## Maryland DNR

## Sport Fisheries Advisory Commission <br> Meeting

Tuesday, October 1, 2013

## Held at the

Tawes State Office Building
C-1 Conference Room
Annapolis, Maryland

# Maryland DNR <br> Sport Fisheries Advisory Commission Meeting 

October 1, 2013

## SFAC Members Present:

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William Goldsborough, Chair
David Sikorski, Vice Chair
Kate Chaney
Micah Dammeyer
Mark De Hoff
Beverly Fleming
James Gracie
Phil Langley
Valentine Lynch
Dr. Raymond Morgan II
Captain Edward O'Brien
Vince Ringgold
Tim Smith
Roger Trageser
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TFAC Members Absent:

James Wommack(Mack)

Maryland DNR Fisheries Service

Tom O'Connell

## Maryland DNR Sport Fisheries Advisory Commission Meeting

October 1, 2013

## I N D E X

## Welcome and Announcements

by Chair Bill Goldsborough, SFAC
and Tom O'Connell, Director
MD DNR Fisheries Service 5

NRP Activity Report
by Lt. Beth Mauk
by Jack Boyson
Natural Resources Police 6

Questions and Answers 9

Invasive Species Presentation
by Tom O'Connell
MD DNR Fisheries Service

Questions and Answers ..... 33

Maryland Fishing Challenge
by Karen Knotts
MD DNR Fisheries Service36

Questions and Answers ..... 48

Land and Fish Management
by Jim Uphoff
MD DNR Fisheries Service

Questions and Answers 72

Fishery Management Plan (FMP) Review Update
Mike Luisi
MD DNR Fisheries Service 80

Questions and Answers 84
ASMFC Update
by Mike Luisi
MD DNR Fisheries Service 92
Questions and Answers ..... 98

Striped Bass Benchmark Stock Assessment
Mike Luisi
MD DNR Fisheries Service 106

Questions and Answers 113
Regulatory Update \& Scoping
by Tom O'Connell, Director and Sarah Widman
MD DNR Fisheries Service

Budget
by Karen Knotts 132
Public Comments 140

KEYNOTE: "---" indicates inaudible in the transcript.

## Audio Associates

301-577-5882

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(2:00 p.m.)

## Call to Order

## by William Goldsborough, Chair, SFAC

MR. GOLDSBOROUGH: All right, folks, wrap up the
conversation and let's get going. Good afternoon, Bill
Goldsborough, I have the honor of having been elected chairman of this --- at the least meeting. So thank you for that. And Dave Sikorski of course vice chairman across the way. And all of you who now make up the new Sports Fish Commission, we have a lot on our plate for today. We have a packed agenda, so let's try to stay focused in our deliberations. I will toss it Tom now for our welcome and updates.

## Welcome and Announcements

## by Tom O'Connell, Maryland DNR Fisheries Service

MR. O'CONNELL: Welcome everybody. Thank you for
taking the time to come. We have a full agenda as Bill said, so I am not going to take a lot of time. The one introduction that I wanted to make was Beverly Fleming. Beverly is a new commissioner. She was not able to make it to the last meeting but she represents our fishing constituency from the Coast and I don't know Beverly, do you want to say any words before we get started.

MS. FLEMING: I am glad to represent, mostly I think surf fisherman but I also bait and tackle, so I know a little
bit about other things besides surf fishing. So I hope that I can help the -- it will be advantageous for me to be on the board here.

MR. O'CONNELL: Very well. We appreciate your commitment to it. The only other item on the agenda that will be modified in regards to a presenter was Bruce Vogt from NOAA was to present the Blue and Flathead Presentation but due to the federal shutdown, he will not be here. So I will walk the commission through the slide presentation he provided. I have seen it a couple of times so I will do my best to walk you guys through that. That is it.

MR. GOLDSBOROUGH: All right. Thank you, Tom. Let's move on to the NRP activity report. Lieutenant Mauk.

## NRP Activity Report

## by Lt. Beth Mauk

LT. MAUK: Hi, how are you? Good afternoon.
Everyone should have a copy of the last quarter's --- marine conservation cases. And so, if you have a few minutes to look over it, you will note a fair number of undersized bass cases. Somewhat notable number of undersized croacker cases, they are far fewer than last year.

A couple of tickets for undersized white perch caught by net. A smattering of recreational crab citations. And a undersized or oystering out of season or recreational ticket. And everything else is fairly run of the mill. Do I
have questions about the cases that are listed on the quarterly report?

MR. GOLDSBOROUGH: Any questions for Lt. Mauk? That was an easy one.

LT. MAUK: It was an easy one. So over the past few weeks, we have had quite a bit of dialogue about what the Natural Resources Police and the Department of Natural Resources are doing to help bridge the language barrier and educate different groups of people, specifically Latinos. And so this afternoon, I have brought Mr. Jack Boyson who is a reserve officer with the Natural Resources police with me.

He has spent a huge amount of time and he can tell you briefly how much time, in almost every Spanish speaking country in the world. And he is a fantastic resource for us because he is mentoring our officers both in the classroom and out in the field on getting them to speak survival Spanish and then hopefully bridging into even more of our Spanish language.

So for those of you that don't know, I will hand it over to Jack in just a minute but for those of you don't know, we have done a huge amount of signage, smartphone, $Q R$ Codes, we have done a lot of the fishing brochures in Spanish and Jack is going to speak a little bit more about what he is doing hands on with our officers, especially in Anne Arundel and surrounding counties.

MR. BOYSON: Nice to be here with you all today. I
have lived and worked in about 55 countries including Latin America for nine years. I have worked in every country from Argentina all the way up to Mexico, except for El Salvador, Honduras and Panama.

So every other country I have worked in. And I have been working with the Department of Natural Resources as a resource person in training officers to become more fluent in survival Spanish. You have about 35 -- do I need to use a microphone? Is it okay if I walk around? I like to walk around a bit.
(Laughter)

MR. BOYSON: So we have actually five things that we are doing and the first one that I mentioned to you was to train our officers to be able to speak 35 critical phrases that they need to be able to speak to people and to understand their responses, that we worked with a number of officers all the way over on the Eastern Shore to -- towards the mid part of the state and we are expanding our efforts to provide that training.

We are actually going into the state park system and starting in NOVEMBER, I will be training park police also in survival Spanish. You know the typical phrases like "Show me your license" and things like that. So that is the first thing we are doing.

We are also going into the field with the officers to see how they are able to do their work, to coach them. We are actually going with them and actually doing the translation in many cases. For example, over here just a few weeks ago at Sandy Point, going out with the officers just to check in to see how things are going and to see how they are practicing their Spanish and then also talking with the people that we are encountering.

And so we have been on ride alongs on just a number of occasions, also done some river trips and checking boating and also meeting with people that speak Spanish. The other area has to do with putting together a plan to recruit more officers who speak more bilingual. Who speak both Spanish and English and maybe other languages also in certain areas.

So, we put together a plan to do that. So that is basically what we have been doing in DNR in terms of us supporting the police to help them become more fluent in being able to interact with the Latin community in a more effective way. Any questions? MR. GOLDSBOROUGH: Questions?

## Questions and Answers

MR. BOYSON: Good. All right. MR. GOLDSBOROUGH: I do know that there was interest from this commission on having better communications with the Latino component of the recreational fishery, so I know we
very much appreciate your work, it sound great.
MR. BOYSON: Good.

MR. GOLDSBOROUGH: Ed O'Brien has a question.
MR. O'BRIEN: I brought this up about three meetings ago and the progress that you have made on this is truly outstanding. Truly appreciate that.

MR. BOYSON: So our plan is that every office will have a training and then we also do follow ups too by the way. We just don't go and train people and say okay now you have basic Spanish, go out and use it and see how it goes. We also do coaching and we also follow up and say okay what is working? What other phrases do you need to have? And we keep adding and expanding our curriculum.

Oh, I forgot to mention one other thing. They are also going to helping out with the academy in November. We are going to have a two day workshop, which will be focused entirely on Spanish. So, that is the other thing that $I$ almost forgot to mention. So we are making some really focused efforts to make sure that people are up to speed and being able to speak Spanish.

MR. GOLDSBOROUGH: Question from Vince.
MR. RINGGOLD: What kind of feedback are you getting
from the field? Is it having a positive effect? What types of violations are you encountering? Do we have the Latino population? Are they up to date on the regulations? What is
going on there?

MR. BOYSON: Actually they are up to date more than we would be -- then we would really understand. They actually see the signs that are bilingual and when $I$ talk to them, for example, personal experience, they know that they are violating. When I ask them show me your license, and they don't have a license. You know you have to have a license, yes, yes, yes. They figured they would slide by.

So it is not a question of knowledge. Because the knowledge is there in Spanish -- I actually put up signs myself in the Baltimore area that is in bilingual that says you have to have a license and here is where you go and all that stuff. So it is not a question of knowledge, it is a question of compliance. And getting them to respond. And by in large, I have always had -- I would say just about everybody except one case, I have had very pleasant interaction with the people that I have talked to if I speak Spanish to them.

If I speak English, there is a lull there. And they may know and understand -- they have enough survival English that they can understand. But what they do is they put up a wall and use that as a way to manage the situation, slow things down. That sort of thing.

MR. RINGGOLD: Since you are having violations occurrence, are we keeping track of that? And are we seeing a
reoccurrence?

MR. BOYSON: I would turn it over to Lieutenant Beth
here to respond.
LT. MAUK: We don't keep statistics on violations by race or gender.

MR. RINGGOLD: We see it by names, don't we?
LT. MAUK: I think that we can surmise certain things based on the name but we don't always know what group a person is from by their name. I think that one thing that Jack hasn't said because he probably isn't going to toot his own horn is how key it is that he understands the different cultures and often times I think our understanding of the problem is different than the problem.

Because we don't have a full understanding just because there is a language barrier, there are sometimes socioeconomic things that work. There are sometimes cultural trends, traditions, that are at work and it is amazing how Jack can help the officer understand that if you ask this question in this particular culture, you will find out what it is you need to know.

So I think as a group, just listening to the questions that have come, we are only scratching the surface to understand and we are not just talking about one culture of people. There are many different cultures of people that we are policing. And I think too, it is important to know that
just because the press or the reports may indicate or they may seem to indicate that there are a large number of offenders that may or may not be Latino, you have to remember that again there are sometimes socioeconomic things at play.

So if I don't understand a language or if police force in my native country behaves a certain way $I$ am going to interact differently with the police. Maybe I will open the cooler more quickly than another group. Maybe -- and Jack you may be able to talk to that, I don't know.

MR. BOYSON: Okay. Well, actually if you look at the Central Americans, they are significantly different than the people that come from Mexico or even father south in terms of how they view fishing and hunting. For them, it is a very subsistence type of a way of life and fish are God's gift and I am there to take it.

And so a lot of times that is an attitude that they have. They don't see this as something that is regulatory. And in their cultures and in where they live, a lot of people, that is a main way that they get protein for their diet. It is a way to subsidize their diet. So you have to understand it from that standpoint.

When you stop and think about it, we have a
significant number, I don't have the statistics right now, but we have a number of undocumented people here in our area. They are not there -- they want to be invisible, and so they
are going to be as compliant as possible to -- and then try to get out of there as quick as possible and disappear. So I don't know if there is anything else that I can add? Any other questions? Yes, you had a question.

MR. : I completely agree with the outreach
from the DNR to the Latinos and I think that is wonderful. However, is DNR doing any mention of bilingual postings of what the laws and regulations are and doing graphics on there so they know what a rockfish is and a stripped bass is and that type of thing? I haven't been in Sandy Point in ---

LT. MAUK: Yes, yes, they are everywhere and there are big colored pictures. Those languages -- at least two languages that I know of. And the folks that I am checking that I am finding violations and also not finding violations will usually have the flyer with the picture -- the colored picture of the stripped bass with an 18 underneath of it in their possession. And that goes with all groups.
MR. : I know a --- North Carolina,

Florida and various other places they have a Latino mix and the postings are fairly significant and like I said, I don't go to Sandy Point that much but I have heard there is not many signs or it is not posted where they can be seen and the education from the perspective is not there. Now --

MR. BOYSON: I don't think I would -- I am speaking from experience that there is a lot of signs out there because

I have put a lot of them out. Not just me, but there is a lot of other guys just like me that are putting those signs out. And we have a whole team that once a year goes out and replaces all the signs that have been knocked down or torn off.

So I can tell you the signage is there. The signage
is there. If it is not there today it is because somebody tore it down and that happens a lot.

MR. : Thank you.
MR. GOLDSBOROUGH: Thank you, Jack. I would like to keep the conversation at the table for now. If you don't mind and we will allow public comment when it comes to any motions or decision making. Thank you though. Any further questions from the commissioner? Oh, Beverly, I am sorry.

MS. FLEMING: You are talking about Spanish speaking
people. How about in my area is Asian people? And they
blatantly catch what they want, keep what they want and walk away?

MR. BOYSON: Now this is an issue over in Montgomery
County that I am aware of, but I don't speak Chinese or Korean and I am sorry, I mean, we need to really expand our -- and also Russian. I speak a little Russian. And I have discovered that there are a number of Russians that are out there or people that speak Russian.

The thing about it is, we have a very rich, a very
culturally rich community in our area. And so it is important for us to -- when you are able to speak the language of the person you are talking to, let me tell you, you really connect and you connect quick. And you can get right down to the point and saying what are you doing?

When they know that you understand, they are going to respond a lot easier, a lot quicker. So the more diversity that we can have on the floors with the people with multiple language skills should be highly you know, encouraged. That is my recommendation. And I have been recommending this and people are listening. So --

MR. GOLDSBOROUGH: Thank you, Jack. And I believe Karen Knotts has some further input on this subject?

MS. KNOTTS: Yes, I just -- I am Karen Knotts with the Fishery Service Communication and Outreach Division and I have mentioned after meeting a couple of times before but wanted to follow up with what Jack and Lieutenant Mauk were touching on. In terms of what Fisheries is doing, these signs some of you may have seen, National Resources Police actually helped us craft the message on it, so it is basically -- I am not sure if this is one of the ones that you have --

MR. BOYSON: This is the sign I have been putting up.

MS. KNOTTS: Yes, so the reserve officers were a great asset to us because we just didn't have the ability to
do it. And so NRP helps us with the message, the reserve officers got the sign posted. As you see on the screen, there are a 181 fishing hotspots across the State and the QR code that you see listed there, is actually linked to our Spanish language web page -- Fishery Service web page. So if you can go to the next slide.
(Slide)
What we have listed on the web page is one of the
things that there is in your folder, it is out guide to
Anglers and the nice thing about that, is it is a two sided sheet. Basically just the nice general information sheet that has contact, talks about licenses and what kind you need, who needs a license, how much it costs. A little bit on the salt water angler registry and regulations as well. So, that is something that can be used by anybody you can point to what you want to say. If you don't speak the language, you can say, you know, look at this sign and you know what you are trying to communicate and you can get through to them.

Other things that are on there, is we have a fish identification which is very similar to what is in our fishing guide. Shows all of the different species and it shows the creel season and size in Spanish, so that is another resource there. Also there is some -- a couple of brochures that the Maryland Department of Environment has put together on fish consumption. There is one specific to the Anacostia and then
there is a general consumption guide.
Then we also have regulation tables that is not just the ones that are in the fishing guides but all species. Translated into Spanish so that you can see what again, the regulations -- recreational regulations that go with that species. That is on the website.

And then we are going to use the website for other messages. Right now, we have one on voting safety that the Governor's office actually put out. So that site having the QR code to the sign, means you put your smartphone on there, you are going to jump to it and you are going to get all of the information that is there.

So what we will continue to do is bump the new messages so that you get the most current ones and we will leave the other one up there and you will get a nice supply of messages. Everything that we have done in Spanish will be up there. And I am very pleased to hear that we have Jack because what we have done for all of our other -- the stuff that we did, was that we had a gentleman from the Governor's commission on Hispanic Affairs who voluntarily translated everything for us. And there is a lot there.

So it was -- it was wonderful and he is very excited and very happy to help us so we did it free of charge based on his volunteering. So now that we have -- I know we have Jack, then it will just allow us to do even more. So just wanted to
give you an update and give you an opportunity to see the sign. And one thing I will tell you I will tell you, I followed up -- and Vince asked me after the last sport fish meeting about whether we were seeing any effect from the signs, so I followed up with Lieutenant Kirkwood* and he basically said the same thing that Lieutenant Mauk did.

But basically you are talking about changing habits and signs don't change habits. But what they do is they allow the Natural Resources Police, it informs their ability to do cite -- make citations and when they go to Court, if there was a sign there it kind of changes the outcome.

So signs are one of those things that you can't -we can't keep them up. These things were about \$8 a sign. So it is really important -- the work that Jack is doing to educate folks to get them to understand that even though there is not a sign there, to make sure that they know what they need to be doing because we can't sign everywhere that we need to sign.

So it is good start, but the outreach work is particularly key. So fisheries is going to really work to try to do more and more of that. So that is really all I need. Any questions?

MR. GOLDSBOROUGH: Ed?

MR. O'BRIEN: Yes, through your work you should be seeing some increases in licensing too?

MS. KNOTTS: I can't speak to that personally, I
would assume that again --
LT. MAUK: Yes, I don't if --- licensing maybe as --
MR. GOLDSBOROUGH: Thank you, Karen. Before we move on from the NRP report, I will give you one follow up from the last meeting. If you recall we had a brief discussion on our ongoing interests in addressing the funding shortfall for NRP and we were told that there was a strategic plan being developed. And thought we might hear about that at this meeting.

Well, it is not quite ready for prime time. So it is still in review, so it is probably going to have to be the next meeting. So FYI on that one. Okay. Well, let's move on. If there is nothing else on that, to the Invasive Species Report and have Bruce Vogt $O^{\prime}$ Connell have a presentation on that.

