as the fishing mortality; so it is outside the methodology used in the statistical catch-at-age model. That was kind of a drawback for this model.

The tag-based reference points; these used tag-based estimates of fishing mortality for Chesapeake Bay and compare to an empirical target. We looked at several different methods and different analyses for this. The technical committee explored looking at the time series of F in the Chesapeake Bay to the Maryland Juvenile Index lagged by several years. That produced a fairly weak relationship.

The approach also suggested no negative impact of fishing mortality on juvenile recruitment. Back-calculating of the quotas with this method also led to significant interannual variation in the quota. This method is also quite a bit different than the statistical catch-at-age model, and it would lead to that disconnect of comparing the F in the Bay to the statistical catch-at-age model looking at the coastal F.

The third option was the statistical catch-at-age-based fishing mortality reference point. The idea is to use the Chesapeake Bay Fleet component from the coast-wide fishing mortality reference point from this model as a target and threshold, if desired. We would use these estimates of the Chesapeake Bay Fleet specific fishing mortality, which is something that is already produced in the model, to assess the overfishing status and this would allow that to be used to set the quota using the harvest control model.

The analysis showed the ratio of the Chesapeake Bay Fleet F and coast-wide F has been fairly consistent over the time. The recruitment and removals have been fairly stable over the last ten or fifteen years. The analysis that we looked at using this methodology also showed that the Chesapeake Bay F has declined slightly in recent years compared to the coastal F.

One of the advantages of this, the Chesapeake Bay Fleet fishing mortality in the SCAA Model represents the impact of the Chesapeake Bay on the entire population and not just the Chesapeake Bay stock. That is something to keep in mind. Maintaining the Chesapeake Bay Fleet fishing mortality at the target should ensure the impact of the Chesapeake Bay Fleet on the entire population is sustainable.

At the meeting we did come to a consensus for the methodology to use. We recommend using the statistical catch-at-age option. As another couple of points, the fishing mortality estimates from this are based on total harvest and age structure specific to the Chesapeake Bay. The Chesapeake Bay Fleet fishing mortality would be directly related to the coastal fleet F, which provides consistent management matrices to compare these to. The risk of overfishing is relatively low because the Chesapeake Bay F is tied to the coast-wide F, which is generally thought to be conservative.

What that means is we've got the F set for the coast-wide F equals to a fairly high spawning stock biomass; so it is generally thought to be a conservative F. Some other things to keep in mind if moving forward with this; this would also require a recalculation of the coast-wide fishing mortality reference.

If you separate the Bay F out from the coastal F, then that coastal F will have to be recalculated accordingly. In order to use this in the Harvest Control Model to set the Chesapeake Bay quota, it would require annual updates to that model to recalculate the annual quota. That's it for the Chesapeake Bay.

Moving on to the other charge that the management board gave at the last meeting was to look at the possibility of developing reference points for the Delaware Bay as well as the Hudson River. The technical committee reviewed tagging data for the Delaware Bay. This was a fairly rough review of this; but the data revealed 32 percent of tagged fish are recaptured within Delaware Bay; 23 percent recaptured with Chesapeake Bay.

Overall the technical committee thinks it is a viable option to develop a Delaware Bay fishing mortality reference point using the same methodology; so we would add the Delaware Bay Fleet to the statistical catch-at-age model and then use the same methodology as the Chesapeake Bay F with the SCAA Model.

Moving to the Hudson River, the technical committee also reviewed tagging data for the Hudson River. The data revealed that 70 percent of tagged fish are recaptured on the coast or at least in Long Island Sound. Fish appear to have a shorter residency time within the Hudson River compared to fish in the Delaware.

It would be very difficult to set a boundary line to demarcate the Long Island Sound and New York Bight in order to create a fleet within the statistical catch at age as far as separating out catch. The technical committee felt at this time it is not a viable option to calculate a separate fishing mortality reference point for the Hudson River within the same methodology framework that are talking about for the Delaware Bay and Chesapeake Bay within that statistical catch-at-age model.

So just a couple of slide on just general conclusions for each one of these areas; the technical committee concluded it is a viable option to develop fishing mortality reference points for the Chesapeake Bay using the statistical catch-at-age approach. Because the Chesapeake Bay is an existing fleet within the model, it was felt that it would be within the scope of an assessment update to develop this reference point and the coastal fleet reference point.

For the Delaware Bay; the technical committee also concluded that it would be a viable option to develop an F reference point for the Delaware Bay using this approach. However, because the Delaware Bay, that harvest in there is currently contained as part of the coastal fleet within the model, it would be outside the scope of an assessment update to develop the Delaware Bay reference points at this using this methodology.

The technical committee can continue to explore incorporating a separate Delaware Bay Fleet, much like what is in the model now. We'll just add a Delaware Bay Fleet in the next benchmark assessment; and that should allow the development of the Delaware Bay fishing referent point. For the Hudson River reference point, the technical committee concluded it is currently not possible to derive a fishing reference point for the Hudson River using the statistical catch-at-age methodology. Fish spend very little time within the Hudson. Most exploitation occurs in the ocean where they are part of the mixed coast-wide stock; and geographically there is just no easy way to demarcate Long Island Sound and the New York Bight. With that, I'll take any questions.

MR. JOHN CLARK: Thank you for the presentation, Charlton. I just had a question about some of the language you had on the slide and in the memo about the Delaware Bay reference points. You talked about exploring and incorporating separate Delaware Bay reference points in preparation for the next benchmark. Is the idea here to have a method ready to go for the next benchmark assessment to work Delaware Bay reference points in or are we still going to be exploring this when the benchmark is actually underway, the next assessment?

MR. GODWIN: I believe the idea at this time is to continue looking at incorporating the data now; and at the next benchmark it would be

able to incorporate into that benchmark process.

MR. CLARK: So you're confident that it would be possible to incorporate this into the next benchmark assessment?

MR. GODWIN: Yes, sir; we believe so.

MR. DAVID V.D. BORDEN: Mr. Chairman, I'm just kind of curious. The requirement for annual assessment updates for the Chesapeake; how much of a burden is that going to place on the staff and the technical committee?

MR. GODWIN: Well, currently we are providing data each year through our compliance reports; so it would be a matter of having to rerun an assessment update each time. As you remember, we used to run an annual assessment update every year. Of course, it is going to take that amount of staff time. I mean, it is fairly time-consuming, especially if the tagging model gets updated as well. I guess the management board can decide on staff time for that.

CHAIRMAN GROUT: I have a question along those lines. Would it be possible to have a turn-of-the-crank assessment to set these and then set the reference points for, say, two years or for a period of time? It wouldn't be as precise as doing it every year; but something like that where it wouldn't be – it would be almost like setting specifications except for the reference points.

MR. GODWIN: I think that it would be certainly possible to set during the – I think currently the assessment timeline is do a benchmark and then every two years do an update. I don't know that it would be feasible using that particular harvest control model, but there certainly are ways that they currently do that I think with some other species where they set the quota for a couple of years at the time and go to through two years to that update. It would be a slight change from the way that the Bay has been estimated with the harvest control model; but it is something that is used on other species.

MR. THOMAS O'CONNELL: Thanks for the technical committee's work on this. As you know, it has been a priority of the Bay jurisdictions and this board to get to this point. I appreciate the time the technical committee has devoted given other workload issues. Before we conclude this agenda item, I would like an opportunity to maybe put a motion on the table. I'm trying to get a sense of – obviously, there is an interest to move forward with Chesapeake Bay reference points.

It was actually the motion made by this board in October of 2013 to initiate Addendum IV to establish reference points for both the Chesapeake Bay and the coast. There was also an action plan for 2015. I'm trying to get a sense of the pathway forward. Obviously, if we proceed with Chesapeake Bay reference points, it suggests that we have to back and look at what the coastal reference point means; and depending on how those move up or down, it could result in having to modify management.

One question I have for Charlton is how long would it take to develop those separate reference points for the coast and the bay and trying to think about that pathway versus asking the board to proceed with an interim Chesapeake Bay reference point and wait for establishing the coastal reference point at a later point in time? I'm trying to get a sense of that pathway forward.

MR. GODWIN: To kind of separate out a reference point for the Chesapeake Bay using the statistical catch-at-age model and then likewise have a coastal reference point; that could be done at the upcoming assessment update that is planned for this summer. That would be fairly straightforward.

MR. O'CONNELL: So that could be reported out in August, when you say summer?

