

**PROCEEDINGS
OF THE
ATLANTIC STATES MARINE FISHERIES COMMISSION
SOUTH ATLANTIC STATE-FEDERAL FISHERIES
MANAGEMENT BOARD**

**February, 21 2006
Arlington, VA**

ATTENDANCE

Board Members

Louis Daniel, NC DMF	Bill Johnson, proxy for Mitch Needleman, FL Leg. Appt.
William Wainwright, NC Leg. Appt.	Gil McRae, FL FWC
Damon Tatem, NC Gov. Appt.	April Price, FL Gov. Appt.
Mel Bell., SC DNR	Tom Meyer, NOAA Fisheries
Malcolm Rhodes, SC Gov. Appt.	Wilson Laney, USFWS
Spud Woodward, GA DNR, Chair	

Ad hoc State Representatives

Pat Augustine, NY Gov Appt.	Russel Dize, MD, proxy for Sen. Richard Colburn
Tom McCloy, NJ Dive Fish and Wildlife	Bruno Vasta, MD Gov. Appt.
Erling Berg, NJ Gov Appt.	Jack Travelstead, VMRC
Craig Shirley, DE Div Fish and Wildlife	Catherine Davenport, VA Gov appt.
Bernard Pankowski, DE, proxy for Sen. Robert Venables	AC Carpenter, PRFC

Staff

Vince O'Shea	Brad Spear
Nancy Wallace	Bob Beal

Guests

Wallace Jenkins, SC DNR

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SUMMARY OF MOTIONS

Move to approve the SEAMAP 2006 Operations Plan with suggested changes included.

Motion made by Dr. Daniel, second by Dr. Laney. Motion carries without objection.

Move to approve the Red Drum AP nominations of Tom Fote and Daniel Dugan.

Motion made by Mr. McCloy, second by Mr. Pankowski. Motion carries without objection.

PUBLIC COMMENT

**ATLANTIC STATES MARINE FISHERIES
COMMISSION
WINTER MEETING**

**SOUTH ATLANTIC STATE-FEDERAL
FISHERIES MANAGEMENT BOARD**

**DoubleTree Hotel Crystal City
Arlington, Virginia**

The meeting of the South Atlantic State-Federal Fisheries Management Board of the Atlantic States Marine Fisheries Commission convened in the Washington Ballroom of the DoubleTree Hotel Crystal City, Arlington, Virginia, on Tuesday, February 21, 2006, and was called to order at 8:00 o'clock, a.m., by Chairman Spud Woodward.

WELCOME

CHAIRMAN SPUD WOODWARD: We will go ahead and commence with the South Atlantic Board meeting so we can stay on time. It's very important to your chairman. Good morning, ladies and gentlemen. Welcome to the South Atlantic State and Federal Fishery Management Board meeting.

I'm your chairman, Spud Woodward. I appreciate you all being here and I hope you will notice that we are having this at the civil hour of 8:00 o'clock versus the 7:30 hour that we had it last time. I hope you appreciate that.

APPROVAL OF AGENDA

After we made Nancy feel so bad about us having to get up 30 minutes earlier and you know some of us take a lot of work in the morning to get us presentable. But I'm glad everybody's here. And you have in front of you an agenda. If there are not any changes, modifications to the agenda and no opposition we will **consider it accepted by consensus.**

APPROVAL OF PROCEEDINGS

Okay, you also have in your briefing materials and also there are some hard copies of the proceedings of our last meeting in Galloway, New Jersey, in November. Likewise, if there are no substantial changes to this that we need to discuss, and without opposition we'll consider it **accepted by consensus.**

Okay, moving along, moving right along, very good, public comment. This is a time when we open up our mic to public comment. I don't see anybody out there but if they're hiding this is your opportunity to come to the mic.

**SOUTH CAROLINA RED DRUM STOCK
ENHANCEMENT PRESENTATION**

I don't see any takers so we will proceed on with Number 5 on our agenda which is a presentation by Wallace Jenkins. I asked Wallace to come up here. And he is a world traveler so don't let him fool you when he says that this is one of his few rare times to the big city.

He has been all over the world telling folks about the landmark work that has been done in South Carolina with propagation of animals, anything from sturgeon to cobia to red drum. And one of the things that this board is concerned with, obviously, is the future of red drum in the South Atlantic and along the Mid-Atlantic.

And South Carolina has done what I consider to be some of the most credible and very relevant work on red drum stock enhancement that has been done in the southeast United States. And I invited Wally to come and share some of that with us. And with that I want to turn it over to Wally Jenkins from the South Carolina DNR.