## Invasive Species Presentation

## by Tom O'Connell

MR. O'CONNELL: Thanks. While Noreen is bringing up the presentation. Do you have the presentation? This has been an issue that I have been trying to bring more attention to for the last couple of years. Most of the discussions have been at the Sustainable Fishery's Goal Implementation Team which is a body of fisheries, managers and stakeholders under the Chesapeake Bay Program umbrella who is working on a lot of
fisheries issues to fulfill the Bay Agreement.
And so Bruce Vogt is the NOAA person that helps
coordinate that group and he was going to give a presentation today but as I mentioned, due to the Federal shut down he is not available. So I am going to walk you through it. The point of this presentation is to hopefully get across you know, why my team is very concerned about these species. And another agenda later in today's meeting is going to be talking about some changes we would like to make to our Maryland Fishing Challenge rules as it relates to invasive species.

So, we will first go through the presentation. Next
slide please.
(Slide)
And I just glanced at this presentation. It looks like he has quite a few slides, so I may skip a few of them given the time frame that we have to work with today. Invasive species, most of you are probably familiar with an invasive species definition. Not all non-native species are invasive but those non-native species that pose a risk to the natural ecosystem are deemed invasive and those are the ones that we are most concerned about.

Blue catfish, flat headed catfish, and snake head are the three that we are most concerned about in Maryland. Next slide.
(Slide)

There are certain characteristics that scientists utilize to determine a non-native species invasiveness and those characteristics are on the left. Do they have a large native range? Do they have a very tolerant -- a high level of tolerance for the environment? Are they long lived? Are they high precundadity(sic)? Fast growth? Parental(sic) care? And so the scientists in the Bay region examine these characteristics for the two catfish species and as you can see they meet almost every one of those.

So they are definitely two species that have
invasive characteristics. Next slide.
(Slide)
This is just saying that the Mid Atlantic panel on aquatic invasive species, has recognized these two catfish as invasive and they are considered to be biologically harmful posing negative effects on our native fawna(sic).
(Slide)

You see here they are. You have the blue catfish on
the left, flat head on the right. Next slide.
(Slide)
Flat head catfish, they are long lived. Both blue cats and flat head are native to the Mississippi River Valley. Flat head catfish are long lived. They are opportunistic meaning that they pretty much feed on anything. They are more of a specialist in regards to habitat but in
regards to what they eat, they are opportunistic and they were introduced to the Chesapeake Region around 1965.
(Slide)
As I mentioned, they are native to the Mississippi, Missouri, Ohio River drainages.
(Slide)
They are currently found in the James River, York
River, Potomac and the Susquehanna River.
(Slide)

Blue catfish again, they are very large. The state record in Virginia I think is over 120 pounds now. In Maryland, $I$ think it is 80 pounds. We have seen the beginning of a new state record every few years. Blue catfish have been in Virginia longer probably why they are experiencing some larger sizes but we seem to be quickly catching up with them. Blue catfish, they are both an opportunistic or a generalist as to what they eat as well as their habitats. They utilize a wide range of habitats, and eat pretty much anything including plastic bottles which they found in the stomachs of blue catfish. (Slide)

Similar to the flat head, they are native to Mississippi, Missouri, Ohio River drainages.
(Slide)
So where exactly did they come from? Back in 1974,
some juvenile blue catfish were introduced to the region. Largely focused on Virginia. If you guys remember, back in the 70s, 60 s and 50 s, you know, introducing non-native species was a common thing to try to promote additional opportunities for sports fishing. It wasn't until later that we started to see some of the damages that could cause from these non-native introductions that were invasive.

This is what happened with blue catfish. They were introduced in Virginia in some of the reservoirs to increase sport fishing and over time, they escaped from the reservoirs either naturally or through fisherman and they slowly expanded their range in the Virginia Tributaries and the Potomac and now we are seeing them through many of the tributaries in Maryland. Next slide.
(Slide)
For blue catfish, they tolerate up about 14 parts per thousand. Some of the research that is going on now suggested that they may be able to tolerate up to 17 parts per thousand salinity. They thrive in slow moving turbid waters. So just a vision. We have these estuaries in the Chesapeake Bay and the Chesapeake Bay is noted for these -- one of the major anadromous spawning areas along the Atlantic Coast and you have river herring, shad, striped bass, white perch, these fish that are coming up into these upper tributaries every spring to spawn.

And now they are being faced with seeing this very
large predator there that is an opportunistic and taking advantage of these migratory runs. And that is one of the concerns we have is you know, we sacrificed fisheries in regards to river herrings closures, shad closures and you know what is the impact of these large predators sitting in these upper tributaries? Next slide.
(Slide)
This is just to say that the Chesapeake Bay has a lot of these habitat features which are very attractive for blue and flat head catfish and explains why their ranges have expanded so quickly. And they are growing so rapidly.
(Slide)
Again why should we worry? Again, these are highly
fecund animals. They are long lived, fast growth, why all these invasive characteristics that I mentioned earlier. We are seeing this species spread very quickly. And increased in abundance very rapidly.
(Slide)
I didn't know Bruce had all of these little photos in there. Catfish diet. Blue catfish when they are young, they are largely -- they feed on plankton, but when they get a certain size, $I$ think it is in the 12 to 15 inch range, they switch over to being a piscavoirs, primarily a fish eating animal. They found shad, river herring, menhaden, crabs,
fresh water mussels, all the diets of the blue catfish. (Slide)

Non-discriminary. This is a -- it looks like a
boulder there but $I$ believe it is a -- it is kind of clay mud ball. They just rove along the bottom and eat what is in their path. In 2012, the sustainable fisheries ---
implementation team, took a field trip down in one of the Virginia Tributaries, I think it was the James River at the time.

And they did some electroshock. And man, when they turned on that eletroshocker, it was unbelievable. All of the fish there you see are blue catfish. I mean, it was just thousands of them. Next slide.
(Slide)
There is a video -- I don't think you have to do the video.
(Slide)
That is the Maryland State record, 84 pounds.
Virginia is 102. And let me just make a point here is that with -- there is a lot of sports fisherman that enjoy catching these very large catfish to the point where there is some organized groups. Catfish Nation being one in Maryland and they have really built a fishery around this species to the point where in Virginia, $I$ think it is a $\$ 1$ to $\$ 2$ million fishery.

It has gotten -- it has gotten such attention that the Virginia Department of Inland Game Fisheries in Virginia which is the agency that regulates catfish -- it is not the Virginia Marine Resources Commission. In Virginia, they have a fresh water and an estuary marine. Catfish falls under the fresh water group and Virginia Department of Inland Game.

And they are run by a commission and their
commissioners have been strongly influenced by these
tournament professional catfish guides who see the economic benefits and they have been reluctant to change their policy and not promote this fishery for the concerns that I have mentioned. We changed it a little bit but we are still reluctant to send a strong message of concern.

A lot of these big fish, when they are caught, the guys come in to see if it is a state record and what do they do with it afterwards? They release it. These big fish are gaining about 10 pounds a year. And they are hoping by releasing it, somebody will catch it you know next year and they will break another state record.

And you will hear a little bit later, knowing what we know about the potential ecosystem threats, I am concerned about having the policy awarding people for releasing these animals back to the environment.
(Slide)
So what do we now? Through the sustainable
fisheries goal implementation team, NOAA has funded several research projects to learn more about these animals. And trying to develop a bay wide policy that we can advocate. Next slide.
(Slide)
Next slide. (Slide)

Next slide.
(Slide)

Keep going.
(Slide)
Not only is just Maryland and Virginia, but also the District of Columbia, the Potomac River Fisheries Commission, Pennsylvania has been involved in these conversations as well. This is just a summary of some actions, again discussing in 2010, the issue was brought before the Atlantic States Marine Fisheries Commission.

Their executive committee had enough concerns about the potential impact to anadromous species that they signed a resolution directing states to do what is necessary to prevent further introductions and spread and implement programs to mitigate the impacts of these animals. Back up for Noreen for one second.
(Slide)
There has been some funding and currently where we
are is there an invasive species -- invasive catfish task force that is working on some recommendations to address the spread and the impacts of these species. Next slide.
(Slide)

The one thing that there seems to be an agreement about is the public awareness. There needs to be a message sent out to the sports fishing community on you know, the impact of these species and why they should not spreading them. We had a report earlier this year that a blue catfish was caught near the mouth of the Tuckahoe River on the Choptank and it was a waterman that pulled over one of our staff and said we are starting to catch a lot of these.

And in talking them, it is only anecdotal but they remember seeing some trucks being pulled down to the water and fish being dumped in them. Whether or not they were whoever introducing these fish to try to generate either a commercial fishery or a sport fish fishery but if they knew what the potential impact was, Choptank River being a major striped bass spawning river, you know, it is just really unfortunate.

So common public awareness message, implementing some science to better understand the diets and impacts. Some of the models -- there are some models that are being developed that are trying to identify what are the areas that are probably most suitable for these species to thrive in. And then trying to target those areas to do what is
necessary to avoid introductions. They are also looking at strategies to mitigate and there are some talks about having some pilot areas where we try to go in there and we try to really knock down the population.

We shouldn't fool ourselves that we are going to get rid of these species but we may be able to control them in a lower level. Steve Vilnit, our fisheries marketing person has been doing a really good job getting the word out to try to generate a market, a commercial market, for blue catfish. The commercial fishery has been impacted by a lot of different measures recently. Here is a fishery that we want them to go after and catch.

And a few years ago, when corn prices really went high, the aquaculture catfish became more expensive which gave us a market advantage and we were able to get a lot of these blue catfish in the local restaurants. And the restaurant chefs found that the consumers preferred the wild catfish over the aquaculture raised catfish.

And that has been able to you know, give us a foot in the door and it has been maintained and $I$ think in the last couple of years, we have harvested over 400,000 pounds of catfish in Maryland. So, there are some consumption advisories for the larger catfish so we are trying to target the smaller catfish and they are safer to consume and higher quantities.

MR. GRACIE: But don't the older ones concentrate
more with the toxins(sic)?

MR. O'CONNELL: Yes. Yes. So the idea is can we fish them down from the bottom up. Next slide.
(Slide)
This is where they are currently located. You can see from Maryland they are mostly in the upper Potomac, upper Patuxent and as I mentioned, more recently in Nanocoke and also in the Choptank which is updated yet on that map.

MR. GRACIE: What is the upper end of that range on the Potomac? It looks like it is Montgomery County?

MR. O'CONNELL: Yes, it is right -- they tolerate fresh water so some of the dams are probably the --

MR. GRACIE: So they got above Great Falls and
Little Falls then?

MR. O'CONNELL: Up to Great Falls.
MR. GRACIE: Okay.

MR. O'CONNELL: So what are they eating? Bruce Vogt actually worked this morning and sent me an e-mail. There are some preliminary results of a guy, Greg Garmon who is a scientist down in Virginia. He is finalizing the report but Bruce did share with me some of their preliminary results. I want to stress that they are preliminary. I want to stress that they are preliminary.

But he was doing -- he has been doing -- he did a
diet study on the James River and it was for a two month period for a small section of the James River. And based upon his study, he estimated over that 2 month period that over 600,000 menhaden were consumed. 500,000 blue crab and 2 million soft shell clams.

These things are eating machines. So, you see numbers like that, it really scares me. Next slide.
(Slide)
This is just a bunch of ongoing research. If you go onto the NOAA Chesapeake Bay office website, they will probably give you more information if you interested. Some of the modeling -- we are going to go through some of these slides quickly.
(Slide)

They also eat white perch. Mentioned the alosines. Next slide.
(Slide)

So this is some of the modeling work which is
looking to identify high risk areas. And that is being used to try to utilize our limited resources in those areas that are at most risk.
(Slide)

A lot of redundancy here. That may be it. Is that it, Noreen? Yes. So you know, that is it in a nutshell. As I mentioned, most of the jurisdictions except for the Virginia

Department of Inland Game and Fisheries has really recognized the need to do something. But Virginia Department of Inland Game has not yet -- they even have been reluctant to add something to their fishing guide encouraging anglers to remove these things from the water.

So, you know, I am hopeful that as more the word gets out on the concerns that that sport fishermen in Virginia, environmentalists will begin to push the issue. And other sports fishermen too that enjoy fishing for white perch and striped bass and whatever. I mean, it is a -- we are likely to see some impacts of those species that other sports fishermen value. Any questions? Jim?

## Questions and Answers

MR. GRACIE: A couple of questions, Tom. First of all do we have any evidence that they compete with small mouth bass?

MR. $O^{\prime}$ CONNELL: I --

MR. GRACIE: They seemed to be more sluggish water environments, primarily large mouth interactions in the tile rivers?

MR. O'CONNELL: I may defer a couple of these
questions to staff that are more involved on this, but Nancy, are you -- Nancy or Don have you heard about that? If you could come up to the table, Don?

MR. COSDEN: I think there has been discussions of
flat head catfish competing in the small mouth. And particularly in some Virginia rivers like the James, a number of years ago. They tend to eat the sunfish feces, the red --sunfish and the rock bass. But that takes away what is available to small mouth. And that may be a direct --- too. The blue cats I am not so sure of. Right now we don't have an overlap of blue cats and small mouth in the Potomac. But you will notice the last map that we pulled up, there are blue cats in the upper bay as well. And they are in the Susquehanna drainage. There could be some competition there, maybe indirect, I don't know.

MR. GRACIE: Does anybody here know how the Virginia commissions are selected?

MR. O'CONNELL: Governor appointees.

MR. GRACIE: Governor appointees?
MR. O'CONNELL: Yes.
MR. TRAGESER: That was my same question.

MR. COSDEN: Anybody else? Tom? Yes, as Jim points
out in their native natural rains, they do co-occur. It may not be total glum and doom but this was a different system, different whole species, communities are different. So you don't know what the impacts may be. I am just wondering -MR. GRACIE: I am just wondering who to get
mobilized in Virginia? The large mouth fisherman, the small mouth fisherman and who else? Because this is a fresh water
jurisdiction in Virginia.

MR. COSDEN: And we had just last year, we caught a number of flat head catfish in the upper Potomac in the dam number 5 area. And previously --

MR. GRACIE: Someone had to move them. They didn't
swim up --
MR. COSDEN: -- they were there, some large ones. So someone moved them.

MR. LANGLEY: I find this extremely alarming. With the invasive species. Not only with the blue cats but the snakeheads as well and I am in contact with a lot of people who fish the Potomac and they are -- normally they are being very successful in targeting the snakeheads and blue cats in these areas.

And I don't know how long exactly the snakeheads we calculated that they have been introduced but there are some pretty good sized fish being taken, so they are growing pretty rapidly and they are kind of eating machines. And the high salinity water that they can adapt to is what is concerning me. I know I have personally seen them in St. Jerome's creek and so they are migrating farther out it appears into the higher salinity waters.

So I don't know what the best plan of attack is but I think it is alarming and I think definitely it is something that we need to tackle.

MR. GOLDSBOROUGH: Thank you Phil. Ed?
MR. O'BRIEN: I ran into two good old boys up at a show in Frederick and they were really into this Catfish Nation. I think one of them might have been one of the guys that made that presentation down here years ago where you brought them in here where they talked about their tournaments and everything.

And this one guy said he raises them. He said
because there is a real commercial value for them in Asia. So that is the other end of the commercial thing. But I mean, these people are so gung ho and I think this threat to the Choptank is very significant.

MR. O'CONNELL: One thing I didn't mention but I just thought of was another area we are starting to see some impacts to is we do a spring survey for the adult striped bass in the Chesapeake Bay Potomac River being one of the major areas sampled in the sample for striped bass using gill net and Harry Hornick* who I don't think is here today, who coordinates that program, they are finding an increased number of blue catfish being caught in the nest and --- striped bass to the point where they are raising concern about whether or not about whether striped bass are going to start avoiding these nets because they get so quickly saturated with these large blue catfish.

And with large blue catfish in these nets, the
striped bass, you know, see the nets or see the fish hanging there, I don't know. But you know, the catchability of the striped bass may be impacted, so some sampling impacts with these fish too. Dave?

MR. O'BRIEN: Where was that Tom?
MR. O'CONNELL: The Potomac River?
MR. SIKORSKI: How many locations are there for the juvenile index for striped bass? Like week(sic) or something?

MR. : Don would know off the top of his head probably 50 or so.

MR. : There is a lot.
MR. : Is there any way to kind of
correlate the data of blue catfish range?
MR. : Extra -- some extra sites in some places. Patuxent River, all of those would be considered auxiliary.

MR. GRACIE: I didn't hear how many --
MR. : I think 22 firmative. And then the
extra sites in the Patuxent and around the --- area.
MR. SIKORSKI: We looked at the blue catfish range over the JI location and we have seen major drop offs, maybe those locations -- I am sure a lot of them sampling locations are where blue catfish exist, the Potomac and all those tributaries. And that is something for us to be aware of as we continue down the striped bass road and --

MR. GRACIE: So they may start growing faster when we get to those places?

MR. SIKORSKI: What -- catfish maybe -- will have more food. And of course, striped bass are a concern to all of the other species that you mentioned that spawn in the same places. It is a smorgasbord of food for them.

MR. GOLDSBOROUGH: Any other questions? Tom? Noreen tells me that this report is available on the commission website for further information. And I guess this actually -this topic actually segways into our next agenda item where we will discuss these invasive to some extent under the Maryland Fishing Challenge. So that will be Karen again.