MR. GODWIN: No, sorry, the data for the assessment update I believe is scheduled for this year with data through 2014. That data is due to ASMFC by the various states – June 15th I believe is the deadline. In years past that assessment update has been completed and provided to the board at their October or November winter meeting.

DR. KATIE DREW: But we could provide the reference points sooner than that. It is an easy calculation.

CHAIRMAN GROUT: I overheard another comment.

MR. GODWIN: Dr. Drew says we could provide the reference points even earlier than that for the calculation; before that board meeting in October.

MR. O'CONNELL: Is it possible to have it at the August meeting? Obviously, there is an interest if we move forward to have the option to make changes for 2016; so having it for the August meeting is pretty critical. I'm trying to assess if that's possible or not.

MR. GODWIN: The reference points could be provided, but the projections are a little more tedious and would take more time.

MR. O'CONNELL: And just one follow-up question. I don't know if you'll be able to answer this question or not; but it has been going through my mind that if the board was supportive of going forward with the Chesapeake Bay reference points but leaving the coastal management in place, do you have a sense of the level of risk to the resource or achieving the fishing mortality target that we are working towards through Addendum IV?

MR. GODWIN: It is possible that we could have those calculations done at the August meeting. We do not know now exactly what that risk would be; but it is possible we could do those calculations and have them ready for the August meeting.

MR. MARK GIBSON: Charlton, you said that the Chesapeake Bay Fleet accounts for the entire Chesapeake Bay fishery; whether it is in Maryland and Virginia jurisdictions, resident fish, migratory, trophies. Whatever is going on down there; that is where that fleet is constituted, correct? Okay, you also said that in the first approach you tried, the calculations gave widely varying quotas.

I'm thinking, well, that is because you're dealing with a serious of recruitment events, and that is the available spawning stock biomass for the resident or the non-migratory fish? I'm trying to understand the difference between the Chesapeake Bay Fleet in the SCAA Model, and that first approach you tried to gig the widely varying estimates.

DR. DREW: You're correct I think in that basically they were trying to input an F into the model whereas before the harvest control model was more focused on maintaining a constant F; so it was less about inputting a specific F than more about inputting sort of a change in F, where that change in F was minimal to keep you close to the target.

So that resulted in a more stable quota, which I think is sort of the approach that the statistical catch at age combined with the harvest control model would do; that you've measured the F in the fleet; and once you were presumably at your target, we'd verify that through the statistical catch at age and then minimize the change in F to give you a constant F over time, which generally resulted in a more stable quota.

MR. GIBSON: Follow-up, Mr. Chairman. Yes; I mean I would expect in the HCM, given that recruitment strength can vary quite a bit, then the exploitable biomass is going to vary quite a bit. My concern is that there must be – under the approach the technical committee is offering, there seems to be there must be, for lack of a better word, some buffering going on somewhere; so that in reality there is varying biomass to be exploited but the quotas are not going to vary that much means the fish are going to be taken from somewhere else.

I just want to make sure that when you come back – you know, if we go down the road Tom is suggesting; that you be ready to talk to us about that, as to how that is going to happen in terms of risk not only to the Chesapeake Bay Fleet but coast-wide stock. It seems like the biomass has to add up somewhere. It has got to come from somewhere or go somewhere.

MR. ROB O'REILLY: I concur with Mark Gibson about the HCM and exploitable stock biomass; but the variability – I think the last time around that we had the harvest control model, output was 2013 for 2014; and I think that's where 14 percent was fairly substantial. Most of the other times the variability even with the Harvest Control Model was not substantial as that.

But I did want to ask about tagging; because I'm not quite sure what role tagging will play. This is sort of an open question that it seems as if we have the SCAA as the tool to go forward for Chesapeake Bay reference points, we have our tagging programs. I learned the hard way several months ago that because we have commercial discard estimates, the tagging programs are important there.

As you're going to hear a little bit later, there has been some modifications in Virginia in the tagging program; but does the technical committee and the tagging subcommittee, perhaps, still think that the tag-based estimates are going to useful, especially maybe to corroborate, if possible, what the SCAA says about these approaches and these annual updates.

MR. GODWIN: Well, I think, Rob, as you did mention, we are going to look at some changes to the tagging program in Virginia that could potentially provide greater data about migration at various sizes, maybe some of the smaller sizes. The tagging models, currently the Z's, the total mortalities from the tagging models are comparable with the statistical catch at age.

The disconnect with the tagging models is the mortality. It is much greater than what is calculated in the statistical catch at age, which makes the F a lot lower. There are some issues to work out with that part of the tagging, but I think overall the tagging does still provide useful information as to overall mortality and I think maybe provide some useful information. Especially moving forward if eventually we want to try to get to sex-specific, area-specific models, I think that will be useful.

MR. GIBSON: Mr. Chairman, I just have two other points. Again, back to the workload issue; it is not clear to me that in our priorities or in our board plan that we could turn this around on an annual basis; so I would leave that to you and others to think about whether that is feasible or not. I know what kind of work has to be done in the weeds and the boots on the ground to age striped bass and compute abundance indices and do all those things that need to be done. I'm concerned about that.

The other question I wanted to ask is on the proposal for the Delaware Bay, is it true that as you add more and more fleets to this model you start to dissipate the information content in it; and as we start to have so many pieces, they really don't fit together anymore versus with the model we right now, which is working pretty well? Do you have concerns about that as you continue to break out things on a finer and finer scale, it is going to start to break apart?

DR. DREW: That is definitely an excellent question; and I think it depends on sort of the quality of the data that we have. I think you can imagine a situation in which if we have excellent quality data from the Delaware Bay and they're doing something slightly different from the rest of the coast, pulling those two out separately is going to make the model have more room to be more specific and not have to average over those two different trends.

But, if the Delaware Bay data aren't as good; for example, low sample sizes, if we have a hard time distinguishing what is actually coming from the bay versus what is coming from the coast, those sorts of things, which we haven't really looked into and I think which would be part of our preparation for the benchmark, to kind of evaluate the quality of the data to support a Delaware Bay Fleet. It is true that if the data quality are poor; that is going to reduce the performance of the model and add more uncertainty into the model.

MR. O'CONNELL: I'm trying to wrap my head around the pathway forward here, but we've made this a priority for almost two years now. I'm tempted to put a motion on the table. **I guess I will put a motion on the table for discussion; move to initiate development of an addendum to establish a Chesapeake Bay fishing mortality reference point consistent with the technical committee's Option 3, statistical catch-at-age-based reference point, and the management options to achieve this reference point.**

CHAIRMAN GROUT: Do we have a second? Rob O'Reilly. Discussion on the motion? Tom, you get first crack.

MR. O'CONNELL: I understand that this board is probably looking for some more information to be gathered by the technical committee and PDT prior to the August meeting; but I think from our perspective we've waited a while to get this information. I think it would be beneficial to get the process started. I'm open to the conversation of this motion just to hear what other board members have to say about that.

MR. GIBSON: I appreciate Tom's effort to move this along. My concern is that I don't know the companion piece. I'm really not understanding what needs to be done to the coastal reference point in order to sync up with this. That is what I was understanding is it said in the report that there would have to be recomputation done. What does that involve and how do you make sure they balance together? The concern is about doing this in a piecemeal fashion.

DR. DREW: Essentially once we have calculated the Chesapeake Bay reference points; the coastal reference points and the discard fleet reference points are already implied. They're already set. Because we are not changing the allocation of fishing mortality between any of these components; we're just relying on what the allocation has been in the most recent time period for these different fleets to allocate how much F of this total F that the stock can sustain that will give us our target; how much of that can go to the Chesapeake Bay, how much of that can go to the coastal fleet, how much of that is taken up by the discard fleet.

Those calculations, as I said, to establish the target would be minimal. The longer I think more complex question is then how do you calculate the reductions necessary to get to that target with multiple different fleets taking multiple different reductions? I think it is more complex than the projection model currently is set up; and it is getting closer to issues of allocation in terms of – because they all feeding on the same stock; so taking catch from one place is going to change the F that the other stock sees even if you don't change that F because fish are either added to the population or fish stay in the population.

MR. THOMAS FOTE: I guess this doesn't get me where I want to really be where I can actually assign how much the Delaware River, how much to the Hudson River and how much to the Chesapeake Bay stocks are actually contributing to them. That is the real problem that I've been looking at for 25 years is especially since the increase in the Delaware River stock – when we first did this plan, it was very small and now it has become a major part of it and yet we're not allocating in the mortality.