## Presentation Maryland Fishing Challenge

## by Karen Knotts

MS. KNOTTS: Do the presentation first. So yes I wanted to go ahead and give you a quick update on this year's fishing challenge and then it will segway right into the continuation of the invasive species and how we would like to fit it into the fishing challenge.
(Slide)
So just a quick review. Most of you are probably aware and a lot of you were $I$ think involved at some point in the early days of the Maryland Fishing Challenge. The modern fishing challenge began in 2005. The basic objectives for the Maryland Fishing Challenge are to showcase opportunities and
fishing in Maryland to increase recreational fishing. So that is a nutshell. And right now, what we have is three different contests components.
(Slide)

We have our Angler Awards which is sort of the back
bone of the contest where you catch, register a fish, you go into an Angler Award center. The fish has to exceed an minimum Angler Award size and you take it in, you get a ticket and your fish online and at the end of the fishing challenge $y$ ear, we have our finale every September. And those folks that have caught Angler Awards over the course of the year are entered into a grand prize drawing.

There are five different prize packages from a
fishing trip. World Fishing Network gives us a nice trip. We have bass pro tracker boats. We have a nice boat and then we have three packages, fishing tackle packages from Bill's Outdoor World. So that is the first component.

The second component is our Diamond Jim Component which is where we tag about 600 or so striped bass in three different rounds starting in May, June and July. And those fish are tagged. Those that are caught, you may have a winning Diamond Jim, if it is caught in the right time period. We have a different Diamond Jim, three different Diamond Jims basically over the course of the summer.

The prize value changes as the summer goes on. So
those are cash prizes. The final component is a youth component where it has changed a little bit over the years. It started out being fishing rodeos were kids were qualified. Now we are moving towards the kids entering their fishing story online. And those folks -- the kids that enter on the Youth Angler's Log tell about their fishing trip, come to the finale and those folks win guided fishing trips which are donated by our supporters.
(Slide)

So those are the different components again, these are our sponsors. Okay, you can go to the next slide. (Slide)

So quick summary of the 2012-2013 contests which was
highly unusual. We had 1276 Anglers in our Angler Award component. You can receive more than one award. We have different divisions, different species, so you can receive more than one award. So we had 1,424 awards. Now that was fairly typical and it was a little bit higher than last year but it was in the neighborhood, so that category, that component was not unusual.

It was the Diamond Jim component which was our very different year for us this year. But a couple of changes that went into effect for the 2012-13 contests were red drum as you folks are aware, really came on previously in the fishing challenge, they were any size would qualify for an Angler

Award but that was changed in 2012-2013 to be 36 inches.
Another change during the contest year was we had an Atlantic cod new state record, so that was added. So on to Diamond Jim, we have that number changed a little bit, I think we are down to 52 Anglers catching Diamond Jim tagged fish. And just to give you some context, previous to this year, 11 was the highest number we had ever had. Very very different, orders of magnitude different.

So we had 54 anglers caught Diamond Jim and not surprisingly we had our first ever Big Diamond Jim winner. So cash payout was $\$ 25,000$ to that winner. Previously what we have been doing is splitting that $\$ 25,000$ prize among those -the imposter fish. So this year we gave out $\$ 50,000$ plus for our non-Diamond Jim winner and the $\$ 25,000$ prize -- sorry it was $\$ 500$ a piece when you catch an imposter fish and 50 plus imposters you are at $\$ 25,000$ and then another $\$ 25,000$ to the winner.

So big cash year. And -- sorry, can you go back -okay, go ahead. Sorry.
(Slide)
So just to kind of put it -- the whole contest into perspective for you, I think Commissioner Sikorski asked for a cost benefit analysis which is not something that -- I am not an economist but what $I$ wanted to do was be able to kind of give you the elements of the cost benefit to take a look at
the different components and show you basically what they -how they are set up, who they reach and what is eligible.

So if you look here you will see in the first column
there, we have each of the three different components that I mentioned earlier and across the top what we have done is summarize the total eligible species, the Anglers and the resource means. Now this is again for the 2012-2013 contest. So for our Angler Awards, we have 63 different species and that is state wide, everything from you can catch an Angler Award fish out in Garrett County and all the way down to the lower eastern shore. Who is eligible is anybody that holds a recreational fishing license or of course anybody that is under the age of 16 can catch and receive an Angler Award certificate.

The -- in 2012-2013 contest, the staff hours when we look at the overall 2,671 hours were spent on the fishing challenge this year. DNR wide. So 24 percent of those hours were on Angler Awards and again the number of those were 1,427 Angler Awards went out. It was about 18 percent of the cost of the fishing challenge this year.

So we moved the Diamond Jim, that one is a fair amount different. There is only one species obviously and it is striped bass. And in the bay and you have to have -obviously have to have a title recreational license or again youth under 16 could qualify for that.

So despite that fact of one species and a subset of
all recreational license holders, that one was our big time draw. 70 percent of the hours that were spent on the fishing challenge were spent on Diamond Jim. Again just because of the huge amount of effort.

Each Diamond Jim tag that is caught is basically -work needs to be done specific to that fish. So a polygraph test needs to be taken. If it is a potential big cash winner. We have to certify the fish. See the fish. Make sure the tag. So each fish is its own entity, so there is a lot of certification that goes on for each fish and that is really where that -- between the polygraph and certification of each fish. That is kind of why that took so much time this year.

Expenditures were about 82 percent of the overall expenditures again because we paid out over $\$ 50,000$ in cash for the striped bass this year. The final component there is youth. It is all species. Because again, kids just enter their story online and then we have trips that are awarded to those kids under 16. So the staff hours on that, it took about 6 percent of the overall time and expenditures were a 10th of the percent.
(Slide)

So as you can tell, there was a lot of time drawn into the Diamond Jim component, it is an uncertain component because we don't know from year to year how many fish are
going to be caught. So it presents some challenges. So what we would like to see happen for next year is to downsize the Diamond Jim component. Obviously this contest runs from year to year, so as soon as the 2012-2013 contest ended, the very next day, the 2013-2014 contest began.

So there was really no time to be able to make any changes for the current year. So what we would like to do though is to scale back the Diamond Jim component and we can do that in a few ways. With the rule change, changing the -back to that we don't require a polygraph which is what we had done in the past and we only 11 fish, so it was tough but it was doable.

But with a polygraph required, three to four hours per polygraph, it is a huge investment of time. So with a rule change we could adjust the needs of the polygraph. And the other thing we can do is change our tagging a bit so it just doesn't require nearly as much time. We can still do it for this year. And so that is what we would propose to do.

And then the other changes would be the Angler Award component, no change major change here other than adding Atlantic cod, which again we recognize as state record in the spring but it wasn't in the Maryland Fishing Challenge. So we would add that at 36 inches. And then adding Kingfish and Tautog to the Chesapeake Division.

Kingfish is already in the Atlantic Division, so we
would just be adding it to the Chesapeake and then we would be adding a 14 inch minimum Angler Award size and then 24 inch for the Tautog. And if we did put into your folders a little description of the kind of the thought process behind those minimum sizes and why we want to add those, so if you want to read those, those are in your files.

So that was the Angler Award. Youth Fishing
component with no change and then the final change that we would propose to the 2014 contest which follows through from what Tom was saying earlier, was to add this invasive species component. And for all of the species that would be eligible and -- Noreen, could you go to the next --
(Slide)
-- would be -- the fish would need to be kept killed to be entered into it. And that would be Northern snakehead and blue cat and flat head catfish. And of course, the eligible Anglers for this would be all recreation license holders and Anglers under age 16.

So it -- in terms of the time required, the way this
would work is -- could you go back one more again, Noreen? (Slide)

It would be added to the Anglers Awards. Northern snakehead would be a 30 inch minimum, blue cat would be 40 inch and flat head cats would be 34 inches. So the Angler would need -- in order to enter them in the contest, they
would need to kill the fish and they would need to check it in to our existing Angler Award process, so nothing new there.

State record, the fish would need to be killed. It would be checked in through our standard state record process again, no extra work there in terms of establishing any new procedures. The one that is slightly different is the Anglers Log. What we -- thanks to you folks with your -- we sent something out a month or so ago asking for your input on this invasive species component and we heard a lot of folks were concerned about putting back these small fish and the fact that people would say, well $I$ am going to try to get myself an Angler Award, I am going to throw this one back because it is too small.

So what we were able to do is, if you recall back to the snakehead contest which we did a few years ago. People could enter their snakehead in the snakehead contest, all they needed to do was go through our Angler's Log, show a picture of it, show that it was -- clearly that it had been killed and then they were entered into a contest.

So what we would do is we would work the invasive species component the same way for the small fish. So if you catch a big snakehead, blue cat or flat head, you could get an Angler Award if it exceeded your Angler Award size. If it didn't make that size, you check it in through the Angler's Log and you are entered.

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So that way we could kind of get work both sides of the invasive species and size spectrums. So state records, obviously you would need to exceed the existing record. Right now we do have a blue cat record but we do not have a flat head record or a snakehead record because they have never been eligible. So that would be a new change this year that they would be eligible, but again all of these invasive species would need to be killed. Okay, now you can go to the next slide.
(Slide)
So, again, in terms of we don't know this is a new component so there is no way to know for sure but our estimate is that the staff hours obviously would go up on the Angler Awards because we would be checking in some new species here. The Angler's Log we would need to do some maintenance on that. But if we scaled back the Diamond Jim, we would basically be pulling hours from that Diamond Jim component, that 70 percent you see and working towards something more like a $50 / 50$ split between the Angler Awards and the Diamond Jim, if not even more time.

And perhaps then for beyond the next year, potentially pausing Diamond Jim all together and really putting more emphasis on the Angler Awards and the invasive species and the youth components because they are the ones that reach the most -- they are the most open, accessible to
the most number of people.
So I guess I will leave it there. Allow some time for questions.

MR. GOLDSBOROUGH: Questions for Karen? Jim?

## Questions and Answers

MR. GRACIE: On the Angler's Log which you call last one, where you can enter any size fish. Would it be worthwhile to indicate that every fish you enter includes another entry in the drawing so you can encourage people to kill more of them? Is that part of it?

MS. KNOTTS: Yes, and we will do that. And one thing I didn't mention, thank you, Jim, on the Angler's Log is, when we had the snakehead contest, what we found was a whole lot of snakehead got entered in and it really did -- the Angler's Log became like snakehead fest for a while. So what we are going to do is sort of separate them out. And I think one of them -- I can't remember which one, suggested that we do a invasive species blog.

So basically the Angler's Log will be separated and we will have all of the invasive species coming in on one component and then the other Angler's Log will be for our game fish. So it does --

MR. GRACIE: So if I catch 150 snakeheads, I have a 150 chances to win?

MS. KNOTTS: Yes, yes. And now the one thing that
we thought we would do a little bit different is, to anything that comes in as an Angler Award or a state record in the invasive species contest, they would go into one prize drawing and then all of the small -- of the any size ones that came in through the Angler's Log, we would have a separate prize. So basically we would have two prizes. So the really big ones get kind of a little bit of extra recognition and all of our outreach, the certificates that go to the Anglers that would get the Angler's Awards, all of our outreach will highlight an invasive species message. So it will be an opportunity for us to use the fishing challenge to really get folks -- a lot of folks aware that some of what you guys heard here today.

So it is a chance and then up on stage at the fishing challenge finale, we have the whole crowd there that we would be able to talk a little bit about why we brought this in and how -- what the goal is for bringing it in and just reach out to folks that are at the seafood festival and at the finale.

MR. GRACIE: No, just congratulations. I think that is a good program. I think the idea of using that to reach out on an invasive species is good too because many anglers don't have any other contact except the fishing challenge.

MR. GOLDSBOROUGH: Vince?
MR. RINGGOLD: Under the Angler's Log, species, they
don't have to kill the fish?

MS. KNOTTS: They need to have a picture. The same way as we did the snakehead, the -- we ask them to have a picture that showed or demonstrated that the fish was dead. So we would have the same requirement for this.

MR. RINGGOLD: Okay.

MR. GOLDSBOROUGH: David?

MR. SIKORSKI: I want to say thanks for your
presentation. It was great. And it is good to see that the Department is constantly thinking about the future for Diamond Jim or for the fishing challenge, pardon me and kind of deciding what works and what doesn't work and moving the funds and efforts around.

Because $I$ know it is a large effort and when -budgets are tight, you are moving in the right direction, so I commend you on that. I always keep -- and you know this, always keep your eyes on the goal and set it -- I know the fishing challenge does have goals and I think it is good to kind of get back with this group and amongst your staff to realize that you are going towards the goal and I think you are -- I support scaling back the Diamond Jim section if that is what makes sense in order to expand the opportunity for Anglers on the other side and without a doubt expand the invasive species portion. So good work. Thank you. MR. GOLDSBOROUGH: Anything else?

MR. SMITH: Are we talking about scaling Diamond Jim
for just resource perspective or are you trying to scale back the contest?

MS. KNOTTS: No, it is Diamond Jim, the resource perspective definitely. The contest has been rolling on -again, we reach a lot of folks, it has good opportunity. So at this point the thinking is we would like to be able to spend a little bit more time on the Angler Award component, yes.

MR. SMITH: Thank you.
MR. GOLDSBOROUGH: Thank you, Karen. All right, we are a couple of minutes ahead of schedule. This is really good. Because I think we are going to need some time before we are done. Let's move on to Jim. And the presentation on Land Management and Fish management.

MR. UPHOFF: Can I be up front or --
MR. GOLDSBOROUGH: You can be wherever you have a mike.

MR. UPHOFF: Do we need a mike?
MR. GOLDSBOROUGH: You need a mike.

## Presentation Land and Fish Management

## by Jim Uphoff

MR. UPHOFF: Folks, let me introduce myself. There is new faces from many years ago since I have been here. I am Jim Uphoff. I have run the program, Fish Habitat and

Ecosystems for Fishery Service and much of what you are going to see here today is due to a lot of hard work from Margaret McGinty, Alexis Maple, Kerrie Hoover, Paul Parzinsky*, and the past members of the impervious surfs.

And the topic here is managing Chesapeake Bay's land use, fish habitat and fisheries. And much of this is funded through the Fish and Wildlife Services, Federal Agency of Sport Fishing, the Wallet Bro or DJ Money. And this is just a very -- attempting to do about a 20 minute survey on an hour or more worth of material. So I will do the best I can. Next slide.
(Slide)
Fishery service has been looking at land use and fish habitat and the Chesapeake Bay probably in a relatively serious vein since about 2001, with some of the yellow perch were in the Severn River and we have been continuing it ever since. Our goals, our assessment and management strategies that reflect land use impacts are guidance for planning agencies. That is county, state, planning agencies. And public support for watership conservation. Next slide. (Slide)

And unlike a lot of work that is done on watersheds where the focus is on species diversity and in particular a rare and threatened or endangered species, our focus is basically on keeping managed species or common species common.

Things and much of our work has featured yellow perch, white perch, blueback herring and striped bass. And we also work on crabs but feds don't like to pay for that but it is part of what we do.
(Slide)
So the first part of this is kind of a two parter, like a little bit of a good news and then unfortunately more of perhaps a bad news story. And the first part of this is essentially going back to the striped bass crash and recovery. This is basically where I started my career and the collective experience that has kind of come out of this, there is sort of a management parable that recovery is always going to follow reductions and fishing mortality.

But with striped bass, there was actually a very viable hypothesis about contaminants and larval survival that once the species recovered, we had a thriving fishery, that hypothesis was largely neglected. Over the years I have had a couple of different opportunities to go back and look at it and in retrospect, $I$ think it may link recovery to land use. Okay next slide.
(Slide)
This is a fairly simple index really of larval
survival. It is simply taking our juvenile index and then a long term egg index and it is -- you scale it but essentially it is juveniles per egg. And what you find over time from

1955 up through -- well, I haven't updated this slide, but up through recent are different periods where the larval survival actually changed quite a bit historically prior to the crash in the 1970s, it was at one level.

There was a sustained period of very low survival that went through most of the 1970s and into the early 80s and then kind of rebuilding survival began to increase and when the -- basically when the stock recovered, the survival was possibly better. But anyway, it certainly was higher than it was during the crash.

And if you were looking at this as a problem ecologically and over-fishing was your only problem with striped bass, these patterns should be entirely random. Basically they should just bounce up and down without any kind of a signal and in particular, the crashes -- one of these kind of events that the odds of it happening at random are extremely low.

Doesn't mean it can't happen at random but most of the time you get maybe one -- one bad year, maybe two bad years, maybe even three. This on average -- well this was approximately 7 years in a row. So the odds of it being random were quite low. Next slide.
(Slide)

And when you look through the literature, improvement of habitat has made striped bass more abundant in
quite a few estuaries, well several estuaries, not quite a few. Restoration of dissolved oxygen in the Delaware River has allowed the species to re-establish itself after I don't know a good 20-30 year hiatus where they were -- they weren't present in the river.

Changes in the management of flow out of dams in the
Roanoke River provided for a much successful recruitment pattern or return to sort of a natural flow regime. In the Savannah River, a restoration of flow and salinity regimes also appeared to have allowed for striped bass to re-establish themselves from very low levels.

And what I want to put out here is just the possibility that there is a contribution of agricultural best management practices to Chesapeake Striped Bass Restoration. Next slide.
(Slide)
So why would agriculture conservation matter. Well, the spawning areas aren't particularly big and $I$ have the -in relation to the size of the watershed that is, Maryland actually has two of the largest spawning areas in the -- on the Atlantic coast and it accounts for the majority of the spawning for the coast.

So there is four of the major ones. The Potomac River, the head of the Bay comp area, Choptank and Nanocoke Rivers. So these spawning areas were essentially at the
receiving end of nearly all of the watershed drainage and agriculture is the largest human land use in terms of acreage still in the Chesapeake Bay. Next slide please.
(Slide)
For about 11 years I did a study of the survival striped bass larvae in the Choptank River and at one point -actually after I had finished the study and kind of moved on to some things, I was able to get in contact with the Caroline County Agriculture -- the Soil Conservation Agent. He happened to have excellent records of land -- of the implementation of best management practices in Caroline County.

Unfortunately Talbot and Queen Anne's County they did not have these records. But Caroline County fortunately in the Choptank River, it borders most of the nursery. And essentially this red line is -- it is a little stage of the larvae. When they first start feeding and they have absorbed their yoke and to the point -- about to the point where they start looking like a little striped bass, so it is a several week period.

And their survival during the course of this study, just steadily went up and it was associated with the implementation of a variety of soil conservation techniques for agriculture with conservation tillage and cover crops being two of the -- the two largest in terms of acreage. So there was a pretty good correspondence between these two. And
the best management practices were really designed for controlling erosion, pesticides and fertilizer.

And they would have the possibility of -- or the potential to eliminate or to minimize things like toxic metals that were thought to be the problem in the watershed. Next slide please.
(Slide)
This is just sort of a broader overview going back to this striped bass larval index and then looking at what the bay program considers the implementation of -- the percentage of Phosphorous best management practices that were attained over time. And the Bay Program doesn't acknowledge that anybody did anything prior to them coming in but essentially what you have is this increasing trend with the survival basic, as the survival basically was rebuilding itself. It is not linear all the way through, there is sort of a limit somewhere as to the benefit you get from this.

But at least as these best management practices became occupied a larger part of the -- oh, you can't see. I am sorry. Give an old guy a seat -- do you have a rocking chair? So anyway, basically the you know, with the increased detainment of these best management practices there was a concurrent rise in the survival. Next slide please.
(Slide)
So basically there is a possibility of a positive
role for agricultural practices in the management of striped bass. These best management practices were designed to reduce erosion, nutrients and pesticides and they would also reduce toxic metals.

In some cases, these toxic metals were at the constituents of either the pesticides or the inorganic fertilizers ores that are used for -- as for Phosphorous. In the 1970s before the best management practices, decreased larval survival basically proceeded to over fishing and in the mid 80s and 90s, the larval survival rose with the best management practices and then it just kind of levels off.

You had cuts -- drastic cuts in fishing mortality, the stock really took off. And it is the possibility here that this increased larval survival reinforced the fishing restrictions creating more bass -- basically more striped bass per egg and making the cuts and fishing that much more effective.

And just kind of want to point out that very often anymore, we don't do these kinds of searches for other reasons, modern fisheries management very much sticks with looking at fishing mortality. You won't find these things unless you look for them.

And this is the other part and this is not quite as perhaps as good as news but during the striped bass drama, Maryland's population increased and our rural land developed
basically had shifted from when I started work in 1973, we were still largely a rural state.

And we had about 3.9 million people and the Department of Planning, Maryland Department of Planning estimated we had about 8 percent of the land use in urban and or suburban category. By 2000, we were looking at 5. -basically the population increased by half, but the amount of land going into the -- into development had doubled.

2030, we are going to another increase again by half and the question is how are we going to use that land. Because it is starting to show basically fairly significant impacts on fisheries. Next slide.
(Slide)
So we basically have been looking at all these various watersheds since about 2003. At different times of the year doing some different things but the kind of the goal of the project is our focus is on finding out what the fish habitat value of suburban watersheds really is. And honestly, we are putting numbers behind what most hunters and fisherman already know, is usually this kind of development is not very good for the kinds of things that we value.

So we have some spring -- for various species, some spawning and larval habitat surveys and then some summer work. But I am going to very briefly discuss with you or show you. (Slide)

So anadromous fish spawning surveys. We have been doing these since 2005. And they have explored developments effect impact on the stream -- on stream spawning of anadromous fish. And a lot of this is volunteer based.

We really get a lot of extra bang for the buck by incorporating volunteers into the work that we do. And then they get something in return which is some idea of maybe of how their watershed is doing or some information that they might be able to use to go to their planning and zoning people. Next slide.
(Slide)
So we keep this fairly simple. The indicator is the percent of our samples that are collected in a season that have herring eggs or larval -- and larvae and as impervious surface increases, this decreases. Impervious surfaces is really the hard surfaces. Roads and rooftops, compacted soils in a watershed.

And they are a very widely used indicator of the intensity of development. Just as our rough rule of thumb, we consider about 5 percent or less impervious surface to be a rural system. And by about 10 percent and on out a ways, we consider that to be suburban. So essentially what we are seeing is the rural watershed functions better for herring spawning. Next slide.
(Slide)

We are also looking at esturine yellow perch larvae with plankton nets. I am not going to get into great details. We do both just a basic survey to get an idea of how many there are relative to the development but also we look at -we have been looking at feeding success but I am going to keep this fairly simple.

And we are basically looking at the little guys like the one in the bottom there, just to get some idea of what we consider -- what might be an indicator of hatching success. Next slide.
(Slide)
And it is a lot easier when $I$ can walk up and point at this but what we have -- yes, so what we are tracking is a couple of different things. The percent impervious surface is down there on the $x$ axis and the percent of the plankton --that we take with larvae are on the $y$ axis but then these different symbols and colors are superimposing Department of Planning Land Use categories.

So -- and also salinity. So the rural category which
is 5 percent or less is primarily either a forested watershed or agriculture. And for the most part, unfortunately we have one highly forested watershed left that we are aware of in Maryland and that is Nanjemoy Creek. Those are those green -dark green squares.

Agriculture is the next rural land use and these
data would suggest that there is probably a drop associated with going into agriculture from a forest. We also have fresh tidal wet ones, mostly these watersheds are mostly in a forest. We go to a transition in the orange triangles to kind of an urban and fresh water -- watersheds and then finally when we really get into the suburban watersheds, essentially we are seeing as a fairly large decline in the presence of larvae.

So just on average if you were in a wooded watershed at low development, you might be looking at about 90 percent of your -- the time -- or 90 percent of the samples with larvae by the time that you are down here in the well developed watersheds, we are looking at about 20 percent. So we are using this as an indicator of egg and larval viability. Some work we have done with the fish and wildife service, USGS in these more developed systems indicates that the reason these basically these indices are low is because of poor egg viability that is probably associated with endocrine disruptors, nothing terribly specific. Next slide please?

MR. GRACIE: Before you go away, can I ask you a question. If you back that slide. It looks to me -- when I look at that, the fresh suburb looks like it spans the whole range of 100 percent to low -- there is not really a distinctive difference between that the fresh forest except
that you probably have more cluster in the fresh forest. Do you have any thoughts on what that range of suburban is? Is it a wide range of impervious maybe?

MR. UPHOFF: Actually --
MR. GRACIE: That is included in that?
MR. UPHOFF: -- well these are -- I have looked at
this data so many different times. And it -- one of the problem is in a statistical sense is you are not doing controlled comparison. You get what you get. The land develops as it develops. So you can't really follow a transition. It appears that the fresh title may be -- may be a little better able to handle the developments. It is more of a threshold effect --

MR. GRACIE: I was talking about the difference between fresh forest and fresh suburb, not fresh tidal? There seems to be very little.

MR. UPHOFF: Actually what we found -- we did some, we are finding is that in terms of the indices, the fresh tidal basically kind of exurb range are averaging a little higher than the total for the suburban. But there is variation --

MR. GRACIE: I am not sure what you mean when you are saying fresh tidal and I am looking at your legend and it says fresh suburb and fresh forest. Both fresh, no tidal. MR. UPHOFF: Fresh forest and fresh suburb, this is

Mattawoman Creek, this is Bush River, this is Piscataway. And so you have got like two coastal plains stream and a piedmont stream. That may be the difference. There is so many things intertangled in here that it is not --- easy to ease out a direct signal as opposed to when you get here, it is not very good --

MR. GRACIE: Yes, that is clear.
MR. UPHOFF: And if you are here under -- this is a 2012, which is fascinating because it was the warmest temperatures on record when we did this and simply the -- it was a -- the eggs didn't hatch. We saw almost no larvae. So, it is too late now. So, anyway, yes. I mean, this is one of these things I --- going back to this everyday but not everyday but frequently and just various ways of interpreting it.

But the general gist of it that I carry from this is
a forest is better than a farm and a farm is better than a suburb. And I am not sure if fresh is better than brackish or not. Margaret has her hands up so --

MS. : Well, there also is a difference in the amount of wetlands in those tributaries as well. And so the Bush River has a lot larger wetland than the Piscataway and that can be contributing a lot to what we are seeing given that their organic load is different, their organic sources are.

MR. UPHOFF: There is mitigating circumstances that we just --

MR. GRACIE: It wasn't clear from the table that there were separate watersheds. So you answered my question. Thank you.

MR. UPHOFF: Yes and they are separate watersheds, there are geographic regions that might create problems. There are mitigating circumstances like wet ones which actually
could be very key in trying to mitigate damage and so on. It is just -- how do you throw that in a slide. One of the interesting things from last year is that we did a survey on a DNA ratios which just is a survey of growth.

And Nanjemoy and Mattawoman, two watersheds
essentially within the Potomac drainage and it basically indicated that Mattawoman, the larvae did much worse in there in Nanjemoy as far as feeding and growing. And these are watersheds that get the same weather and so on. So there is some interesting stuff that is just starting to come out in some of the things we do. Or trying to do. Next slide please.
(Slide)
We are also looking at summer estuarine habitat, habitat occupation and dissolved oxygen. This goes on from early July until almost October. We just finished this work. Next slide.
(Slide)

And probably the main feature of this work is that the reaction or the very different reactions of dissolved oxygen trends in these -- in watersheds, when you have about five parts or more salinity versus five parts or less. And the red line is the trend in the -- the five part or more salinity watershed in bottom dissolved oxygen.

When you get to about three parts per million, it is
not very good for fish. And these systems basically become hypoxic with development. Interesting the fresh tidal systems really don't show much of a reaction in oxygen, not something that you would normally associate with some kind of a problem like you normally are looking for in the Bay Program, with oxygen. Next slide please.
(Slide)
But our work in Mattawoman Creek indicated that in spite of those trends in oxygen and the channel, that as development intensified in that system, essentially the fish community -- this is what we sample with trawls(sic) all but collapsed. And we actually -- we had started using a larger trawl in 2003 because it was the same trawl that everybody else was using.

And for a little while, they asked what we were seeing and then, I guess it was about 2009, or 2008 or 2009, we picked up this smaller trawl again and have been sampling
with it since. And we are not seeing a sign of recovery in this fish community in the open water in the system. So, there are things that can go on in these systems that aren't just related to oxygen. Next slide please.
(Slide)
Severn River. This is our kind of our first case study. I happened to run across some slides that Bill Perry had taken from 1962 of the perch fishery -- yellow perch fishery which was very famous in the Severn River -- these are guys cars that are lined up at Veteran's Highway and then a guy with a big stringer of yellow perch. Go ahead and advance it.
(Slide)
So when you start tracking the development in the watershed which would be flat diamonds and by the way, this is because we have access to Maryland tax map data, property tax data. We have -- for almost -- I guess every watershed in the state, we basically have a time machine that we can go back to 1950 and look at the levels of development.

And --- Kapulski* who is sitting back there, has sort of become the poor guy that does that every time. But it really is incredible -- that went into the 70 s, about the time that everybody was complaining about striped bass, there were also articles complaining about the loss of perch in the Severn River and some of them blamed urbanization, like 1989,
the fishery was closed. In 2009, we reopened the fishery. Next slide please -- or just push it -- there you go. (Slide)

What had happened was the State had a hatchery. That ran for decades and decades in the Severn River. And we have their egg hatching records. Egg hatching up through about I guess it closed maybe in the late 50s, early 60s. Was 80 percent. When our hatchery people went in to do some work for us, the egg hatching success was less than 10 percent. Probably far less than 10 percent. They had to go out of the system in order to get viable eggs.

And in the interim, some of the things that we could find were that the nursery area had developed kind of a lethal level of salinity for survival of hatching eggs and survival of larvae. Extensive time periods and areas of low dissolved oxygen and PCBs have been found and white perch in there. And the recent work that was done with USGS and Fish and Wildlife Service, implicating endocrine disruptors.

So we have gone -- we -- our egg hatching success has dropped tremendously. Next slide.
(Slide)
So when the Severn was reopened, it was essentially
because the problem -- depressed egg viability was not equivalent to over fishing. In the yellow perch management plan, there is kind of a threshold -- it is --- egg per
recruit of 25 percent of the unfished stock.

And basically the viable egg per recruit cannot reach the threshold, we can't even meet the bare minimum with no fishing mortality. You do the calculations -- the egg viability essentially has robbed you of a fishing strategy. Or a harvest control strategy that is going to keep -maintain that population in what you would consider to be sustainable.

We do get occasional re-colonization from the upper bay, very good year classes that provide kind of a put and take fishery there. Next slide.
(Slide)

So when fish basically its development exceeds, they really aren't encountering any one stressor, there are multiple stressors and it is throughout their life stage. I have dubbed it at the wheel of misfortune. I don't have a good picture of Vanna White to put in there.

But from the watershed you are looking at salts like road salts, sediment, changes in the flow, ground water recharge and more dry periods and much more peaked floods, contaminants, nutrients and something that we suspected that goes on early on and is a disruption of the flow of organic matter that is sort of the base of the plankton bloom that these larvae might need to survive.

This comes down from the streams, gets into the
tidal pressure estuary, impacts the larvae directly through chips, changes and salinity. Less O plankton, increased contaminants. If some larvae do hatch, actually what we found in the Severn River is the fish grew quite nicely although they encountered low DO, and probably encountered an altered food web.

When they get to spawning size though, these things that build up in the females that could be endocrine disruption for low dissolved oxygen, from contaminants which are really all the not just heavy metals but pharmaceuticals, medications -- oh I am sorry, they are medications, pesticides, personal hygiene products and so on. These food webs have been altered and these fish are encountering endocrine disruptors.

So they are disrupting the egg quality. As a management agency, this little red thing, this is the lever that we push. Is managing harvest to try to compensate for all of this stuff as it builds. So this really entails is building partnerships across other agencies that regulate these other things.

And also getting a lot more public outcry about loss of fisheries, you know, in terms of -- when you have planning and zoning hearings and things like that. Next slide.
(Slide)
So, just the kind of the quick and dirty part of
this is that what we have come up with for looking at fisheries on resident species. In general when you are in this rural zone, this less than 5 percent impervious, it is generally an area where we feel the harvest restrictions and stocking -- your traditional management tools are going to be effective.

But what we really need to do is conserve these watersheds. There aren't as many of them as there used to be and these -- they are going to be incredibly valuable to the future of fishing in Maryland. At 5 to 10 percent impervious surface, you probably have an option to use harvest to offset some of the damage and stock. But you are going to be looking at conserving these watersheds and then attempting to revitalize the damaged parts to function well enough that you can get something back that you lost.

10-15 percent impervious, this is kind of the range of suburbs. Say something like Mattawoman Creek to South River, roughly. Where you want to conserve what is left of this watershed and try and reconstruct the degraded watershed. And by greater than 15 percent, we just feel like we are -the expense makes our options limited in things that we can do in probably fairly localized. Next slide.
(Slide)
So the final take home message, planning and zoning is fisheries management. Local development plans are a
proactive approach -- well not really but I mean they -- if we had done it 30 to 40 years ago. But they are the most -probably the closest that we are going to come to a proactive approach to managing land use for fish habitat. And fisheries and we have been doing some of this working with other DNR units, state and federal agencies, local planners, stake holders to protect fish habitat through resource friendly plans.

And this was first applied in Charles County in their comprehensive plan in particular an effort to try and keep Mattawoman Creek from getting more damaged. There is kind of two parts of this. Our work with other DNR units and other state agencies has impressed the hell out of me. We have gotten more -- just backing all the way. The unfortunate part is the county's --- their own resources aren't as receptive to wanting to do a natural resource friendly plan.

I won't go any further than that but I guess

Mattawoman Creek is still in play but it is not nearly as nice as we would have liked. That is it. Thank you.

MR. GOLDSBOROUGH: Questions for Jim?

## Questions and Answers

MR. GRACIE: One quick one and then a comment. I
might have missed it, I was out of the room and I apologize if I did. When you talked about larval survival, and its percentage of eggs. Was that to what age? Was that just to
larvae stage? That first slide?

MR. UPHOFF: Well, are you talking -- you mean in
Severn River --
MR. GRACIE: No, striped bass. You were talking about striped bass.

MR. UPHOFF: Striped bass. It is actually -- it
would be from egg -- it depends on which one you were looking at.

MR. GRACIE: -- survey?

MR. UPHOFF: So the long term was --
MR. GRACIE: So the good was in the range from one to two and a half percent survival?

MR. UPHOFF: Yes. Yes. I mean, more or less if you translate that index into survival but it is really just a relative change, whether it is high or low as much as anything.

MR. GRACIE: Okay, I was just curious about the -lower than I would have expected.

MR. UPHOFF: Right.

MR. GRACIE: The comment is, I guess you know, Margaret and I have talked about this and Bill and I have talked about this and we really think that the commission can play a role in helping with future land use(sic) decisions through the organizations that are represented here. And if Bill is inclined to set something up, I am going to
participate and help in that effort. I have gotten involved in a lot of land use battles over the years.

MR. UPHOFF: We will take -- we have been anxious to
find some book to get fishermen in the forefront of these battles. They participate but it is -- sometimes as I have gone around and given this presentation, there is like you know you kind of get to the end, well gee that is even -- I don't get a bunch of people marching out of the room to go on their planning and zoning --

MR. GRACIE: And I don't think we are going to provide 10,000 persons demonstrations either. But there are groups and some of them at local levels are very effective. There are some people in this room behind me that have worked on --- and as you well know --

MR. UPHOFF: We are well aware --

MR. GRACIE: -- and what we would be doing might be lending more weight to some of these processes.

MR. UPHOFF: That would be great because that is
really --
MR. GRACIE: And I think any -- all of the help that we can get is probably useful.

MR. UPHOFF: Oh yeah, oh yeah we are not in this by ourselves. I mean, the thing that I think we can take -- the lesson we can take the lesson we can take from Mattawoman Creek is it took a lot of years to sort of get the issue but
then once the other people -- well, giving the signs to the other people to get the issue rolling. It wasn't necessarily us getting the issue rolling, the issue was always there but what we did was put some science behind it and I think that has helped to some degree.