It also would give us a better idea of what stock is in trouble and what stock is being different. If we know that the Delaware stock is actually going up and the Hudson River is remaining the

same, then what is the problem with the Chesapeake Bay stock? And because they have different migratory patterns than we know the Hudson River; I don't know if the tagging studies have proved exactly how – I know there is a lot of crossing of the Delaware stock, but I don't know exactly how they migrated along the coast much differently than the Chesapeake or the Hudson River stock.

Those are the things I'm looking at and basically coming to some kind of conclusion so when we do the next striped bass go-around, we look about if we're going to target where the problem is; that is what we should be doing. If it is concerns that a certain fishery that is causing maybe the young of the year in that fishery for the first year, but then they don't survive past the first and second year in that particular locale, then we need to address those problems. That is what I was looking for when I basically brought this up getting back to the producing area status for all three areas that we know we don't have under the present plan.

DR. MICHELLE DUVAL: Mr. Chairman, I'm with Mark Gibson a little bit in that I'm having difficulty wrapping my head around this somewhat. I support the bay jurisdiction's efforts to try to get to some satisfactory resolution. The calculation of bay reference points will not change the reference points we've already established for the coastal fleet, if I understand what Katie has said?

DR. DREW: I wish he had come up with a better name for this because this is the confusion. What the technical committee provided through the stock assessment was a set of reference points for the coast-wide meta-population of striped bass; so the entire stock of what we consider the striped bass stock that we manage, which we know is made up of multiple smaller stocks; the Chesapeake Bay stock, the Hudson River stock, the Delaware stock.

The North Carolina stock is separate and is not included in that; but you have this meta-population and we provided reference points that would ensure that all of these different fisheries operating on this meta-population would be sustainable in the long run. What the Chesapeake Bay is proposing is to start splitting those reference points out by fleet; so we have the Chesapeake Bay Fleet and we have the fleet that operates in the non-Chesapeake Bay areas.

Again, to Tom Fote's point, which is absolutely correct, is these are not reflecting stock-specific reference points the way we consider a biological stock unit. They are proxies for the behavior of fleets because we do not have enough information to model these stocks separately. We're only modeling a single meta-population of striped bass on the Atlantic Coast.

If we go to the Chesapeake Bay reference points; that automatically implies a reference point level for the coastal fisheries. So for non-Chesapeake Bay fisheries, they could be held to another set of reference points that would divvy up that F basically between the Chesapeake Bay and the coast and the discards if we're getting down to kind of that specific of a level so that all three fleets would combine to reflect this larger coast-wide reference point that we already recommended; but it would imply a different set of reference points for the coastal fleets compared to the overall population reference points that we recommended through the stock assessment.

DR. DUVAL: Okay, that clarifies things because it wasn't exactly clear to me that – I mean, I understand it is not just like a simple subtraction issue and that we're modeling fleets; we're not modeling different subpopulations or anything like that. Then I guess I share of the concerns about annual updates and annual projections and the work that creates for staff and also I guess the potential for instability in what we have to do here.

MR. O'REILLY: Mr. Chairman, just a couple of things. Based on what I've heard from Dr. Drew and also Charlton, it seems that we're just

seeking a continuum that we had since 1995 in the bay. With Amendment 5 we had reference points for the bay. They certainly were not as representative as the statistical catch at age is going to be able to develop. We've already had some interim looks at what they are; so we're really not asking for anything new. We're just asking for the Chesapeake Bay to have those reference points. That has been the contention since October of 2013.

Now, the difficult part I understand, the reduction end of things, so I understand that; that is sort of a facet of this that could, with the different fleets, be problematic at first. But it would seem that is going to have to be done at some point, perhaps once we get through the current management framework that we have in place now, anyway.

The other part of this I think is that we know that Delaware Bay has some interest as well; and that can be facilitated, as you've indicated, through the next benchmark. So sooner or later we have to address the hardest part of what I've heard mentioned today. The rest I see as pretty much status quo management.

As a matter of fact, the harvest control model I agree should be improved by the fact that the F will be seeded by the statistical catch at age as opposed to the way it has been done for the last 20 years or so. I guess my question is are we really changing things that much when you look at the 20-year process that we've had; and, of course, the baywide quota was 1997, so a little less than 20 years.

I also wonder are really throwing up a brick wall about the ability to do an annual update when once we see the first results of this, maybe the board doesn't think an annual update is necessary. After all, we're sitting here under either a 20.5 percent reduction or a 25 percent reduction; and we're going to be sitting here for a little while longer without an update. So I just want to be sure that if there are obstacles; that they're realistic obstacles. I think I have heard it said before than annual update could be done if necessary. So I guess maybe part question, Mr. Chairman, part comment; but those are the situations the bay is looking at.

MR. G. RITCHIE WHITE: I guess I don't see how this gains any time if we to wait until August to get data to proceed. I guess I don't understand what we're gaining by doing this now and not waiting until August, number one. Number two; I guess I want to see what comes forward at the August meeting. If I'm understanding this – and I'm not sure I do – that this really could be a reallocation; am I correct in that?

DR. DREW: The reference points were designed so that there is not a reallocation. I think you could imagine reference points where – it is a spectrum. You can imagine the coast gets to take all of the fish and the bay gets none or the bay gets all of the fish and the coast gets none and you could still have a sustainable population.

Somewhere in the middle is presumably where the board would like to end where both the coast and the bay are able to take fish from this population. There is a whole spectrum in there that the technical committee has not gotten into at all and we've relied strictly on the most recent I think five years of data to look at how that F has been split between these different fleets. There is an allocation question if the board would like to pursue that; but that is beyond the scope of what the technical committee provided.

MR. WHITE: If it is not potential reallocation, what is the benefit to the Chesapeake Bay to do this?

DR. DREW: I think you would have to ask the bay what they perceive the benefit to be.

CHAIRMAN GROUT: I'll let the maker of the motion respond to that.

MR. O'CONNELL: It is interesting the comment about reallocation because from the bay jurisdiction's perspective that is exactly what

happened with Addendum IV. If you look at the fleet-specific reference points, you will see that the Chesapeake Bay fishing mortality has been relatively constant to decreasing over the last decade and the coastal increased.

Actually with the coastal fishery alone, in six of the last ten years that exceeded the F target; so by blending it all together the bay jurisdictions and our stakeholders feel like we're taking a greater burden of that situation. Our interest is to establish these reference points and hold us accountable for our fishery.

We assume that there is still going to be some reductions needed but perhaps not to the degree of 20.5 percent. Separation of the reference points was the main reason for establishing Addendum IV; so it has been a priority of this board. There have statements from this board and the technical committee that management would benefit from separating these reference points out. Whether this motion passes today or August, I'm a little concerned that if it gets punted to August we may not be in a position to implement plans if approved for 2016. That is our interest at least from Maryland's perspective.

MR. FOTE: Now that Tom opened up that can of worms, this is the worm I've been going at all along. The fact is when you calculate for the Chesapeake Bay, you basically use that as the only producing area and basically doing the F and the regular coast. Now, that was fine when the Delaware River was only contributing 5 percent to the coastal migratory; but as we've seen some of the studies right now, the contribution of the Delaware River is a larger portion of that.

What is going on outside of the Chesapeake Bay, it might be the Chesapeake Bay that has had serious problems where the Delaware River and the Hudson doesn't; and we are basically letting them not take the same reduction as the 20 point percent that came out; and we're taking 25 percent in the other producing areas as whole; so you can basically use that – and that is where my concern is. It is not allocation but how you use that and basically taking that mortality and using it against the Chesapeake Bay for the other two jurisdictions.

If we're doing it the way you're doing it, if you look at that as the only – and we don't get to count them as producing areas; so you use an exaggerated producing area F value because you're taking everybody else into consideration since we're not supposed to be fishing on the spawning stock biomass in the producing areas and we count them as coastal migratory stock where you basically are fishing coastal migratory stocks and then pre-spawners because you get the double dip in there.

There are a lot of things going on that I've been looking at for the last 20-something years as how we do this, and I'm trying to get it where we basically make a decision so maybe we should have stayed at 25 percent in the Chesapeake Bay if that is the stock that is in trouble or the stock that is contributing to less fish migrating up and down the coast at a particular time. We can't figure that out unless we actually have the science to do that; and we've been postponing that decision for 20-something years.

MR. GIBSON: Mr. Chairman, I'm sorry I'm challenging your attempt to make up time, but it is an important issue. The only way I could support this motion is if I knew I was going to go home very confident that the management measures we just passed through an agonizing process if the coastal measures were not going to be weakened.