MR. GRACIE: Absolutely. You gave ammunition to the people who wanted to change things.

MR. UPHOFF: Yes.
MR. GRACIE: And it worked well.

MR. UPHOFF: We are not going to do it here, we are going to do it through proxies basically.

MR. GOLDSBOROUGH: I think that it is fair to say that everybody on this commission is concerned about habitat degradation in fisheries. But really it has been sort of a bad concept, a little case history here or there but until this point, I think we all need to recognize that really -now there is some data to act on.

This thing about threshold amount of impervious surface in a watershed, causing basically a --- in the quality of fish habitat in the receiving water. That is something we can act on. That is something that decision making bodies and land use ought to be paying attention to. So a lot of significance here. Tom had a comment?

MR. O'CONNELL: Yes, for those of you who go to these sustainable fisheries goal implementation meetings, I
really try to utilize that group as the nitch to try to address these land use issues with the fisheries management. I am going to say it here and I will say it again as I look down the road to what we are going to leave behind for our kids and their kids, these habitat issues in my view, are the biggest long term threat to our fishing opportunities and resources. And we need to find a way to be more influential, recognizing we don't have the regulatory authority.

Jim and his team are doing a great job getting the science behind them but as these decisions are being made at the local level, the local politicians are not going to be as responsive to state government coming in, first it is their local constituencies.

It is you guys at the local level who can use the science and tell the stories of your time living in that county for the decades that you have and find who the influential people are amongst those bodies that are making those decisions. The latter thing is there is one area that chartboat captains, commercial fishermen, recreational fishermen, environmentalists seem to all agree upon. It is these habitat issues.

And if there is a way that we can find a way to work together on these issues, you guys are very influential on individual sector issues. If you guys find a way to work together, you guys I think could really be effective in
changing some policies as we go forward.

MR. UPHOFF: One thing I want to point out and I didn't get a chance to put it in there is that Margaret has worked very diligently putting together tools, like habitat priorities maps and so on. And one of the things she is very interested in is putting together -- well she called it a Angler's Toolbox, but I said if you do that, they are just going to think it is full of fishing stuff.

But sort of a watershed conservation toolbox where you might have contact lists and what the valuable habitats are and things like that. Sort of some kind of -- some thing that is more readily accessible so you can go to a planning agency. Have I completely butchered that or is that close enough? But I am not -- there is only so much I already went too long and but it is not just that you are seeing a bunch of plots with lines.

She has gone through and made estimates for the very watersheds, what the impervious surface, what the threats are, how threatened they are including things like the political climate for growth(sic) and things like that. That might be something at some other date that you might want to see. Or produce other work --- it would be a subject.

And the other part of this is you saw a bunch of like little fish. I didn't have a chance to show but what is
going on with these little areas, don't think that something like striped bass isn't somewhere down the road, not that long or far away from perhaps being subject -- those watersheds being subjected to those kind of road threats. I mean, it is already occurring at the Patuxent River is over 10 percent impervious of --- now. It is a very minor spawning area but the Potomac River, the James River are two systems that have the potential for quite a bit of growth.

So, we are kind of at the end of the era where it is here. You know, I mean, it is an issue. If you don't deal with it now, when you recognize it later it will be too late.

MR. GOLDSBOROUGH: Thank you, that is great. So it seems like the challenge is getting out this very real information about land use as it impacts fish habitat to the angling public. Increasing awareness among the angling public and empowering them to actually let their voice be known in local decision making to maintain and conserve fish habitat is a challenge.

So to what extent does this commission have a role in that? I would like to hear some thoughts on that? But I am going to tell you that one thing Jim and I have talked about is the possibility of establish a small sub group to look into this a little bit farther. Maybe bring some ideas back to the commission. Anybody have any further thoughts? What do you think about that idea?

MR. DAMMEYER: Good idea. I think it is a good idea.

I think pretty much everybody in this room and a lot of recreational anglers as a whole get the role the development plays in their -- their Saturday mornings fishing. You know, there wasn't the same as last year, I will hear that a lot. You know, the --- wasn't very good this year and it has a lot to do with run off and temperatures and you know, 20 different variables. But getting -- how do we get the tools to the individuals so that they can go speak to their local regulatory folks. Does that make sense?

MR. GOLDSBOROUGH: Yes. Absolutely. So if that works for everybody, that there is no objection. Why don't we do that? Let's establish a sub committee and I would like to ask our former chairman to chair that sub committee with the task of evaluating ways of increasing awareness of the angling public about this issue. And ways to empower them to let their voices be known about any local decision making. Does that sound about right, Jim?

MR. GRACIE: Yes, I would be happy to do that. And we expect to be working with Margaret to talk about some of these tools and how we can overlay that with our ability to influence decisions.

MR. GOLDSBOROUGH: Yes. Dave?
MR. SIKORSKI: As far as our role as advising the department on issues, how does this work within that task of
advising the department? So -- if I am hearing it right, Jim will be working with the department in trying to maybe organize outreach that we can do within our individual groups as opposed to trying to get the department to take action in a way?

MR. GOLDSBOROUGH: I think we are going to get some recommendations back from that group about what this commission may be able to do.

MR. GRACIE: Without presuming what they are going to be --

MR. SIKORSKI: Yes, I am -- just yes.
MR. GOLDSBOROUGH: Do we have any volunteers to work
with Jim on this area? Roger? Roger, Micah, Ray, Phil? That is a good mix. Okay. Anything else on this? All right, we are pretty close to being on time. Let's move on to Fisheries Management Planning and I guess Mike, you are going to sub for Lynn? First part anyway. The Atlantic menhaden harvest update?

MR. LUISI: That is what $I$ am doing. Lynn wasn't able to make it today. So I will be sitting in for her for a few of these discussions. And I wasn't able to make this commission's last meeting so $I$ will just introduce myself. My name is Mike Luisi and I am one of Tom's assistance in charge of the direction of our estuarine marine division. So issues that come up, striped bass, menhaden, commercial
reporting, --- estimates, all of those things that we will be discussing over the course of the time that you serve on the commission will be in my shop.

The first thing I have for you today is an update on the commercial menhaden landings through mid September. Now you all should have -- I don't have a -- maybe we can get it up on the screen. It is a handout and it should be in your briefing books. It is just a one page summary. Would it be okay to flip the -- since everybody has it in front of them, I think we can kind of refer to the -- refer to it.

So what I will do is just briefly cover this and then answer any questions that you may have regarding what is on the page here. As you guys know, the Atlantic States Marine Fishery Commission took action recently to reduce Atlantic menhaden landings coast wide. And based on an average of each state's 2009, 2010 and 2011 landings, a quota was determined. A quota was established as the average of those three years.

Putting Maryland at a quota of approximately about 5.2 million pounds of menhaden landings for 2013. Now, what the plan called for was for quota management to the point where the fishery -- the commercial fishery would be closed down. The un -- not the entire fishery but the unregulated or the unlimited harvest amount within that fishery would be closed when the quota was met.

Because these actions took place at ASMFC after the beginning of the fisheries started, we had to come up with what our best guess was on when we were going to hit that quota. When we were going to hit those targets. Because commercial reporting as you know comes to our office after a month's landings have been recorded and it is sometimes another month after that, that we finally have everything in place and we actually know what happened in April. Sometimes it takes us through June to understand what happened as far as commercial reporting in April.

So what you will see on the graph at the top are our monthly and then into weekly landings updates based on data that we have -- that we collected through the course of the year through September. So -- and what we did was, we went back in time and we said okay if this fishery in 2013, operates as it has in the previous few years, when we would expect that 5 million pounds of fish to be landed?

So we use the information that we have gathered over the previous years and thought and we took a stab and said by the end of June, there is a potential that we might be at that -- we might be at those landings. So what you will see on that graph, the shaded area on the left hand side, the line here indicates that the end of June when we actually shut down the unlimited harvest of menhaden and we went to another level of harvest which was part of this ASMFC plan which was a
by catch allowance.

The by catch allowance was in place to allow for
some of the fixed multi species gears(sic) especially like our pound neck gears in the bay to continue to catch menhaden in this first year at a lower rate. And not only was it a lower rate of landings that they had to do but they also had to report to us electronically on a daily and then some -- a total weekly basis.

So we had much better information as we were able to track those landings, which you can see based on this line as it continues out. You know, there is many more points along that line. So you know, since the end of June, we have been able to watch these landings. Slowly come up towards the overall quota here and we are at the point now where the landings are just about there at the quota and you know we have been discussing internally where we might go from here.

There is a by catch limit right now of 6,000 pounds per day for these pound netters. And some -- and in some cases based on whether -- what type of striped bass permit they have or how many fishermen are on board the vessel, there is a maximum amount of 12,000 pounds that can be landed per day. We have been having these internal discussions about what we may do if -- when we get to this line, if we get to the quota, the 5.2 million pound quota.

But what is important to understand I think as far
as just overall, ASMFC decided to implement this by catch allowance to minimize and Bill, correct me if I am wrong here but it was intended to minimize the economic impact in this first year but slow down the landings to a more controlled level because it was unknown as to what impacts both to the actual fishermen landing menhaden and to the bait industry that any drastic shutdown would have.

So in 2013, this extended period of landings up to the quota you know, it -- it could have been that -- it could have been that this unregulated landings may have gone all the way to the quota and then we would have had a slow trickle effect on out through the rest of the year. But we still find ourselves under quota. You can see here in this graph you know the cumulative effect of the landings and table -- the table on the right hand side here indicate our landings over the past 10 years or so. Do you guys have any questions about that $I$ can certainly try to help answer them?

## Questions and Answers

MR. LYNCH: Yes, Mike, can you explain what happened 2012, why ---?

MR. LUISI: I can't. It was --
MR. GOLDSBOROUGH: What was the question?

MR. LUISI: Why 2012 just was such a large year? MR. GOLDSBOROUGH: Dave?

MR. SIKORSKI: I can anecdotally. Because they knew
there was a quota coming up. A quota was going to be established. Quotas are generally sort of very harvest average and -- well, they wanted their quota. I think personally that it reflects more of a accurate catch in an average year. Maybe it was an above average year, either way, it doesn't matter. But in an effort to raise the average quota. So that way the quota would be higher. Did I make any sense? I don't know if I made any sense.

MR. : It certainly recorded more. It is a question of whether they actually caught more or --

MR. SIKORSKI: They are going to pay you next year based on what you made over the last ten years and you have a chance of truly recording what you are going to make to up the average, it --

MR. GOLDSBOROUGH: Jim?

MR. GRACIE: Yes, Mike, it looks like from late June
to late September, at this rate, you took in about 800,000
pounds. So, at that rate, you take in another 800,000 --- by
the end of the year. Is this a calender year?
MR. LUISI: This is a calender year --

MR. GRACIE: So you would be half or 600,000 over
the 5,000 if you maintain this rate?

MR. LUISI: Well, I -- that would be at a continued
harvest throughout the rest of the calender year.
MR. GRACIE: That is what I said. A continued rate,
if it was the same.

MR. LUISI: If it was a continued rate, I don't think necessarily from what we would see it does fall off at some level.

MR. GRACIE: Oh, okay.
MR. LANGLEY: Basically I think that question was answered. I was saying as to whether --- and the bait fishermen was offshore, that catch rate is going to decrease. Do you have statistics to show what that rate is? Whether it is the end of October or mid October?

MR. LUISI: I don't have it with me nor have I seen it recently but it is kind of into the fall, October or November --

MR. LANGLEY: But at least you will have a measuring point by the by catch, probably? A good base line to work with for next year?

MR. GRACIE: I guess you didn't answer my question. The question was really what happens if you go over this?

MR. LUISI: Well, based on the plan -- based on ASMFC's plan, there is no -- we would not face any consequence in the upcoming year because what the plan said was that you must close your unlimited harvest before you meet your --

MR. : Which you already did.
MR. LUISI: -- which we already did. Now had we exceeded that, if we wouldn't have closed for another few
weeks and we would have exceeded that quota before we closed down the unregulated limits, then we would have had to pay that back. So --

MR. GRACIE: Or shut down pound netting.
MR. LUISI: And again, yes, this is mostly pound
netting.
MR. GRACIE: So actually there is a good opportunity
here to get a good estimate that you can use next year
probably? Based on the rate of the regulated, wouldn't you say? I mean is that --

MR. LUISI: Well, what we are working on right now,
like I said before this plan came into -- it came -- it was approved after the season already started. Our expectation at this point now is to acquire information on a very timely basis at the beginning of the season so that we don't have to take a stab at it, we don't have to take a guess.

We will be able to track the landings on a much more timely -- in a much more timely way from January 1 through the point to which we can see we are starting to approach the quota and then when we do so, we can project that and then if this by catch permit that we issued to pound netters this year is still in -- is still available based on any additional ASMFC actions and that is when that --

MR. GRACIE: Oh, yes, I wasn't even thinking that could change too.

MR. LUISI: This whole part right here, this -everything in the blue, we didn't know what was happening until we got the information months later. So we took a guess and we guessed on the very conservative -- we actually took our -- made our assumptions based on what was reported in 2012. So we said you know they are landing that many fish, we need to shut this thing down as early as possible.

MR. GRACIE: Makes you look pretty good here with this graph.

MR. GOLDSBOROUGH: Depends who you talk to.
(Laughter)
MR. RINGGOLD: Mike, in regards to the number of people reporting, why is there such a change like on July 14 of 34 people to September -- 25 difference in people. Shouldn't this be more consistent? And look at the values attached to that where the 9 people bring in a report of 96,000 and 16 people can't even make 68,000 . And forgive me 1 am very young at all of this stuff, so my questions are going to be like this.

I see this straight up to me it -- I initially feel that there is an inconsistence of reporting. So when you are looking at these numbers and it is blatant that those stand out like that, how can this be any accurate to where we are at?

MR. LUISI: You are right. It is a problem that we
face not just with menhaden reporting landings but with crabs and other species that we view. What is being reported, we have to look at that. Yes, there are some discrepancies, the numbers jump around a little bit. The 9 -- those 9 people who reported the first week of September. It is a drop. And I don't really -- I don't know what to say more than you understand and we are working through trying to get a better handle on it --- the reporting requirements that we establish.

These requirements are put into place, it is a matter of enforcing those requirements to get the reporting that we need.

MR. GOLDSBOROUGH: We may still get some reports
that will plug into some of these time frames?
MR. LUISI: Yes. We are continuing to get both paper and electronic reports that we can cross reference. Try to get as much high quality information as we can from management.

MR. GOLDSBOROUGH: Dave?
MR. SIKORSKI: Where in your planning stages is like hail in, hail out or where various measures are made -help make these reports a little more accurate, make them more enforceful?

MR. LUISI: Yes, I think it is more about the accountability and the enforcability. We are at the point
right now, you guys have heard us speak about the hailing system. Which fishermen would be required to tell us when they are leaving and when they are coming back. In addition to that component that was built into the system that we are planning -- of course, being planned is an electronic reporting mechanism with validation. Random spot check validation on the reporting.

So we are at the point right now where we are getting in the final stages of putting out a request for proposals to build that system. That system, the RFP right now has striped bass as being its first focus. We are really trying to get that in place, maybe not for everyone but at least to begin the pilot work in the striped bass fishery as of June of next year.

So that is kind of what we are looking at for that. That would be a hailing and an electronic reporting mechanism which we would start to work into all of these fisheries. And something like menhaden, something like the yellow perch where there are small numbers of people. It is a little easier to get them onboard first before you spread it out to the thousands of fishermen that we have.

So but striped bass would be the focus when you get it on open rod(sic).

MR. SIKORSKI: I appreciate your efforts on that. I know you have a tough job in trying to herd the cats here and
try to figure out what is going on out there especially with a lot of enforcement issues. I know just anecdotally it seems like I was surprised when I saw the catch numbers for this year. I know it seems like there is a large abundance of menhaden in fact, recreational fishermen that I know -- on my time on the water, I have seen a lot more and I don't know where the supply -- pardon me, the demand may have peeled off on the menhaden bait fishery. Or where they are selling their fish to. So I see the numbers just kind of fly high like that, it raised a red flag in my mind -- there is a lot out there, they are still needed somewhere, someone is going to buy it. Why aren't they on the reports? That is just me, so. MR. GOLDSBOROUGH: Jim?

MR. GRACIE: On the hail in, hail out system, first time we heard about that was three years ago in response to some gill net violations. And I thought that there was still a legislative resistence to that and that is why it didn't go forward, is that not correct?

MR. O'CONNELL: The timing of us pursuing that coincided with NRP's -- some investigations that were using black boxes, which became mixed in the two. But we overcame that. The delays have been with to be honest with you, the bureaucracy with the procurement and in particularly on technology procurement.

MR. GRACIE: There is no strong political resistence
to that, that you see?

MR. O'CONNELL: I don't -- I think there is some but not enough to block it, I don't think. Just -- I have one comment please. You know, the point that a couple of people have made in regards to accountability is reasonable issue, anytime you have a quota system, there is a -- there is an incentive from the reporting. And we actually had some leaders of the organization tell us that that was going to happen and that was one of the reasons why we went into this year very conservatively.

It says date proposed in the --- fish real early?
As Jim said, it was very good but I can tell you that the industry when it went to AELR to -- and threatening lawsuit, they said that they lost an opportunity because ASMFC allows you to catch that quota and then go to a by catch which can exceed that quota. So we try to build that uncertainty into those two account for some of that behavior that we expect. But we would be looking at this more closely. And trying to improve the accountability and go forward knowing the importance of managing this resource.

MR. GOLDSBOROUGH: Other questions? Good. Thank
you, Mike. Tom are you going to do the ASMFC overview?

MR. O'CONNELL: Yes.