That is the percent reduction in F estimated for one fish at 28 option and its 50 percent probability of attainment; neither those were going to be reduced as a result of what might come out of this process. We just can't have that happen. It took too much to get to that point; and I'm not hearing commentary here that is giving me good feeling about that.

In fact, what I just heard from Tom was that there is some perception that they've been giving up too much for too long. Well, you can't get more unless somebody else gets less. I mean, that is just the way it is. I'm not hearing that I could support this motion at this time.

I might be able to consider it in August if the technical committee came back and told me exactly how this balancing of the reference points was going to happen and it was going to happen in the context of what we just did is going to remain intact with the past action.

MR. EMERSON C. HASBROUCK, JR.: Mr. Chairman, being relatively new to this commission, I don't have the history on this that many of the other commissioners have. My question is if we previously had Chesapeake Bay fishing mortality reference points and we don't have them now and there was a reason why we didn't develop them in this last amendment that we went through; so why is it that we don't have them now and we had them before and has anything changed since last August that is going to allow us to now calculate them?

DR. DREW: The reason we don't have them now is because they were not a product of the last assessment. The way they were calculated before, I think the technical committee had some concerns that they were not calculated appropriately and they resulted in values that were too high. I think even the Chesapeake Bay would agree that those values were too high in that their harvest control method never used those values directly and in fact tried to keep F at a much lower level.

I think part of the problem was that they were – well, they were not calculated correctly and they were too high to be sustainable. So going forward, the technical committee as part of this assessment process provided the coast-wide reference points because they accomplished what the Chesapeake Bay reference points had originally intended to do, which was to take into account the fact that the Chesapeake Bay does have a different selectivity pattern.

They're fishing on a different component of the stock than the entire coast-wide fleet. The technical committee also had concerns about these reference points not really reflecting a biological stock-specific reference point. The reference points that we provided were consistent with the way the assessment was done and they provided a way for the entire fishery on the Atlantic Coast to operate in a sustainable manner on this coast-wide meta-population of striped bass.

They were never part of the assessment process and they were never peer reviewed, so they went into the amendment process without – we went forward without those reference points. The board has asked us to continue to work on this issue, which as you can tell from the amount of time it has taken the technical committee to do this, it is not an easy task.

It is a complex task that frankly we're missing a lot of important data to be able to give biologically reasonable stock-specific reference points; so we've fallen back on this proxy concept. The short answer is the way it was done before was the technical committee did not believe that was appropriate and it has taken us time to develop an acceptable proxy going forward.

MR. BORDEN: Mr. Chairman, I'm not comfortable with the motion for a whole number of reasons and I won't repeat everything that everybody has said. I have no personal objections to moving forward with developing this and then reporting at the August meeting. If it stays this way, I'll vote against it. If Tom and Rob want to remove the commitment at this stage develop an addendum, then I would vote for it. Thank you.

CHAIRMAN GROUT: Further comments on this motion? Seeing none; we'll take a vote on this. I'll give you 30 seconds to caucus.

(Whereupon, a caucus was held.)

CHAIRMAN GROUT: Are we ready to vote on this? Rob, we're in the process of voting; what is your point?

MR. O'REILLY: You were about to vote I think. My point was is there a chance to ask for a tabling this motion until August? We've listened to the sentiment of the board and it can be something – the technical committee will have that information by August. We can either let this die now or we can table it; and we prefer to table it. I would make a motion to table this before the vote is taken.

CHAIRMAN GROUT: We were already in the process of voting on this and I think we should vote this up or down. Clearly, if this goes up, it will work in your favor. If it goes down, then there is nothing that prevent this board from bringing that same motion at the next meeting. We could also task the technical committee with coming up with a reference point. I think we were at the point of taking a vote. I had asked if there was any further discussion on this, Rob.

I don't mean to cut you off and I know that is your intent, but it was kind of at the last moment after we were ready to vote. I'm going to take the vote on this. **All states in favor raise your hand; all those opposed; abstentions; null votes. The motion fails five to nine to two to zero. We have defeated this motion at this point.**

Is there any objection from the board to tasking the technical committee to develop the bay reference points as well as the revised coastal reference point? I assume you probably have to revise the tagging reference point or the tag-based fleet, too – to come up that and provide it for us at the August meeting. Is there any objection to that? Seeing none; we've tasked the technical committee with that and we'll bring it back at the August meeting. Ritchie White.

MR. WHITE: Just a question as to timing; because the discussion earlier was they might be able to get it to August; so adding the coastal reference points, is the technical committee still comfortable in being able to do this for the August meeting?

MR. MICHAEL WAINE: What we were discussing up here was whether the board wants to see what the reference points would be or whether the board wants to see what the reference points would be as well as what the projections would be to achieve those reference points if they were separated? Those are two separate tasks that obviously require different time commitments.

CHAIRMAN GROUT: Any discussion on that? Tom.

MR. O'CONNELL: From my understanding, the board is interested in the latter of what Mike just said. I understand that wouldn't be available by August but could potentially be by the annual meeting, if I understood that correctly. Ultimately it seems the board is wanting to know what management changes would affect us achieving that target fishing mortality that we've worked so hard to implement plans for this year. I think ultimately the board is looking for the latter part of that information, which puts us into the annual meeting.

CHAIRMAN GROUT: Is that the case is if we were going to go for projections, we're talking about the annual meeting?

DR. DREW: Yes; I would not be comfortable saying that we could guarantee that we could have it by August. To do the projections requires a significant change to how we have set the projections up and that we would be treating these as all separate fleets and sort of adjusting those reductions within the projection model is much more complex than assuming sort of this overall reduction that everybody shares equally. It is a much different and more complex situation. In addition to the fact that

we are doing an assessment update in hopes of presenting that at the meeting as well; so I think the annual meeting would be a reasonable timeframe.

CHAIRMAN GROUT: Would the board like to see the reference points in August and then the projections in the November meeting? Any objection to that? Rob, you had a question?

MR. O'REILLY: That was my request, exactly.

REVIEW OF VIRGINIA'S TAGGING, MONITORING AND SEINE PROPOSALS

CHAIRMAN GROUT: Any objections to that? Seeing none; we have tasked the technical committee with this. The next item on the agenda is the technical committee report, a review of Virginia's tagging, monitoring and seine proposals. Charlton will have a brief presentation on this.

MR. GODWIN: We reviewed a couple of proposals. One was for Virginia's tagging and monitoring programs and another is for a seine-calibration proposal relative to the Juvenile Abundance Index in Maryland. Virginia's Adult Striped Bass Surveys of Abundance in tagging programs have been ongoing since 1987.

They've been conducted by the Virginia Institute of Marine Resources in conjunction with VMRC. They include a pound net survey in the Rappahannock River and gillnet surveys in the Rappahannock and James Rivers. The pound survey occurs in the Rappahannock River; and that is used an Index of Abundance in the stock assessment.

The fish that are tagged in that survey are also used in the coast-wide tagging programs. No changes are proposed for that part of the survey. Currently the gillnet survey in the Rappahannock and James Rivers has a 24-hour soak time. Fish are not tagged from this survey due to the 24-hour soak time. The Index of Abundance that is produced from that survey is currently not used in the stock assessment because it doesn't track well with the changes in stock abundance.

The gillnet survey proposed changes would be to eliminate the 24-hour soak time and initiate a shorter soak time set survey, so this would be from 30 minutes to 2 hours; expand the gillnet survey into the York River. The shorter soak times will allow tagging in the James and York Rivers. Tagging results should be more reflective of the multiple spawning stocks found in the Virginia portion of the bay. Once again, expanding that monitoring into the York River may track stock dynamics better, which will allow inclusion – potentially could allow inclusion of that index in the stock assessment once they've had a few years of survey data.

The general technical committee comments and suggestions – and this kind of gets to the point earlier that Mr. O'Reilly was with the tagging and it is still important for tagging – consider tagging smaller fish than the legal size as this information may be more important for looking at migration rates for stock-specific reference points, especially if fish don't migrate in its smaller sizes.

There was also a comment that the upper end of two hours for the soak time may be too much and the fish that enter the nets may not be in good condition for tagging; so the recommendation was to use a shorter soak time instead. Be aware of the different selectivities between gear types, foreseeing differences in catchability.

This could be due to different gear types or due to availability of fish in different rivers. If possible, allowing the start of the survey with water temperature instead of a set start date. We found out that they have their start date kind of set because of some other commercial regulations in that area; so that wasn't really an option. Overall, the technical committee approved those proposed changes with the above suggestions.

Moving to the Virginia and the Maryland Seine Calibration Proposal; we'll give you the background and need for this. Once again, VIMS and Maryland DNR conduct the annual finfish juvenile abundance surveys throughout the Chesapeake Bay. This, of course, is used in the striped bass assessment, but it is also used in monitoring several other finfish species in the bay.

Sampling is done at fixed stations using a hundred foot beach seine. The net material that has been used to make this beach seine is no longer available. Therefore, comparison studies need to be made to determine if there is a significant difference in the catch of the old versus the new seine net. Part of this calibration study will include side-by-side sweeps using the seine nets constructed with the new material and the old material to calculate the calibration factor or to determine if one is needed.

Also, two block net studies will be conducted to estimate relative catch efficiency of the new mesh material compared to the old mesh material. The block net studies will have a known number of tagged hatchery fish introduced to determine catch efficiency of these nets. So just some general comments and suggestions that the technical committee has, which were noted in our memo.

There was some concern about some tag shedding; and it may be appropriate to call it a mark and so this little small elastomer marks that are used on these fish, so literature-based tag retention estimates would need to be incorporated into the analysis to account for this. It was also suggested by a technical committee member that a hatchery pond could be used instead of the block net survey – the in situ block survey to eliminate some variability.

This would also eliminate the need for tagging because you would have a known number of fish in your hatchery pond as opposed to setting the block net study. Some of the comments from the folks putting up the proposal it may be okay for striped bass but may pose some problems for other species. The proposal is also aimed at the study and it may not capture any variability in the catchability due to the turbidity and tidal conditions; so it would just be less of a natural setting. A lot of these areas are influenced by the tidal conditions of the bay; and that would be lost if you used a hatchery pond.

There were just some concerns over having a large enough sample size; so if this study is conducted during a year of poor recruitment, you may not have a large enough sample size to really get at the statistical analysis that they're looking at doing, especially using a linear model. We talked also about the shape of the sweep of the net can also be a big factor in catchability, so that should be standardized as much as possible.

Another comment was with the side-by-side comparisons, they had picked some sandy sites; and by looking at sandy sites only, you may not get a conversion factor applicable to more historical data. Overall the technical committee approved this study as well with the above suggestions to be considered. The last slide; scientists at VIMS did indeed provide the technical committee with responses and clarifications to our suggestions and the concerns of the technical committee. The technical committee approved both proposals. I'll take any questions.

CHAIRMAN GROUT: Questions for Charlton? Emerson Hasbrouck.

MR. HASBROUCK: Could you go back a little bit to where you were talking about sample size or possible sample size not being large enough. Yes; concerns over large enough sample size; may not have a large enough sample size particular for the approach – if we're using that model, isn't sample size the number of hauls or repetitive hauls or comparison hauls rather than how much you catch in each? I mean, sample size is not the catch, right; it is the

number of replicates that you have to compare the two?

MR. GODWIN: Well, that is one part of it, but also if you – and this was just a comment that if it was a year in which you had a particularly low abundance of striped bass, you're right, the number of replicates and compared tows certainly comes into play; but if you're catching very few striped bass in either one of those tows, you're ability to check the significance difference between those is going to be a little bit more limited.

It was just a suggestion that if it did indeed turn out to be a year to where you had a real poor recruitment, could it be done in another year. We had this same issue in North Carolina in the eighties when we were calibrating our juvenile abundance survey to the survey that had been conducted by Dr. Haislip for so many years at NC State. Even though we did it for several years, it was during that period of low recruitment, and that was an issue with the final analysis. Hopefully, we won't have that issue this year.

CHAIRMAN GROUT: Further questions? Okay, we have two recommendations from the technical committee to approve changes to both the tagging program and calibrating the seine net; and they approved that. Does the board have any objections to approving this? Seeing no objections; the changes are approved.

UPDATE ON STATE IMPLEMENTATION OF ADDENDUM IV

CHAIRMAN GROUT: I will move now to Mike Waine, and he is going to provide an update on state implementation of Addendum IV.

MR. WAINE: I will move quickly through this with hopes to get us back on schedule. Essentially this memo was in your supplemental materials. It outlines exactly where the states stand in terms of implementing Addendum IV; so all of this should look very familiar to you as you've been working very hard to implement these measures.

Table 1 and Table 2 in the memo that I distributed detail this much more specifically than I'm going to talk about in the PowerPoint. The measures are to achieve a 25 percent reduction in removals for the coastal fishery and a 20.5 percent reduction for the Chesapeake Bay fishery. For the recreational portion of that in terms of the coastal fishery, Maine is still in rulemaking.

The states of New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Maryland, Virginia and North Carolina all implemented one fish at 28-inch minimum in their coastal areas. As you remember, at our last meeting there was a lot of consideration of conservation equivalency proposals and a lot of states for their coastal fisheries ended up at one fish at 28-inch minimum.

New Jersey and Delaware did implement their conservation equivalency measures as shown in the table and on the slide here. Then river- and bay-specific measures for New York, New Jersey, Pennsylvania and Delaware are also detailed in the tables. All those regulations achieve at least a 25 percent reduction in removals.

For the Bay, Maryland, the District of Columbia, Potomac River Fisheries Commission and Virginia implemented this measure of two fish, 20- to 28-inch slot, or one within that slot or one greater than 28 inches. They also have a trophy season regulation. There is a little bit more specifics also detailed in the table on those. All those regulations also achieve the 20.5 percent reduction.

In terms of the commercial fishery, I'm just reminding the board that these reductions were taken from the Amendment 6 quotas. These are those quotas after the resulting reduction and a little bit of a breakdown of that. There is recreation bonus fish programs in Connecticut and New Jersey. There is the Chesapeake Bay

quotas. All of this is detailed in the tables that were included in the memo.

There is two outstanding tasks that the technical committee was unable to produce for this meeting because the completion of those tasks relied on the states having implemented the measures so that we could compute what the reduction would end up being after all those measures were implemented within all the states and jurisdictions. I just wanted to alert the board that there are two tasks that the technical committee will be delivering for their August meeting as a follow-up to the implementation of Addendum IV. Thank you very much.

MR. TERRY STOCKWELL: Not a question, Mr. Chair, just an update on Maine's rulemaking; that Maine is proposing consistent with the other New England states one at 28. Our APA process requires us to bring proposed rulemaking before an advisory council. The advisory council meets on Thursday.

MR. O'REILLY: I guess it is too late to be concerned about the probability of achieving or getting lower than the target F at this point, which was brought up at the last meeting. I know the reason it got rekindled; there was a comment from one board member being concerned about the reduction schedules and if there was a change in the bay; that some would do more and some would do less.

But recognizing that the coastal commercial started off on a bad footing with the board as far as just going from Amendment 6; we know that probability has become lower, but is there – and I mean this as a question to I guess Dr. Drew and Charlton – is there really a need now to follow through with that? I didn't see it up there, but it was definitely a request as sort of what are we really getting into once we know what the state measures are?

DR. DREW: My understanding is that would have been part of number one; that we would have maintained that 50 percent probability question in order to figure out what the final likelihood of overfishing or achieving your target is based on the new proposed reductions from everyone. I'm not sure what your question is. Do you want to revisit the 50 percent probability or –

MR. O'REILLY: I think your answer helped out a lot now see that that is the intention as part of one; so I think that's fine.

ADJOURNMENT

CHAIRMAN GROUT: Any other questions? Okay, anything else before this board today? Seeing none; I'll take a motion to adjourn. I sense unanimity in this motion.

(Whereupon, the meeting was adjourned a 4:00 o'clock p.m., May 5, 2015.)

From: Bonnie Curtin [mailto:beeceenh@comcast.net]
Sent: Tuesday, June 16, 2015 11:51 AM
To: Comments
Subject: Commercial Fishery for Striped Bass in MA

Shame on the Commission and the Commissioners that have allowed commercial fishing of Striped Bass in Massachusetts. You do not serve in the best interest of the Citizens of the Atlantic States or the United States when you make decisions that are against common sense and conservation of species that need your protection.

Very truly yours,

Bonnie Curtin
NH Native
FL Resident

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 20, 2015

To: **Atlantic Striped Bass Management Board**

From: **Atlantic Striped Bass Technical Committee**

RE: **Fleet-specific Fishing Mortality Reference Points for Atlantic Striped Bass**

At their May 2015 meeting, the Atlantic Striped Bass Management Board reviewed the Technical Committee report for developing fishing mortality (F) reference points for the Chesapeake Bay. The Board tasked the Technical Committee to develop fleet-specific fishing mortality reference points for the Ocean fleet and the Commercial Discard fleet consistent with the methodology reviewed for the Chesapeake Bay fleet F reference points.