MR. GOLDSBOROUGH: Okay.

## by Tom O'Connell

MR. O'CONNELL: So the annual meeting of the

Atlantic States Marine Fishery Commission is coming up the last week of October. October 26. It is down in Georgia this year. Bill Goldsborough and I will be there along with Russell Dias from Senator Colburn's proxy. I think Ed O'Brien is coming down who is on the striped bass advisory panel.

Looking over the agenda, the agenda doesn't have any detail to it yet. It just has which species boards are meeting. Menhaden is on the agenda. And I imagine there is going to be some conversations in regards to how this year's management worked and whether or not there is going to be a by catch allowance next year or not.

The big item is striped bass and the next agenda items is going to be reviewing this bench mark stock assessment on striped bass and the next agenda item is going to be reviewing this bench marked stock assessment on striped bass that will be presented to the striped bass management board at this meeting.

Based upon what you will see in a few minutes, you will -- I think it is easy to predict that the board is going to have a lot of discussion and will likely begin discussing a time frame and plans for some level of reduction. I think the amount is what is going to be the focus of the conversation and while there has been some summary reports on the stock
assessment there is a lot more details that I think will come out at the meeting.

I will be chairing that meeting. I think it will be a three and a half to four hour meeting, so it is going to be the bulk of the one day. The American eel, the commission at the last meeting took some actions to reduce the harvest of silver eels as well as the yellow eel through some minimum mess size requirements on pots. The one area that they did not address in this meeting we will begin to talk about will be establishing a quota for yellow eels on a state by state basis.

It is mostly a commercial issue but Maryland is one of the top harvesters of commercial eels. You will also hear later tonight that one of the actions that the commission took last meeting on eels was increased in the minimum size for eels. Both recreationally and commercially to 9 inches. And that is going to be a regulatory action. We are going to be scoping this fall.

The other item that is on the agenda is summer flounder, black sea bass and scup and Mike sits in for me for that board. Mike, do you know of any major issues that are coming before that board?

MR. LUISI: Nothing major. What is going to be discussed are some actions that are being thought about at this time. More specific to summer flounder and I sit like

Tom said as a proxy for him on this board and I am also serving on this work group that is taking a look at summer flounder management and where we may go in the future because what we are seeing is that the -- we are currently working on a state by state conservation equivalent management measure.

So each state puts forth its regulations in order to meet a certain target level of fishing. That was assigned to that state based on 1998 landings information. And the reason why 1998 is so important is that the last year before conservation equivalent measures became effective. So it is the last time that the entire coast had the same regulations for flounder.

So they took the landing information from that year and they created allocations for each of those states. A paper was presented just the other day which looks at what they call the stock epicenter for summer flounder. And over the course of these 12 or 13 or 14 years, what we are seeing is a shift in the epicenter of this stock of flounder. To the north and to the east.

As fish become more available in states like New York, New Jersey, Massachusetts, there is an imbalance between where the availability is of the stock and the allocations for those states. And the northern states are continually seeing larger size limits and over harvests because of availability and the inability to kind of predict
and create regulations that will restrict that.
So there is work ongoing. It is going to be
presented at the board. Talking about some ways of possibly using different modeling approaches to account for some of these changes in that fishery. You know, how is Maryland going to be impacted is yet to be known. But I think what everybody along the coast is in agreement to is that there are -- the fishery has changed since 1998 and we need to account for those changes and come up with a way to do that. You know, for flounder. So that is kind of the focus $I$ think of what that meeting will be about.

I will be sitting in or $I$ will be going to the Mid
Atlantic Fisheries Management Council next week and during that council meeting we will be setting all of the quotas for summer flounder, black sea bass and scup for next year. And you know, there is not anything real -- nothing of high interest to report there. It is pretty standard and straight forward.

MR. O'CONNELL: So hopefully soon a more detailed agenda will be on the ASMFC website. I would also mention that the ASMFC just launched a new website, it is much more user friendly. So if you get a chance you may want to take a look at the -- I want to just bounce back -- the stripe bass for a minute because it will lead into the next agenda item. So, the major topic at the ASMFC's striped bass
board meeting is going to be a presentation on the stock assessment. Which is likely going to signal some response by the board to initiate an addendum to evaluate potential harvest reductions. Just to kind of inform you of some of the challenges with different time frames.

The assessment is kind of suggesting that taking action sooner will be better because if you defer actions until 2015, you may have to take a larger reduction. One of the challenges that the board is going to be faced with is there are state fisheries for 2014 that begin in January. They will need to go through an addendum process which if the board agrees to -- if they agree to an addendum at this October meeting, they will have to go out for public hearing along the coast and it is going to be a very contentious hearing, most states will want one.

And those hearings will likely have to occur between
Thanksgiving and Christmas which is the worst time to get public involvement. They will have to do that in order to bring the public input back to the board at the February meeting. At which point, the board could take final action on the addendum but then would give the states probably two or three months to go back home and implement because regulation would have to be proposed and implemented.

So, a normal process is going to put the quickest for which reductions if agreed upon or implemented would be
probably like June of 2014. I expect that some board members are going to want to discuss what the ramifications would be if we moved on a pathway that would look towards implementation on January 2015.

That would allow the board to provide guidance to the staff at the October meeting. Bring an addendum back to the full commission to review in February. Have public hearings in the spring time and the board take the final action at their summer meeting, giving the state the time in the fall to implement by January.

Discussion is going to be if you wait what is that going to mean in regard to potential reductions. So I just want to let you guys know that that is likely going to be a focal point in a conversation and if you guys have any input that you want to provide to Bill and I now, you know, we will take that into consideration. Knowing that there is a lot of information that has yet been presented and we will hear at that commission meeting.

MR. RINGGOLD: And that is going to be 8:30 to noon on the 29th?

MR. O'CONNELL: Yes. Is that Tuesday? The 29th. Yes, that is the date.

MR. GOLDSBOROUGH: Questions? Comments? Dave?
Questions and Answers
MR. SIKORSKI: I feel like in my time on this
commission, we have always been waiting for a date, and waiting for a date and when the date comes, we oh it is not really here yet. And in my reading of the report that we received in September, I would say to be in the best interest of the State of Maryland and striped bass, in general to go as far as possible towards potential changes and regulations.

Because directly in the report it says if we continue on our fishing level, we may exceed the thresholds which were placed to stop over fishing or being over fished. And I know that when you have less fish, which we seem to have, it is inherent that you are going to have less fishing pressure on those fish because there are less fish.

So if an equal number of fishermen go out there, they are not going to catch as many and the mortality may not stay the same if you have less fish. But that is not -- that kind of is and may be supportive of less action but in the end if you are looking out for the fish, it would make sense to take some sort of action sooner than later rather than just say oh it is okay, there aren't that many out there, so we can't -- it is not as easy to kill them.

So that is kind of where I stand. I think the sooner the better and $I$ would rather swallow a bitter pill today than a much more bitter and enlarged pill two years down the road.

MR. GRACIE: I guess I have a different question. Whenever we go through this kind of an issue at ASMFC, there
seems to be an inordinate amount of attention given to our trophy season compared to the impact of our trophy season. So I am a little bit concerned that pushing ahead might not give us the opportunity to be heard on those issues in a realistic way.

So I am not sure what is the best course of action. I am a little bit worried that a rush to judgement may have an undo effect on our trophy season which isn't warranted. So how do we cope with that? I mean, it sounds like where we are sitting right now is we are going to be in a position of reacting after the decision has been made.

MR. O'CONNELL: If things move quickly, the board is going to have provide some pretty clear guidance to the staff at the October meeting and probably leave it up to a subgroup to review before it goes up for public comment. In my view, I think if reductions are warranted that they should specify the amount and let the states determine how they want to achieve their reduction within their jurisdiction and not get specific as to this fishery and that fishery and --

MR. GRACIE: Tell me more about history than ration or reason at this point.

MR. $O^{\prime}$ CONNELL: In my view is that if the board
starts to move quickly to try to keep the focus on the
reduction level and not the specificity --
MR. GRACIE: Will you be in a position to influence
that? I mean, you are chairing it --

MR. O'CONNELL: I am chairing it but I have to be a
neutral facilitator but $I$ might have to step down at some point and have the executive director --

MR. GRACIE: I was chair of this commission and I
had a hard time speaking when I wanted to some times.

MR. $O^{\prime}$ CONNELL: So chairs can step down and if $I$
need to do that, I will do that.

MR. GOLDSBOROUGH: It sounded like you said even on the fast track, we wouldn't have regs in place until probably June, so the spring --

MR. : So we could get one trophy season on impact.

MR. GOLDSBOROUGH: Yes. If we are responsive to ASMFC, and not trying to do something in advance of that, which I doubt we would. Probably wouldn't effect the next spring season.

MR. GRACIE: I mean, in terms of our striped bass fishery that is all we have left of the charter boat industry right now. So I am really concerned that if we could do it, a death blow.

MR. GOLDSBOROUGH: Well thank you that is a good segway because Ed's hand is up.

MR. O'BRIEN: Yes, I totally agree with the schedule you laid out, Tom. Is the practical judicious way to go. It
may be frustrating to some people but we can't move sooner than that in the interest of the fish. This discussion basically though we are talking about the trophy season, is that correct, Tom?

MR. O' CONNELL: In regards to --
MR. O'BRIEN: No, as the action that is going to be taken by the board, is going to effect Maryland's Trophy Season probably more than other things.

MR. O'CONNELL: I mean, that is yet to be determined. The board is going to be talking about if a reduction is needed, at what level. It may suggest some level to the coastal migrants, some level to the resident fisheries in the Chesapeake Bay because we manage those under our conservation equivalency plan. I am hoping that it is not going to get into the level of specificity and we are going to say and the trophy fishery in Maryland is going to have to be reduced.

We argued the point several years ago that our trophy fishery is part of the coastal migrant stock and it should be managed that way. And we were successful with that and really hasn't been brought up --

MR. GRACIE: You recognize that was a turn around
though?
MR. O'CONNELL: Yes, yes.
MR. GRACIE: Okay.

MR. O'BRIEN: I was following up on Jim's point
because he is absolutely right. First of all the northern
states tend to come against -- come after the bay states. And that typically focuses on Maryland. You know they never liked it when we did the Susquehanna Flats Track, they don't like it when it comes to our trophy season.

And the conversation at these meetings, has been a lot of times focused on that. Most of the time focused on that when it comes to Maryland. Now, I am going to say it again, but what is being ignored when it comes to the trophy, the buyer mass of the adult fish, what nobody seems to want to pick up on is this Virginia commercial fishery. When is it?

Late February, March and April. An anecdotal
conversation from people who have been there and participated in it, say it is wide open and you can hardly navigate a boat through those nets. So all of the focus on Maryland, Tom, it seems to me that has got to be surface more.

Because I feel it is probably the biggest
participant when it comes to the adult size fish.
MR. O'CONNELL: That is a valid point, you know.
And for some of the people that may not be familiar with this, in our spring trophy fishery has gotten a lot of attention by ASMFC. It is easy to tell a story that Maryland fishermen are taking these fish right before they enter the spawning grounds to spawn. But the reality is is that this fishery takes on
average 20,000 to 60,000 fish a year.

If you look at the fisheries that occur just prior to ours, the commercial fishermen in Virginia, the winter fishery off of Virginia/North Carolina. They are taking hundreds of thousands of fish. The impact of Maryland's Trophy Fishery is a small fraction of -- so you know, those are the types of issues that the board needs to be informed of if they start to target Maryland's trophy fishery.

MR. GOLDSBOROUGH: Dave?

MR. SIKORSKI: Yes, I am hearing two things. The whole conversation is about the spawning stock fish whether when they first pursue them, they are the spawning stock fish. And so if it does say stay on a higher level, not talking about -- not ASMFC saying to Maryland, you do this and you do that and you do this.

Then I would assume that would limit what we could do in telling Virginia the same thing. It is either going to stay on that level and ASMFC says states, you figure it out this is your target level. Or $I$ mean is there a history of them adding an exact regulation upon a state from interstate bodies?

MR. O'CONNELL: For striped bass, it has been pretty much set the reduction and leave it to the states to decide how to implement it.

MR. GRACIE: Well, except that we start on a very
small number for our spring trophy season, so don't forget that. And that stayed that way for a long time regardless of what was happening to the stock.

MR. SIKORSKI: Again we are species-wide as opposed to our seasons and how we pursue them. We are looking at not unprecedented necessarily but at least in the last few decades, a situation where we have basically the largest juvenile recruitment or juvenile -- we have the best spawn ever, like 2012? 2011. But fourth -- but I am sorry, the worst was 2012, that was what $I$ was thinking.

So the worst in 2012 but others that teeter right around that -- the average -- the rolling average which is if you have three bad juvenile index numbers in a row, then it causes action from ASMFC and we have been dancing around that. And sure we were supplemented by that one year, a concern being that that one year's fish, 2011's, will be fished upon at 18 inches in the Chesapeake Bay next year.

So it should be of course kept in mind as well. We only have so many that eventually are going to make it to that spawning stock by a mass number. Let's not be careful that we remember that we only have so many that are going to get there because we have all of these gaps in the spawning cycle in the last few years.

MR. GOLDSBOROUGH: Other comments? Okay, so do we have a summary -- stock assessment presentation that Mike is
going to give. Thank you Mike.
Presentation Striped Bass Benchmark Stock Assessment

## by Mike Luisi

MR. LUISI: Tom already touched on a number of the points that I wanted to make in the beginning here, so that is good. We had a brief discussion. When the stock assessment is done, there is a report that comes out and then somebody takes that report and they boil it down and it becomes a summary report.

And then I took the summary report and sent you guys a hand -- something just a broken down version of the summary report in your briefing books. From there, I am providing a summary summary summary summary report for the commission here today focusing on basically three different things.

We are going to talk about fishing mortality. We are going to talk about female spawning sock biomass and then we are going to look briefly at what is being reported as far as projections for the five year window of time in front of us.

So what you are going to see and what Tom mentioned already is this assessment is not finalized. The assessment is just an updated assessment that needs to be formally approved by the Atlantic States Commission. And they will be reviewing this and moving to approve that -- approve this assessment in the -- at the end of October.

So, as we step through the three different -- as we step through the fishing mortality and we step through spawning stock biomass, what you are going to see is that the biological reference points have changed. So you are going to see multiple lines which I will explain as we go. But there are current biological reference points and there are current estimates of spawning stock and fishing mortality.

And then there are the newer or updated biological reference points based on new information that was provided through this assessment. So just keep that in mind that these are still pending for board approval. Next slide.
(Slide)
Okay, so what we have here, we are going to be talking about just the overall status of the stock and what was reported as part of this assessment. So relative to the new biological reference points, in 2012, okay what the assessment is telling us is fishing mortality is estimated to be like 0.188. So that is the mark right here at 2012.

And that falls in between what the updated target and threshold are. Now, the two lines at the top here, those are the current threshold. The current threshold I believe was 0.34 and the current target was slightly under three or it could -- this new assessment has shifted those reference points and therefore our current threshold, what we don't want to exceed okay, is 0.213 and where we would like to be, the
target is 0.175 .

Now the reason for this shift was that the current or let's just maybe say the previous threshold in target were not linked in any way with the spawning stock biomass. They were fixed rates for which we would manage a log.

Now, this most recent assessment changed the rules a
bit and what he assessment did was that it linked fishing mortality with the spawning stock. So if you can read to the right here and I apologize for the size here, I thought it was going to be a little larger on the screen. The updated target reference point which is this solid red line at the bottom, is the reference point where it is being established in order to obtain the target spawning stock biomass.

It is not just a point -- it is not -- the target is actually linked to the spawning stock biomass, so by achieving that target, what we would be doing is we would be working towards the spawning stock biomass target. And this is the first time that this assessment has gone to that level of linking these two together. Noreen, you can hit the slide again.
(Slide)
So based on where we currently are, based on where we are in 2012 with fishing mortality being what it is, we can say that the stock -- we are not over fishing the striped bass population -- the striped bass stock at this time. Next
slide.
(Slide)

Moving on to spawning stock biomass. The updated assessment indicates that there is an estimated 61 and a half metric tons of biomass out there. And again, that falls between the target which is 72 metric tons -- 72,000 metric tons and approximately -- the threshold of approximately 58,000 metric tons.

So as far as the numbers go, as far as what the assessment is telling us, this is is a not -- the stock is not over fished because we have not gone below the threshold. Next.
(Slide)

What we are going to see on the next slide -actually if you can go back Noreen. What we are going to see is similar to how the reference points have shifted, there is a new -- there is an entirely new time series for female spawning stock biomass that was produced as a result of that connection between fishing mortality and spawning stock biomass and the fact that recent tag information -- tagging information suggests that there are -- there is a little higher natural mortality on younger fish.

So what you are going to see is that overall the total biomass is larger in all cases but the important thing to understand is that even though there is a different
approach on establishing a new time series for the biomass, you will see the trends are exactly the same and the reference points will reflect those changes. So Noreen next slide. (Slide)

Okay, so what you have here, this is -- this doted line here is the current or I guess we would say the spawning stock biomass estimates from the previous assessments. And it ends in 2010. We have new information now that suggests that spawning stock biomass is larger than based on the new assessment that was done, we have a few extra years added here. So, you can see though that the trend is the same, everything is kind of moving in the same direction throughout the time series. I just thought I would point that out to you so you -- because it is different than what we have seen in the past. Okay, next slide.
(Slide)
Okay, so the current threshold for spawning stock biomass was set at the level of the population in 1995. That was how that level -- that is how that threshold was established. Therefore, given the current status, if we were to pass the threshold, we would be looking at making some adjustments in our management strategies. So we also have the current target of 47,000 metric tons. Next.
(Slide)
Because the biomass has shifted, what we see is that
the reference point has not -- the reference point hasn't changed because what we are still doing is we are taking that level and we are creating a threshold level here at the 1995 level. The only thing that has changed is that the estimate of the 1995 spawning stock biomass has gone up.