Enclosed is a report detailing the fleet-specific fishing mortality reference points for the three fleets in the SCAA model; the Chesapeake Bay fleet, the Ocean fleet, and the Commercial Discard Fleet.

Enclosed: Fleet-specific fishing mortality reference points for striped bass

M15-64

Fleet-specific Fishing Mortality Reference Points for Atlantic Striped Bass

Executive Summary:

Note: the 2013 Atlantic striped bass stock assessment modeled removals from the population as three fleets: a Chesapeake Bay fleet, a coastal fleet, and a commercial discard fleet. To reduce confusion between "coastwide" and "coastal" reference points/fleets, this document will be referring to the "coastal" fleet as the "ocean" fleet. The "ocean" fleet includes landings from Delaware Bay, estuarine areas, and other technically non-ocean fisheries, but the majority of landings are from ocean areas within the State's jurisdictions. Thre is currently no striped bass fishing allowed in the U.S. EEZ.

The 2013 assessment put forward a set of F and spawning stock biomass reference points for the coastwide striped bass population. Those coastwide striped bass reference point values were:

	Target	Threshold
SSB	72,032 mt	57,626 mt
F	0.180	0.219

At the Board's direction, the Striped Bass Technical Committee has been working to develop fleet-specific F reference points that will ensure that the impact of each fleet on the total coastwide striped bass population remains sustainable. When each fleet fishes at its target F reference point, the maximum total F-at-age on the population is equal to the coastwide F target.

When compared to their individual fleet reference points, the ocean fleet is at the F target, the Chesapeake Bay fleet is 10.8% above its target, and the commercial discard fleet is 53% above its target. F in the ocean has declined faster over the last five years than F in the Bay, which has remained steady. F in the discard fleet has increased in recent years, although the overall value remains low.

Proposed fleet reference points and 2012 F status

Fleet	F target	F threshold	F 2012	% Difference from target in 2012
Ocean	0.141	0.172	0.141	0%
Chesapeake Bay	0.052	0.064	0.059	10.8%
Commercial Discard	0.0194	0.0236	0.041	52.8%

It is important to note that commercial discards cannot be split between the Bay and the ocean fisheries. Commercial discards are estimated from tag returns, and these estimates are highly uncertain due to variable tag return rates each year, among other reasons. Discarding appears to be primarily regulatory, due to size limits, closed seasons, quotas, and gear restrictions.

Given the difficulties of controlling F from discards, a target and threshold for the commercial discard fleet may not be meaningful for management. However, without a control on this source of mortality, the population could still experience overfishing even with the Bay and the ocean fleets fishing at their targets. If F from the discard fleet cannot be reduced through management action, the Bay and ocean fleets will have to take reductions to maintain the coastwide F at the target.

Methods:

The full F values for the target and threshold were calculated using a composite selectivity that used the geometric mean of the most recent five years of total F-at-age, divided by the maximum F-at-age to scale the curve to one. This essentially weights the selectivity pattern of each fleet (ocean, Chesapeake Bay, and commercial discard) by the degree to which they are contributing to total fishing mortality on the population. The Chesapeake Bay and commercial discard fleets are dome-shaped, peaking at age 5, while the ocean fleet is flat-topped, peaking at age 13+.

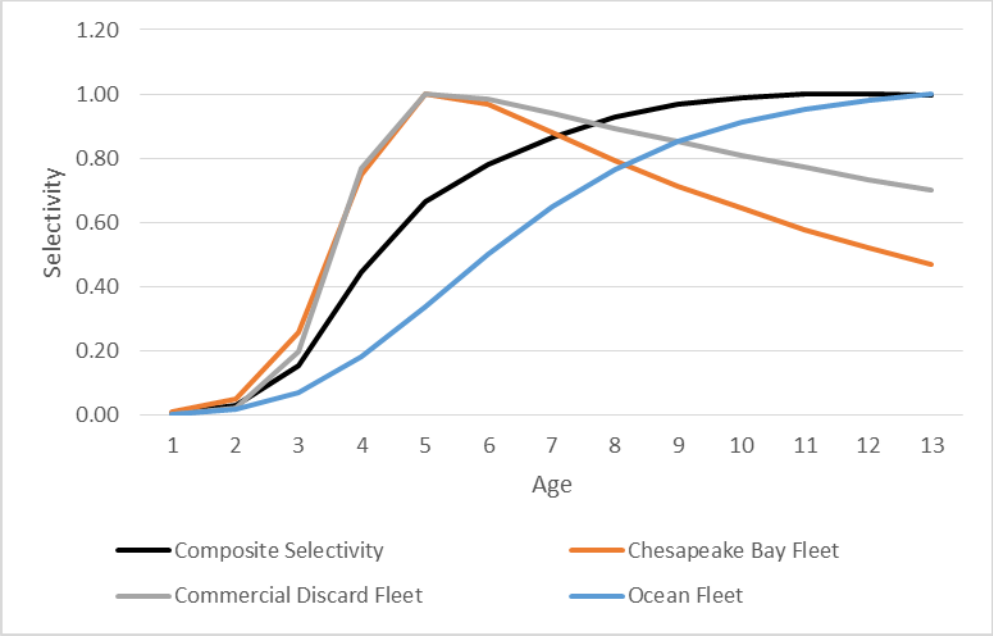


Figure 1. Comparison of the composite selectivity used to calculate the F reference points to the selectivities of the 3 fleets in the model.

To calculate the Bay-specific F reference point, the ratio of F-at-age-5 from the Chesapeake Bay fleet to total F-at-age-5 was calculated (using the ratio of means for the last five years). This ratio was multiplied by the selectivity-at-age from the composite fleet at age-5 and the F_{target} and $F_{threshold}$ values to obtain the full F target and threshold values for the Chesapeake Bay.

Table 1. Chesapeake Bay fleet reference point calculations

	Total F-at-age-5	**CB Fleet F-age-5**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.141	0.057	0.407	0.44	0.052	0.064
2009	0.145	0.069	0.477			
2010	0.131	0.066	0.503			
2011	0.158	0.065	0.412			
2012	0.147	0.059	0.398			

For the ocean and commercial discard fleets, a similar approach was used. For the commercial discard fleet, the ratio of total F-at-age-5 to fleet F-at-age-5 was also used; for the ocean fleet, the ratio of total F-at-age-12 to fleet F-at-age-12 was used, and the reference points were corrected for the not quite full selectivity on age-12 for this fleet (0.98 as opposed to 1), since full selectivity in the ocean fleet occurs at age 13+.

Table 2. Ocean fleet reference point calculations

	Total F-at-age-12	**Ocean F-at-age-12**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.248	0.210	0.847	0.770	0.141	0.172
2009	0.205	0.151	0.737			
2010	0.200	0.158	0.787			
2011	0.241	0.185	0.768			
2012	0.199	0.139	0.696			

Table 3. Commercial discard fleet reference point calculations

	Total F-at-age-5	**Discard F-at-age-5**	**Annual Ratio**	**Ratio of Means**	**F_{target}**	**$F_{threshold}$**
2008	0.141	0.011	0.081	0.163	0.0194	0.0236
2009	0.145	0.024	0.168			
2010	0.131	0.011	0.086			
2011	0.158	0.030	0.188			
2012	0.147	0.041	0.280			

The sum of the individual F targets exceeds the coastwide F_{target} value. However, when the total F-at-age is calculated (by multiplying the individual fleet F reference points by their respective selectivities and summing at age), the maximum F-at-age is equal to the coastwide F target (Table 4).

Table 4. Fleet and total F-at-age values when fishing at F_{target}.