Now in order to calculate the target to where we want to be, this is a 125 percent of this line and that is the same calculation that was used to establish those two green lines prior to the ones that you just saw. So they are being calculated the same way, they are just in relation to a different trend -- a different spawning stock biomass as predicted through the assessment.

So, if you can go back real quickly just one. So
what you will see is based on the latest information, you know, we are I believe it is about 61, you guys have the number. 61,000 approximately metric tons which puts us in a track, given that there has been a decline here. We are tracking towards reaching and achieving that threshold in the coming years. Okay, next.
(Slide)
Okay, as far as looking at projections. If we take
a five year look at what could happen, the report indicates that by maintaining the current fishing mortality rate, which again is not an over fishing rate, but even if we maintain that current rate, the probability of being below the spawning
stock threshold increases until 2015 and 2016. After the 2015, 2016 year, the projections kind of flatten out somewhat.

So there is -- the -- there is a less likely -- we increase for the next few years but then as maybe thinking of today, it may have something to do with this 2011 class coming through. That is about the time where they would be moving into that spawning stock. That is the first projection. That is the first outlook. And the second, Noreen.
(Slide)
Is that by maintaining the current removals which
looking at fishing mortalities between landing and dead discards of about 3.6 million fish. The probability of fishing mortality being above the threshold, the probability if we continue to remove fish at the rate we are currently, the probability of exceeding this threshold of fishing mortality increases in 2013.

And is being predicted by 2014 if that rate of removal does not change, we would almost be at a 100 percent -- it would be a 100 percent probability that we would be over that line. And you can draw the conclusion from that that by reducing the removals, is reducing your risk of exceeding the fishing mortalities.

MR. GRACIE: What in that graph tells you that probability increases?

MR. LUISI: The projection -- well, there is nothing
on the graph. But with the decrease in spawning stock biomass, it is being projected that the spawning stock biomass is decreasing. So by even maintaining a current level of fishing on less fish, your fishing mortality will increase and the probability is that we will very recently be above that threshold level.

I didn't put a bunch of projection graphs in here, I
just thought that we would stick to the -- stick more generally to this, so -- you know those are the couple of projections based on spawning stock and based on fishing mortality. I don't -- Noreen, if you could hit -- I think we are -- that is all I have to report here. Tom, if you have anything else to add or you guys have any questions, I will try to answer them the best we can.

MR. GOLDSBOROUGH: Questions for Mike? Dave?

## Questions and Answers

MR. SIKORSKI: What percent, this may be a side
issue, but what percent of fish make it to the spawning site? Like out of that 2011 spawn, what percent of those fish make it to 20 inches? Is that estimated anywhere?

MR. LUISI: I am not the right person to ask that, so I can't answer that for you. But I can certainly follow up with you.

MR. O'CONNELL: You assume a certain level of
fishing mortality, you can calculate out. I don't have a number off the top of my head.

MR. LUISI: The fishing mortality, you can run that out in time. But one of our systems most likely could handle that a little bit better.

MR. GOLDSBOROUGH: One comment I would make on that though is that it is less than it has been historically by virtue of the increase natural mortality that striped bass are suffering when they are resident here --- the first 4-6 years. And while nobody considers that or why that is, it is most likely related to the microbacteriosis that we see sometimes in large amounts in the samples.

So fewer fish are making it through that residency and joining the post migratory stock. And is that the increased natural mortality that you referred to being utilized in the model?

MR. LUISI: Yes. Yes.

MR. SIKORSKI: The reason I thought of that was the data given to us earlier when larval survival, I was just trying to compare the two to each other. One was ---.

MR. GOLDSBOROUGH: Ed?
MR. O'BRIEN: Yeah, Tom, the technical committee came out with that first set of graphs and then all of a sudden we are looking at a different way, looking at the data and our conclusions in a different way. Was that the peer
group that changed things around? Or how did that occur?
MR. O'CONNELL: It was a stock assessment committee which may include some technical members but a lot of the people are from the National Fishery Service. They produce this report and then it goes through a peer review process, an independent peer review process and they have concurred with what is being recommended by the stock assessment committee. So you know, it is probably more than likely that the board will go forward with accepting these but don't know until we get there next week, a couple of weeks. Jim?

MR. GRACIE: This is kind of off the subject a
little bit, but there was some thought for some time now that the increase mortality and susceptibility of microbacteriosis had something to do with the reduced menhaden food supply. And if that is true, and I don't think anybody has refuted that and that makes sense.

If that is true then maybe we are going to see a turn around in the future. I mean, one of the ways to look at this ten years ago was gee, we would probably do a better job for the population if we took more small fish out of the Chesapeake Bay. Because we have an overpopulated fishery for the food supply.

And therefore they are suffering and we are seeing less condition and more susceptibility of microbacteriosis. But an increase in menhaden should help to right that ship,
shouldn't it? Does that make sense or am I --

MR. GOLDSBOROUGH: Poor nutrition and water quality stress is both -- suspected as culprits and as I understand it last weekend, at the watershed forum in Shepherd's Town, there was a fish help panel that reiterated that. So both of them are still considered factors. Dave and then Ed?

MR. SIKORSKI: Where is the increase in menhaden?

MR. GRACIE: If we get an increase because of
harvest controls.

MR. SIKORSKI: Oh, okay.
MR. GOLDSBOROUGH: Ed?
MR. O'BRIEN: Okay, well anecdotal as always but I remember anecdotal when we went into the moratorium and came out of the moratorium and it was pretty accurate some of the points that were brought up. As were later reflected relative to the overall biomass.

Just about everybody that you talk to, has participated in this striped bass season this year says it is one of the best we have ever had. Now I am not talking about the adult spawning biomass, I am talking about what has been going on since this unbelievable live lining that we have been doing.

And as far as the sick fish, you know, again we have gone through a lot of different issues on potential sick fish situations. Jim Price has been there at every meeting talking
about how all of these fish are going to die. Well, while we have had this great fishery this year, which everybody seems to own up to when you get north of let's say the Gooses, the migration pattern sets in.

But I don't hear any talk about any preponderance of fish with lesions on them. Now there is other people on here that fish a lot and I would like to comment on that too. Certainly we have different fishing organizations. I mean, the charter boat interests and their self interests is obvious but it has been a great year.

And those fish are all going to be in the spawning biomass within years. 26 inch fish, 25 inch fish, 24 inch fish, 22 inch fish, that is not far away from 30 or 28 wherever. So I mean, you know, I think we should take a positive attitude when we can about how successful we have been in bringing this stock back.

And not jump to conclusions and certainly not get too defensive right now because there is going to be a lot of negotiations that are going to be unavoidable. And let's not give anything away and build that up in the public's mind until we really know how this is going to come out down in Georgia.

MR. GOLDSBOROUGH: I hear you, Ed on that. The one thing that $I$ can tell you is that the increased estimates of natural mortality that they use in the assessments are based
on tag and recapture data. It is not based on any presumption about disease or disease mortality or stresses or anything. So it is anybody's best guess what the cause of increased mortality is and that is that discussion. I had Val next?

MR. LYNCH: Thank you, Bill. In the projections, the statement was made the probability of stock over fishing increases rapidly starting in 13 and reaches near 100 percent by 2014. What was there. So if we are looking at over fishing next season what does that trigger as far as DNR is concerned, as far as ASMFC is concerned or anyone else? If it appears that we are looking at virtually 100 percent over fishing next season, what happens?

MR. O'CONNELL: That is a very good question, Val. I mean, we won't know if we over fished in 2014 until the next assessment which would be two years out. If it is determined that we are, that will trigger a discussion about management action, however if the board decides to take action in 2014 or 2015, that action may have already been implemented and now it is trying to bring it back underneath that threshold.

So whenever it is determined that you are at that threshold level, it is going to warrant a potential action by the board. The board is initiating conversations now -- I mean, even the spawn is --- or the fishing mortality target has exceeded the threshold level. But we want to be at the target. And based upon the projections, we are going the
wrong direction and that is where $I$ think the board is going to want to discuss taking some level of action to try to stabilize that decline.

What that level of action is and how quickly they act is going to be part of the deliberation. But hopefully at the next benchmark stock assessment comes out and it shows that we did overfish in 2014, we would have already had a plan in place that will had been addressing that issue.

MR. GOLDSBOROUGH: I have Dave next. Go ahead, Dave.

MR. SIKORSKI: I am going to pass.
MR. GOLDSBOROUGH: You are going to pass?
MR. SIKORSKI: Yes.
MR. GOLDSBOROUGH: Vince and then you are next Phil.

MR. RINGGOLD: Quick question to help me. I keep
listening to all of this and I had the pleasure of speaking with Mike last week in regards to my Atlantic Coast chapter, wondering why they have to take two fish over 28, but the Bay has two fish between 18 and 28. And of course, Mike was explaining coastal to me and length of fishery time and all like that.

I speak with a lot of people from up north. And they say, "Vince how is your fishing season?" And I say, "I am bringing in 22, 23 just beautiful fish." And they say, "God, we would love to catch a 22 inch, 23 inch fish." All
they do is slaughter the cows. That effects us directly. How do we approach that?

MR. O'CONNELL: So back when the fishery re-opened and I wasn't involved with striped bass as closely. You know there was a fishing mortality target for migrant striped bass. And because of the bay states had a fishery that targeted smaller fish because by the time they get migrant, they leave, the bay jurisdictions were successful in getting approved into the ASMFC plan what is called conservation equivalency.

And that basically says that we will let the bay jurisdictions catch a smaller fish but it will be conservationally(sic) equivalent as if we had the bigger fish to ---. My understanding is that conservationally equivalency option is available to any state.

And if they wanted to pursue that, they would need to get their state agency to put forth a conservation equivalency plan and then those states would have to look at the trade offs. What do you lose, what do you potentially gain and if they thought it was beneficial, they could bring that before the ASMFC board for review and approval.

MR. LYNCH: Thanks.
MR. GOLDSBOROUGH: Phil?
MR. LANGLEY: I was just -- what I was trying to clarify with Tom is the fact that as far as the over fishing, that is the entire Atlantic stock, that is not Maryland over
fishing. They are looking at it as the total stock assessment. So that is -- and basically Captain Ed spoke earlier about it, all of these fish as far as I am concerned, majority of them are spawning fish whether it is up north, whether as far as Virginia Beach, whether caught on the way up or whether we catch them.

And it is the overall stock assessment that I am concerned with. And I guess that commercial fishery in that credible time of year and we have spoke before about it and at some point in time, I would love to see these fish get a 30 day break.

They are targeted from January to January. There is in Maryland and Virginia when these fish are coming up, Virginia season is open in February and March, ours opens in April and they are hammered 12 months out of the year. And most management and natural resources, wildlife and whatnot, there are certain times a year where they are allowed to -animals, you don't have deer season in May or April.

And it would take some effort with Virginia, but it would be nice to see whether from mid March to mid April, one of these days these fish are allowed to swim to get to the spawning grounds and then caught after the fact.

MR. GRACIE: Val said something that I am a little slow, let me just make sure that $I$ got this right. If the probability of over fishing if we go -- continue at our
current rate, it is a 100 percent in 2014. Then we are going to be over fished in 2014 according to projections because we are not going to get regulations that cut that in 2014 significantly, am I right? Is that what that adds up to? Finally just sunk in here.

MR. O'CONNELL: And the projection is that we will be near 100 percent but even though the state would not be able to implement until mid season, you still -- pretty drastic reduction but probably not likely that that would happen.

MR. GRACIE: Okay, just want to make sure that I understood that.

MR. DEHOFF: Just --- by 100 percent we are talking about there is a 100 percent probability --

MR. GRACIE: Probability, right.
MR. DEHOFF: Not that we are going to overfish by 100 percent.

MR. GRACIE: No.
MR. LUISI: If you were going to bet on it --
MR. SMITH: If the striped bass board determines that a reduction needs to be made, and let's just say I am going to throw out an arbitrary numbers, of 20 percent, is that going to be 20 percent off of all of the state's allocations or are they going to say Maryland you need to reduce yours by 10, Virginia 20, et cetera, et cetera, how
would that come to fruition?

MR. O'CONNELL: We don't know until it happens but what I would anticipate is that they would determine what level of reduction needs to come off the coastal migrant and what potential reduction would have to come off of the bay jurisdictions. And then from that point, the states would have to determine how to implement that reduction. And I am sure that it will be someone just to raise the allocation issues at that point.

But you know, Maryland may be told that you need to take an $x$ percent off of your bay resident fishery. We then have to decide how to do that. Talking with the commercial guys, charter guys and recreational. You know, what is most valuable, you want long season or would you rather take something off of your season.

You know, do you want a long season? Then you have to look up potential --- in reductions. So those are the stake holding conversations that would need to occur once we know what reduction is needed. Thank you.

MR. GOLDSBOROUGH: All right, we are way behind but are there any other questions or comments? It is a pretty important topic to everybody? Okay. Let's move along. We are going to have some quick reports on the regulatory updates starting with PFC.'s fishing license, Tom?

## Regulatory Updates

## by Tom O'Connell

MR. O'CONNELL: Yes. And just one brief
announcement, since our last meeting, the Governor has appointed a new Potomac River Fisheries Commission for Maryland. Maryland has four of them and Phil Langley has been appointed to represent the charter industry. So I think we will have a nice liaison with this commission and that commission. So Phil did a great job at his first meeting a few weeks ago.

This is a follow up on an item that Commission Trageser brought to this commission attention earlier this spring. And that was there has been -- Roger has begun to hear that people were going to the Potomac River Fisheries Commissions to buy their sport fish license to take advantage of the cheaper price knowing that there is a reciprocity agreement between the three bay jurisdictions.

Reciprocity agreement means that if you buy a license, a sport fishing license from the Potomac River, that also allows you to fish in Maryland and in Virginia. And due to Maryland's license fee increases in 2007, there has been a greater disparity between the jurisdiction and license fees.

We brought that to the attention of the commission, Roger came down and gave a great presentation. I agreed to work with direct travel --- and the executive director at the
commission to evaluate this issue further.
Going into this, you know, I set forth a principle for the three jurisdictions that if we are going to have a reciprocity agreement, the principle should be that the license fee should be comparable so that it doesn't disadvantage one or the other. This isn't a cost recovery conversation.

This is a fairness issue. So with that, we agreed upon that and we took a proposal to the commission at their September meeting and they agreed to move forward through a regulatory process to modify their fees so that they are more comparable with the implementation being 2015 rather than having a mid season adjustment. They have a lot of printed material that is already printed.

So what you see here is the different license categories, individual resident, individual non-resident. The first -- the second column is PFC. that is their current license fees. The third column is what PFC. is going to propose followed by what is currently in place for Maryland and Virginia.

So for the individual resident license, you can see that the current license for the Potomac River is $\$ 10$. Much less than Maryland and Virginia. The proposal is to bring it up to the Maryland level of $\$ 15 . \quad$ PFC. not being a state, you don't have a non-resident license. But what we have come up
with is a category called individual non-Maryland, Virginia resident.

So if you are not a resident of Maryland or
Virginia, you will be considered a non-resident for PFC. is the best way to describe it. This is where one of the bigger discrepancies was. You can -- you know if someone coming in from Pennsylvania fishing in a bass tournament, could buy a $\$ 10$ license and not have to buy the $\$ 22.50$ or $\$ 25.00$ license in Maryland or Virginia.

So the proposal is to establish that new license category, bring it up to $\$ 22.50$. They are going to add a short term license and you can see it as modifications to the pleasure boat decal. They have pretty much taken the lesser of the two states when there is a discrepancy but $I$ think this will go a long ways with addressing that behavior.

There are things that I evaluated that was a good talking point was, you know, is there really effecting license behavior? And I went back about 10 years and looked at what the national trend is with sport fishing license is and there has been a 1 percent reduction.

If you look at the Potomac River Fisheries
Commission license sales, there has been a 37 percent increase. So it is plausible that people are taking advantage of this. So appreciate Roger's time on this and --

MR. TRAGESER: I appreciate all of the effort you
put into this and energy.
MR. O'CONNELL: We will keep you posted.
MR. TRAGESER: Okay.
MR. GOLDSBOROUGH: Thank you. Sarah?
MS. WIDMAN: Moving ahead as fast as we can.

## Regulatory Scoping Items

## by Sarah Widman

MS. WIDMAN: You guys have the handout for our regs update. I will just briefly go through the whole thing. On the recreational front, we did put a couple of --- that will be thought up in regulation to increase the minimum size for scalp head -- scalp, great hammer head and smooth hammer head sharks to 78 inches. That is a bit of a change from before. That is coming from the reds.

Most of our other public notices since our last meeting are commercially related or aquaculture lease applications. Regs that went into effect mostly clarifications, --- fisheries, summer flounder, black sea bass, horseshoe crabs.

The beginning of the ITQ process with striped bass for the commercial guys was put in place and we have the emergency on the menhaden. We had some pick ups on that with process that have been resolved at the agency's involved.

So we don't have to worry about that in the future. And as far as regs and the hopper(sic) that you guys might
want to have a heads up on, our annual non-title regulations currently proposed and that is moving the upper boundary of the catch and return area on Owens Creek on Raven Rock Road to Buck Lance Road.

We did put in a rather large and long time in the making, recreational crab changes for next season. Two I guess important things to note on that, that are in place with that proposal would be to -- anyone who wants to use net rings or collapsible crab traps would have to get a license before we let them use a small amount of them without a license.

So you would have to get a license for those gears as well as if you have a riparian property, you can still use your two commercial crab pots but we are going to request that you register for free so that we can track that information and some of that is related to making sure we get education on diamond back terrapins and turtle excluded devices on those.

MR. GRACIE: You really mean request that you
register for free? Or are you going to require that they register for free?

MS. WIDMAN: They are required too. Sorry.
MR. GRACIE: Oh, you said request.

MS. WIDMAN: Our proposal is to require, sorry. The gear proposal is in although I think at your last meeting -- I went through that. Those gear changes are currently in place
for emergency and that is just sort of laying out and clarifying all of the recreational gear that you guys can use. And I think that is largely it on the reg front. Were there questions on the reg stuff before $I$ hit the really short scoping list?

MR. GOLDSBOROUGH: I would just like to point out for the commission that the striped bass proposed that you have there on page 3, that is the group of proposed regs, remember we talked about our last meeting when they were considering scoping and I am sorry, Ed left the room at this point but this was his issue and others as well.

It was the concern that the original proposal to allow hook and line commercial stripe bass fishing on Fridays and we expressed concern about that. The commission asked me to write a letter to the secretary explaining -- and based a lot on our feedback -- and note that the Department based in part on our feedback and other information I think, elected not to go forward with scoping -- I have hook and line commercial on Fridays, Ed, I was making a point from our last meeting that you had brought up. Thank you, Sarah.

MS. WIDMAN: Sure. And then lastly really quick, on the scoping front, short and sweet list. I think Tom has already touched upon American eels, the are recommendations that came through ASMFC so there is a short paragraph synopsis of some things that we are looking at.

We would likely be putting the -- well we put this on the website where you would come up with ideas for it. There was already a public hearing on the addendum for ASMFC back in April, so I am not sure if you guys have any suggestions or recommendations for further scoping that you would like us to do on it? Again this isn't something between now and Christmas time, like some of the other packages are. But it would be probably next year in 2014 at some point.

MR. GOLDSBOROUGH: Questions? Comments?

MS. WIDMAN: And then the last two are related to aquaculture and oysters. Aquaculture we have recommendations from our division staff. There has been some issues with the harvester permit folks wanting different people working there, their leases and how do we provide some flexibility for that to occur.

The department has been working with aquaculture coordinating counsel and the oyster advisory commission on this. So we would advise for scoping that we would continue working with them at their public meetings as well as putting any information that we have on the website for comment. Unless you guys would like further scoping?

MR. GOLDSBOROUGH: Comments on the aquaculture proposal?

MS. WIDMAN: All right, last one. Oyster shell pricing. We do have oyster shell pricing in place right now,

50 cents per bushel for us to pay for shell. This is not within the market. The market is $\$ 2.00$ to $\$ 2.50$ per bushel, so the department has concerns that we are going to be out priced, we are not going to be able to purchase shell back. We would like to move it up to $\$ 2.00$. And this is again based on staff discussion with the stake holders.

So again we would propose that we have it up on the website and again continue to address this at public meetings with aquaculture coordinating counsel and the oyster advisory commission. Unless you guys would like us to publish the --

MR. GRACIE: What process do you have to go through to set the price that you will pay?

MS. WIDMAN: It is a regulatory process.
MR. GRACIE: It is a regulation how much you pay?

MS. WIDMAN: It is a regulation -- a law passed
several years ago during session, so we have to change it in regulation in order to change the price.

MR. GRACIE: You could always be behind. Every time you change regulations, you get ready to go behind now at $\$ 2.00$.

MR. SIKORSKI: So that is the price that you are able to pay?

MR. GRACIE: Yes.
MR. GOLDSBOROUGH: Questions for Sarah? Good thank you, Sarah. All right, a little behind here but we have one
more significant agenda item. That would be Karen doing the annual budget report.

## Budget

## by Karen Knotts

MS. KNOTTS: So I will try to keep this nice and
short because I know we are behind. The FY2013 or budget report, you guys should all have a copy. Just a quick to touch on what is in there. It is basically the same template as previous years, so we start out with license sales, a little bit on revenues and expenditures. There is also in there accomplishments so that is a lot of information that I encourage you guys to take a look at that.

Accomplishments that were made during FY13 specifically on sport and chartering fisheries. It is a great read. It will take you a bit of time. And then 2014 priorities, again not all are priorities but the priorities that relate to the sport and charter fisheries is in there as well. Okay, if you can go to the next one.
(Slide)
So the previous commission we had had discussion. One of the things that they really were hoping to see was a balance sheet. So thanks to our new fiscal management services division head, Carl Simon, who unfortunately had a training today which is why I am here talking to you rather than Carl.

He was able to put this together and I think it said, the quickest thing to do would be to walk through that with you and point out a few things. Again this is fisheries research and development and fishery management and protection fund. So specifically this is about 46 percent of our budget. This is our licensed sales money. So the title licensed sales goes into FRD and the non-title goes into fisheries management protection FM\&P.

So we started -- the beginning balance line shows us where we started the fiscal year. The total there was about $\$ 6.5$ million in our savings account. I think Gene Alban calls it. And then we -- you can see revenues there, gasoline sale, surcharge, that is in -- so the total funds available at the beginning of the year was \$18 -- I think -- thank you. So about $\$ 18.5$ million was where we started.

Now when you go down, there is just a little space there and we moved to expenditures. So if you look at expenditures for fishery service, at the top line there, it is \$8.259 million. And the next line down, non-fishery service. These are funds that go to units outside of fishery service that to accomplish mission critical services for fisheries. So these are in from highest to lowest.

The total amount that went to other units is $\$ 5.4$
million. So that is on top of the $\$ 8$ million that fishery spent. And as you can see there, NRP is the highest, they
were about $\$ 2.7$ million and licensing almost $\$ 800,000$ and then so on, all the way down. So, those totals under non-fishery service, add up to $\$ 5.4$ million. So when you add together what fishery spent and then what went to other units, they were also list -- as $\$ 13,691,260.00$. That red number at the bottom.

And you will see there in the number of parenthesis,
when we take our revenue and gas surcharge and then we subtract out the expenditures, the revenues -- expenditures overspent revenues by $\$ 1.7$ million. So, a portion of that beginning balance was used to cover that difference. So that $\$ 6.5$ million or so, that was the very first number at the top there.

So the level of services that fisheries provides is only sustainable if we obviously increase revenue or are able to make some more cost effective operations. Make some changes to get that. You guys -- a lot of you were on the commission last year, we went through the cost recovery exercise and we looked at revenues to see where an increase in revenues was warranted. What was the analysis that was conducted at --- the cost recovery at analysis showed that sport fishing revenues were offsetting the cost of management services for sport fishing.

The commercial side, we needed an increase in
license fees in order to bring them up. So we had Senate Bill

662 was passed during the FY13 session. So 14 -- the 12 session, 13 so that it is -- we are going to be getting some money in from that. And so what that increase in revenues will allow us to reduce our dependancies on some of these savings account balances that we had been using.

The other thing related to cost recovery is that for community services, that is non-fishing related services, those also we needed an increase in general funds to cover those non-fishing related services. So, let's see -- make sure I get everything.

All right, so what we are expecting is going to
happen is that we will see about $\$ 1.6$ million increase in revenues from the increase in license fees. So, then that will allow us to shift away from the dependancy on these special -- this savings account and it will also -- it will also reduce -- so we are spending less of the savings account and we are also -- I guess that is -- we are going to be able to maintain services without using as much of those -- oh that is what I wanted to say, the general funds.

Previously we had used the general funds to cover a lot of these services. So what we are trying to do is get back to the point where obviously we are balanced, so we are getting there, but we are not there yet. So, you can see that negative $\$ 1.7$ million. If we are bringing in $\$ 1.6$ million in FDR funds from that license fee, that covers a lot of it but
we are still to the point where we would have to look down the road at needing to make some changes to make sure that we get balanced. Tom, I am sure I am missing some things. This isn't my area, so is there anything that --

MR. O'CONNELL: I just -- we are making progress to
stop the bleedings, getting our spending in line with our revenue. My next area of focus is to work with the secretary on finding ways to bring in more general funds to recover the loss that the department has had which put them more dependant upon these fishery service special funds.

If we can bring in some more general funds to address those community related benefits like water quality and environmental review, that will allow us an opportunity to bring back some squirt fish monies and potentially some new projects and initiatives. So that is what we are working to do.

## Questions and Answers

MR. GOLDSBOROUGH: Jim?
MR. GRACIE: I am a little confused. First of all, my first question is, does the fisheries management and protection fund include wild grow(sic) money? MR. O'CONNELL: No. MR. GRACIE: It doesn't seem to, it is just license fees. MS. KNOTTS: It is just license fees.

MR. GRACIE: And then the deficit as I understand it, this is recreational and charter fishing license, it is not commercial.

MR. O'CONNELL: No, the --

MR. GRACIE: The license fees are total. The
fisheries and development fund -- is it commercial license?
MR. O'CONNELL: The fisheries and research
development fund is all part of license as recreational and commercial and charter.

MR. GRACIE: Oh, okay that is a total figure then, I thought this was -- okay. That helps. What does -- how does Wallop-Breaux change that? What is that annual Wallop-Breaux allocation? That goes into FM\&P?

MR. O'CONNELL: Yes, the report we focused on the special funds which is required by law but the report also included general funds, reimbursable funds, federal funds like Wallop-Breaux. So it is also --

MR. GRACIE: Would it be broken out that way under
fisheries M\&P, Management and Protection fund?
MR. $O^{\prime}$ CONNELL: Broken --

MR. GRACIE: Because Wallop-Breaux is restricted to
that.

MR. O'CONNELL: We don't give any Wallop-Breaux
money to other units other than aquatic education.
MR. GRACIE: I know that, but it is a revenue
source.

MR. O'CONNELL: Yes. Yes.
MR. GRACIE: Offset by expenses?
MR. O'CONNELL: Yes.

MR. GRACIE: Is it broken out by FM\&P is what I am
asking?
MR. O'CONNELL: By inland and non-title are you
saying?
MR. GRACIE: Well, it is recreational. Wallop-Breaux money is recreational.

MR. O'CONNELL: I am not sure if I understand what you are asking Jim?

MR. GRACIE: Will it be in the same column as
fisheries management protection fund for revenue?
MR. O'CONNELL: Wallop-Breaux can only be used for recreational --

MR. GRACIE: So I will see it on my luxury report.
MR. O'CONNELL: The federal funds are listed as a
total as federal funds.
MR. GRACIE: Not broken out?

MR. O'CONNELL: No. We can provide more detail in regards to --

MR. GRACIE: I don't need that here --

MR. GOLDSBOROUGH: Any other questions? Okay.
Thank you, Karen. And Tom, you have projected dates for next
year? Meeting dates.
MR. O'CONNELL: So Noreen has looked at -- we tried to align meetings prior to ASMFC meetings. And based upon that, Noreen has set forth which is on your agenda, the proposed meeting schedule for 2014, so consistent with our operating guidelines, we try to lock that in before the close of the calender year. So if anybody has a problem with those, if you could get back to Noreen either today or soon after this meeting and we will get those locked in and put them on the website.

MR. GOLDSBOROUGH: Everybody hears that little homework. Consider these dates and let him know if there are any concerns. Okay, we will have public comment in a second. I have one other minor -- quick item. And that is the penalty work group. Do you remember that? We have four reps on that and Tidal Fish has four reps and so far we have only got two. And one was Mack, who was a holder from last time and not here today but for Mack and Val who stepped up.

So it would be great to get two more, given those two, it would be nice to have a non-tidal one and a I think a charter one were the two we were hoping to get. But two more. So think about that. It is only one meeting a year, two? Max two. Would like to have one meeting this fall. So it is a pretty important component of enforcement deterrence so we want to be represented on that if we get a couple of
volunteers that would be great. Roger?
MR. TRAGESER: I will volunteer non-tidal side.
MR. GOLDSBOROUGH: Excellent.
MR. SMITH: I will do the charter side if you want.
MR. GOLDSBOROUGH: All right, Tim, I appreciate it.
Excellent. So now, does anybody from the public like to address the commission? Ken?

## Public Comments

MR. HASTINGS: Hi, I am Ken Hastings, recreational fisherman from St. Mary's County. I have some property interest in Charles County and I really appreciate the work that DNR has done with habitat versus fisheries. I am one of those foot soldiers benefitting from the Mattawoman work that has been done.

And I can tell you that there is probably no other county in Maryland that has a better understanding of the value of the resources, relative to fishing and that is totally on a good thing from the standpoint of what DNR has done to get to this point.

Unfortunately we have a political situation down in Charles County where I have some property interest and a whole lot of habitat interest for the types of things that $I$ do and what I really should be doing is passing the hat and trying to put together --- by one county commission.

If I could just buy one, then we would be the best
county in the state in terms of habitat protection instead of the goat of the entire state and that is where we are headed now. I take off my $501(\mathrm{C})(3)$ hat for a minute and tell you that the only real solution to my problem down here is the 2014 election. It is grim right now and it is not going to get any better. We can throw up all the slides and all, we tried to have DNR come down to view presentations and they were willing.

It wouldn't cost the county a thing and our people didn't want to hear it because they were afraid that something else would come up to make a entire damn county over but not as palatable as it was to start with.

So that was -- and one of the main reasons I came here today was to see this presentation, I have seen it before and it always makes me feel good because I realize that there is scientific basis, there is some factual stuff here about why habitat is important. Not to fishing but people need clean water and clean air too.

And so we look to fishing because we have data there and we don't have data anywhere else. So this has been one heck of a tool. I also last time, we had a discussion about budgets and what not. And I took Tom's advice and I went back and reviewed the July 17, 2012 Sport Fishery Advisory Commission Meeting.

And I guess if you hadn't been doing the reports
that you were supposed to be doing and him doing the consultation with the sports fish people and how the money was being spent, you made some progress. The problem that I have is that there isn't enough detail there in order for the Sport Fish Advisory Commission to satisfy the role that they have been cast in by the General Assembly.

The General Assembly, according to the legislation of 2007 expects this commission to give advise and counsel on how to spend those license fees. There isn't enough detail in the reports that you get -- budget reports to do that and sometimes, information is late and I am not going to spend a lot of time -- it is kind of late today to do this, I have done some research on it naturally.

And I just would like to point out that in your 2013 report, the most recent one you have, I don't see any place in here where it tells you so that you would know and can look at priorities that $\$ 1.5$ million in recreational license fees was spent to downplay the general fund deficit of 2013 DNR budget.

I have a problem with that. I have watched the cost recovery process and I understand about community things, we all share in community things. People who don't fish share in habitat type things, that $D N R$ is helping to insure. When they did the recreational part, they found out even if they added up all of the community things that we benefit from, all of the parts that we should paying for and what not, we were
still something like at 139 percent of cost recovery. We were paying more then our management was costing us.

Decision made at that time, you take $\$ 1.5$ million of that and pay down the general fund deficit until general funds becomes available later. I have a problem with that on principle but I really have a problem with it because the Sport Fish Advisory Commission was not asked what would you like to do with that $\$ 1.5$ million? What kind of priorities would you like to have set?

You can't set priorities if you don't know what is already being spent. And you didn't have that opportunity. But that $\$ 1.5$ million and that is just in 2013 that $I$ know about, I know it was done in early years. I don't have a number but I know about 2013.

And so I believe that those type of decisions could be made in concert with this commission, not because I think it is a good idea but because that is what the law says. And I believe that this business of moving money around -- you might have decided hey that was a great way -- great thing to do, you should do that to help ensure that DNR can keep doing that.

And I might not agree with that, but I would go along wit it because you got a chance to decide. You didn't get a chance to decide in this one. That is all I have to say. Anybody have any questions for me? Thank you.

MR. GOLDSBOROUGH: Thank you. If there is nothing else, Karen has one quick, very important item to share with us.

MS. KNOTTS: Just wanted to let you folks know that one of the staples that has been around helping with commissions for a long time is soon going to be leaving us. Diane Samuels who has been a fixture in the commission meetings for a long long time, I don't know how many years, Diane? So many years.

So she has been a great help and we want to let you guys know in case you wanted to tell her goodbye. This will be the last time that you see her. She will be off enjoying herself as of December. So just wanted to thank her for her service and let you folks know that she is moving on to greener pastures. So thanks.
(Applause)
MR. GOLDSBOROUGH: Thank you, Karen and I have to -you have to forgive me because I forgot a bit of business, a item of other business. It will only take a minute. Ed, please.

MR. O'BRIEN: Yes, this $I$ was going to talk at some length about this. But $I$ will really --
(Laughter)

MR. O'BRIEN: What is everybody laughing at? How do you think that makes me feel? I have been involved with this
commission since the Spanish American War I guess. But anyway, we have a proliferation of red drum in certain areas of this country. Particularly in the Gulf where the states are contemplating or have gone to more liberal given the recreational fishermen more liberal access to this fishery.

Now I know there is two tribes. There is one in the Gulf and then there is one on the East Coast which has not pursued this that much. I just like at the next meeting, if the Department would come up a summary of where red drum stands, do some investigation and I will help with this as to what is going on in other areas of the country.

And see if there is a way that maybe we can do
something like keep one fish over $x$ inches per boat even. That would be a fish story, it would bring parties and money back to Maryland and with you know, we see that the rockfish is certainly not increasing when it comes to our opportunities, just listening today. We know what we are up against.

So, we as a charter boat association would like to look at other ways of which the red drum seems to be a prime candidate for some relaxation of regulations to where we could actually keep something for our parties. Now, Dave Sikorski brought up the speckled trout in a previous meeting and that is certainly something that fits right into this too.

So I just would like to have the next agenda have
red drum on the agenda.
MR. GOLDSBOROUGH: Thank you, Ed. I think we can do that. If there is objection to that, and I will note too that on the eve a few weeks before the next meeting, when you get your e-mail from Noreen saying please let me know any proposed agenda items, be prompt about that.

So we can get any questions, anything you have on your mind, we can get them on the agenda. And if there is nothing else -MR. : Adjourn. MR. GOLDSBOROUGH: we are adjourned. (Whereupon, the meeting adjourned at 5:25 p.m.)