	Selectivity				F target -at-age			
Age	Composite Selectivity	Ocean fleet	Comm. discards	CB fleet	Ocean fleet	Comm. discards	CB fleet	Total F
1	0.004	0.00	0.00	0.01	0.000	0.000	0.000	0.001
2	0.030	0.02	0.02	0.05	0.002	0.000	0.003	0.005
3	0.151	0.07	0.20	0.26	0.010	0.004	0.013	0.027
4	0.443	0.18	0.77	0.75	0.026	0.015	0.039	0.079
5	0.663	0.34	1.00	1.00	0.047	0.019	0.052	0.119
6	0.781	0.50	0.98	0.97	0.071	0.019	0.050	0.140
7	0.866	0.65	0.94	0.88	0.091	0.018	0.046	0.155
8	0.927	0.76	0.89	0.79	0.108	0.017	0.041	0.166
9	0.967	0.85	0.85	0.71	0.120	0.017	0.037	0.174
10	0.990	0.91	0.81	0.64	0.129	0.016	0.033	0.178
11	0.999	0.95	0.77	0.58	0.134	0.015	0.030	0.179
12	1.000	0.98	0.73	0.52	0.138	0.014	0.027	0.180
13+	0.995	1.00	0.70	0.47	0.141	0.014	0.024	0.179
						Maximum F-at-age:		0.180

Results

When compared to their individual fleet reference points, the ocean fleet is at the F target, the Chesapeake Bay fleet is 10.8% above its target, and the commercial discard fleet is 53% above its target (Table 5). F in the ocean has declined faster over the last five years than F in the Bay, which has remained steady; F in the discard fleet has increased in recent years (Figures 2 and 3).

Table 5. Fleet reference points and 2012 F status

Fleet	F target	F threshold	F 2012	% Difference from target in 2012
Ocean	0.141	0.172	0.141	0%
Chesapeake Bay	0.052	0.064	0.059	10.8%
Commercial Discard	0.0194	0.0236	0.041	52.8%

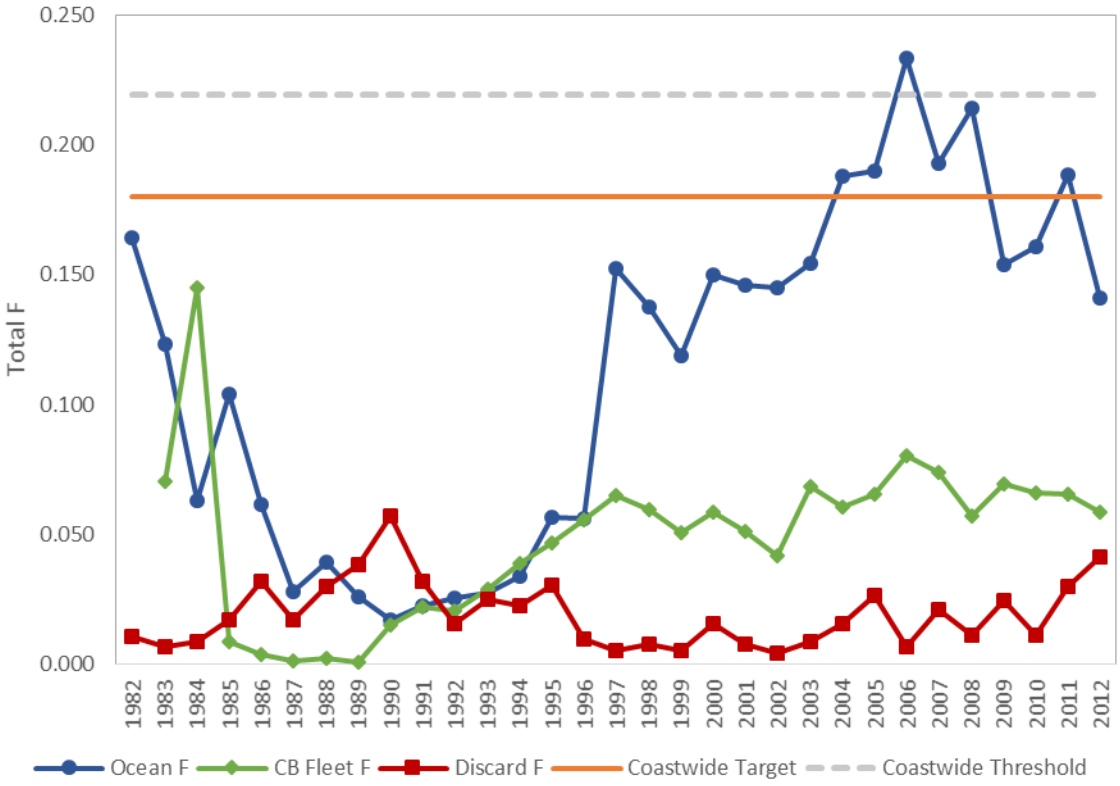
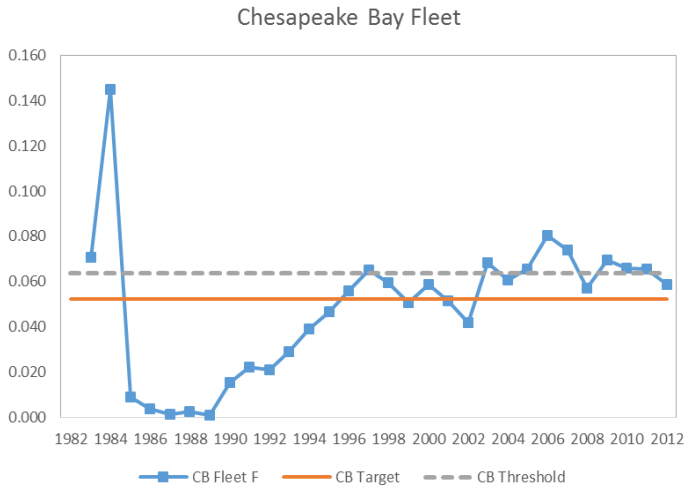
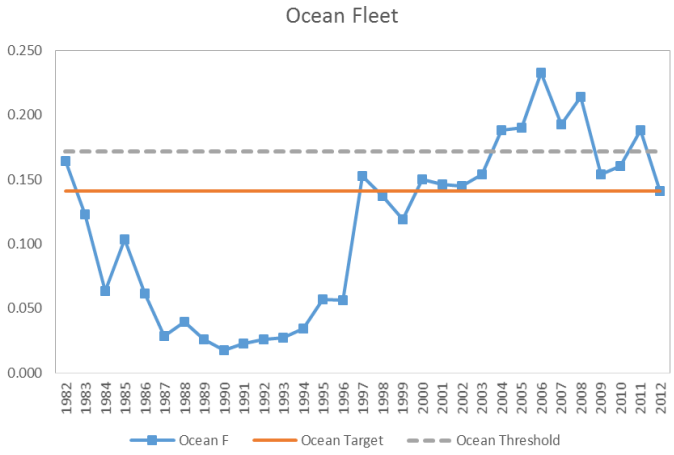


Figure 2. Full F for each fleet relative to the coastwide target and threshold.





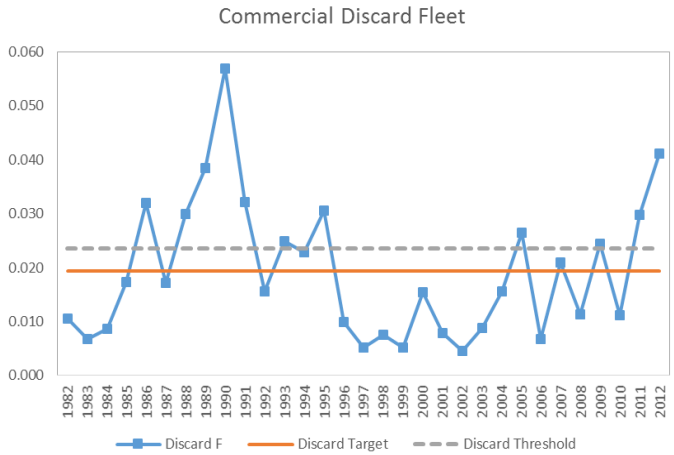


Figure 3. Full F and their respective targets and thresholds for the Chesapeake Bay fleet (top), ocean fleet (middle), and commercial discard fleet (bottom).

Atlantic States Marine Fisheries Commission

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MEMORANDUM

July 20, 2015

To: **Atlantic Striped Bass Management Board**

From: **Atlantic Striped Bass Technical Committee**

RE: **Atlantic Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season**

Addendum IV to Amendment 6 establishes new fishing mortality reference points (F target and threshold) for striped bass. In order to reduce F to a level at or below the new target (F= 0.18), the coastal states are required to implement a 25% harvest reduction from 2013 levels and the Chesapeake Bay state/jurisdictions are required to implement a 20.5% harvest reduction from 2012 levels. Under Amendment 6, states were able to submit conservation equivalency proposals that meet reduction requirements. Submitted proposals were reviewed by the Technical Committee (TC) and approved by the Board in February 2015.

The TC estimates a 28.2% reduction for coastal states and a 21.4% reduction for Chesapeake Bay states/jurisdictions, and a 25.6% reduction overall. The enclosed report details the TC's harvest reduction estimate for 2015 utilizing final state regulations.

Enclosed: Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season

M15-62

Atlantic Striped Bass Harvest Reduction Estimate for the 2015 Fishing Season

Note: The Striped Bass TC would like to remind the Board that these estimates are based on the assumption that 2015 catch will be characteristically similar to that in 2013 for the coastal states and 2012 for Chesapeake Bay states/jurisdictions. Actual 2015 harvest numbers could differ from the reported estimates due to unknown variables, including non-compliance rates.

Recreational Harvest:
For 2013 estimated removals, fish harvested (A + B1) and 9% of fish released alive (B2) were summed for each state fishery and multiplied by the estimated percent reduction for that fishery under Addendum IV (i.e., 31% for one fish bag limit at 28 inches minimum size, or retrieved from that state's conservation equivalency proposal). State fishery estimates were summed for a total recreational removal estimate for 2015. All 2013 values were queried from MRIP.

Table 1. Estimated recreational harvest for 2015. The 2013 estimated harvest is equal to the sum of A, B1, and 9% of B2. Estimates do not account for poaching. Note: MRIP surveyors do not cover Pennsylvania or the New York portion of the Delaware River and Hudson River fisheries.

State-fishery	% Estimated Reduction	Data Source/Query	2013 (A+B1)	2013 (B2)	2013 Estimated Removals	2015 Estimated Removals
ME	31	MRIP/All Areas	23,143	422,598	61,177	42,212
NH	31	MRIP/All Areas	17,657	84,015	25,218	17,401
MA	31	MRIP/All Areas	298,945	1,691,026	451,137	311,285
RI	31	MRIP/All Areas	218,236	826,280	292,601	201,895
CT	31	MRIP/All Areas	143,081	778,250	213,124	147,055
NY- coastal	31	MRIP/All Areas	490,855	989,783	579,935	400,155
NY- DE River	31	-	-	-	-	-
NY- Hudson	25.9	-	-	-	-	-
NJ	25.1	MRIP/All Areas	345,008	1,107,218	444,658	333,049
DE	25.18	MRIP/All Areas	19,520	83,494	27,034	20,227
MD- CB*	22	MRIP/Inland	420,108	2,381,858	634,475	494,891
MD- Trophy*	25.1	Compliance Report	48,534	-	48,534	36,352
MD- Coastal	31	MRIP/Oceans	8,654	5,419	9,142	6,308
[1]DC	-	-	-	-	-	-
[2]PRFC	-	-	-	-	-	-
VA- CB*	22	MRIP/Inland	86,368	165,532	101,266	78,987
VA- Coastal	31	MRIP/Oceans	636	3,457	947	654
VA- Trophy*	25	Compliance Report	23	-	23	17
NC	31	MRIP/Oceans	-	1,057	95	66
Total Harvest			2,120,768	8,539,987	2,889,367	2,090,553

* Virginia and Maryland migratory harvest estimates from 2014 striped bass compliance report for the 2013 fishing season. Migratory harvest subtracted from MRIP data query for CB 2013 harvest removals.
[1] The Fisheries Research Branch currently has no method of accumulating recreational catch data for the directed harvest of striped bass; cited from 2014 DC striped bass compliance report for the 2013 fishing season.
[2] Potomac River Fisheries Commission recreational fisheries are monitored through the NMFS-MRFSS and estimated harvest and losses are included within the Maryland and Virginia combined MRFSS estimate for the Chesapeake Bay and its tributaries (all Potomac River harvested fish are landed in either MD or VA).

Coastal Commercial Harvest:

The Addendum IV quota represents a 25% reduction from the Amendment 6 quota. The 2013 harvest was compared to the Addendum IV quota to estimate each state's harvest for 2015. If the 2013 harvest is less than the Addendum IV quota for that state, then the same harvest was assumed for 2015. If the 2013 harvest is greater than the Addendum IV quota, then the 2015 harvest is assumed to be equal to the Addendum IV quota. State compliance reports were used to convert estimates from pounds to number of fish.

Table 2. 2015 coastal commercial harvest estimates. All data are from 2014 striped bass compliance reports for the 2013 fishing season. Estimates do not account for dead discards or poaching.

State	Amend. 6 Quota (lbs)	Addend. 4 Quota (lbs)	2013 average weight per fish (lbs)	2013 Harvest (lbs)	2013 Harvest (#fish)	Estimated 2015 Harvest (lbs)	Estimated 2015 harvest (#fish)
ME *	250	188	-	-	-	-	-
NH *	5,750	4,313	-	-	-	-	-
MA	1,159,750	869,813	17.00	1,002,519	58,547	869,813	51,165
RI †[0]	243,625	182,719	65%/22lbs 35%/12lbs	231,280	13,825	181,572	10,660
CT **	23,750	17,813	6.13	1,791	292	1,791	292
NY †	1,061,060	795,795	10.81	823,801	76,206	795,795	73,617
NJ **[0]	321,750	241,313	15.10	6,096	404	6,096	404
DE	193,447	145,085	10.82	191,424	17,679	145,085	13,409
MD †[0]	131,560	98,670	12.29	93,532	7,608	90,727	7,380
VA	184,853	138,640	22.86	182,427	7,980	138,640	6,065
NC	480,480	360,360	-	-	-	-	-
Coastal Total	3,806,275	2,854,709	14.38	2,532,870	182,541	2,229,519	162,992

* Commercial harvest/sale prohibited, with no re-allocation of quota.

** Commercial harvest/sale prohibited, with re-allocation of quota to the recreational fishery.

† Amendment 6 Quota reduced through management program equivalency; NY (828,293 pounds) and MD (126,396 pounds) beginning in 2004, RI (239,963 pounds) beginning in 2007.

[0] Addendum 4 quota reduced through conservation equivalency for MD (90,727 pounds), NJ (215,912 pounds), and RI (181,572; 65% of 2013 landings from general category fishery, and 35% from floating fish trap fishery).

Chesapeake Bay Commercial Harvest:

The Addendum IV quota represents a 20.5% reduction from the 2012 Chesapeake Bay commercial harvest. The 2012 harvest was compared to the Addendum IV quota to estimate each state's harvest for 2015. If the 2012 harvest is less than the Addendum IV quota for that state, then the same harvest was assumed for 2015. If the 2012 harvest is greater than the Addendum IV quota, then the 2015 harvest is assumed to be the Addendum IV quota. State compliance reports were used to convert estimates from pounds to number of fish.

Table 3. 2015 commercial harvest estimate for the Chesapeake Bay. All data are from 2013 striped bass compliance reports for the 2012 fishing season. Estimates do not account for dead discards or poaching.

State	Amend6 Quota	Addend. 4 Quota (lbs)	2012 Harvest (#fish)	2012 Harvest (lbs)	2012 Average weight per fish (lbs)	Estimated 2015 Harvest (lbs)	Estimated 2015 harvest (#fish)
VA	1,430,361	1,064,626	103,703	1,339,152	12.91	1,064,626	82,444
MD*	1,865,680	1,471,888	465,644	1,851,431	3.98	1,471,888	370,187
PRFC	1,343,812	583,362	90,616	733,789	8.10	583,362	72,040
CB Total	4,639,853	3,119,876	659,963	3,924,372		3,119,876	524,671

* 5% of commercial quota withheld for harvest reporting uncertainty. Effective commercial quota was 1,865,680 lbs

Percent Reduction:

Estimated reduction by region. All estimates are in number of fish.

Table 4. Estimated percent reduction in harvest for the 2015 fishing season by sector. The coastal and recreational reference harvest estimate from 2013 data since Addendum 4 implemented a 25% reduction from the Amendment 6 quota for the coastal commercial fishery, and state recreational regulations were imposed based on percent reductions estimated from 2013 data, or pooled 2011-2013 data for conservation equivalency regulations. The Chesapeake Bay reference estimates were based on 2012 data since Addendum 4 implemented a 20.5% reduction from 2012 harvest.

Region	Sector	Reference Harvest Estimate	2015 Harvest Estimate	Percent Reduction From Reference Harvest
Chesapeake Bay	Recreational	784,298	610,247	22.2%
	Commercial	659,963	524,671	20.5%
	Subtotal	1,444,261	1,134,918	21.4%
Coastal	Recreational	2,105,069	1,480,306	29.7%
	Commercial	182,541	162,992	10.7%
	Subtotal	2,287,610	1,643,298	28.2%
Total		**3,731,871**	**2,778,215**	**25.6%**