MR. WALLACE JENKINS: Thank you, Spud. I'm happy to be here. I appreciate you all inviting me. I trust you've all read the handouts that we sent you so you'll be able to follow this presentation.

They gave me 25 minutes originally and now I see I've got 50 minutes so we'll go slow. I want to thank my co-investigators, Dr. Smith and Mike Denson and also Charlie Wenner and Glen Ulrich who do the fisheries independent assessment of red drum in South Carolina.

I just wanted you to see how long I've been in this. That's me in 1984 and so we've been at this for quite a while. And why are we investigating stocking red drum? Well, it's got a lifespan of 50 years. So if you can put fish in the population they have a potential to be there for a very long time and make a contribution.

In addition, the fish mature at Age 4, a rather late age. And as a result there is a lot of fishing that takes

place on the fish before they reach maturity. Again, stocking may be able to help supplement the population up through Age 4 and prevent some of the over harvest of wild fish.

They also spawn multiple batches during multiple years. And this is very important from a genetic perspective which I will talk about briefly later, completely different than salmon, for example, or some other anadromous fish.

Juveniles exhibit high site fidelity so if you put them someplace, usually they're going to stay there for at least a year so you can get an idea of what is going on with the stocked fish. And they're designated as overfished, although Spud's thing that's in the newsletter indicated that they weren't, you weren't sure of that. But I always use that as a justification.

And, finally, programs are underway in Texas and Florida. And that's not to say that we want to copy what Texas and Florida do but it does give you an opportunity to have a number of different investigators, a number of different habitats looking at things that work and don't work and learning from each other's mistakes.

Now there are concerns about stocking. I wanted to start off with this because I know everyone in the room is aware of it and I didn't want to ignore it. Hatchery releases won't solve population decline. It's one of the concerns.

Diverts resources from potentially more productive initiatives like habitat protection. Not sustainable long term, genetically unsound, leads to increased harvest of wild fish and conceals from the public the real reasons for the decline, so-called half-way technologies.

And what we wanted to do is look at all these kinds of concerns by using a responsible, multi-disciplinary approach. And we've really used this since the beginning. It was published in an AFS proceeding back in 1995 but we've actually been using this methodology since we started.

And some of the approaches there, you have to have genetic management. You have to understand the wild population genetics, the hatchery population genetics. You have to have an understanding of the health of the wild population as far as parasites, diseases, same thing for the hatchery.

You have to consider the life history. You don't necessarily want to stock fish in a completely

different ecosystem or timing than would be appropriate for their life history, although that's been done on a large number of stocking programs in the past.

Identify all hatchery fish. This is something we've done from the beginning. And there are very few hatchery programs that have done this, I mean if you really look at it. But it's very important to understanding what's going on.

Assess the effects. Again, we have striped bass stocking programs in our reservoirs in South Carolina. They've been in existence since the '60s. And they're still doing studies to figure out what's going on.

You know, what's the best time to stock? What size? That's 50 years later. So you have to keep up an idea of what actually is happening. Define the optimum strategies is the thing we're all shooting for.

And we use adaptive management. If something doesn't work obviously we try something different. And evaluate economics. Now this is done in partnership with a number of different disciplines, as you see there.

Now our red drum stocking research began in the '80s. Dr. Daniel reminded me yesterday that he actually caught some hatchery fish when he was a graduate student at South Carolina that were eight pounds did you say?

I used to have '89 as the starting point. That's when we actually got D.J. Wallop-Breaux funds to do the work. We've been conducting pilot scale releases for a number of years, testing various release strategies, testing efficacy as a management tool, examining costs and benefits, and also since the beginning of the program we've stocked 13.6 million fish.

To give you an idea of what that is, Texas stocks that many in a month. In the summer they usually stock about 30 million fish. Well, I know but I'm just -- in 20 years we've only stocked 13.6.

Public perceptions, of course as soon as you say the word stocking everybody is running in to get theirs. And stocking is rated as the Number 1 thing that anglers would like to see their license money expended on in South Carolina.

They don't need any more information than that to make that decision. The first question they ask when they know you have a stocking program is why aren't

you stocking in my favorite fishing area. We have a gentleman that comes to the meeting every quarter and makes that statement.

Stock more fish so we don't have to decrease size and creel limits. And if you've seen the chronology of size and creel limits in South Carolina over the last 15 years you know that we haven't done that. I think we're down to two fish a day.

Now, to deal with these kinds of inputs from the public we developed a five-year stocking plan back in 2002 when we expanded our program which set aside reserves and outlined planned experimental releases.

So, when we have concerns from people we refer to the plan. Unfortunately, it runs out this year so Mel and I have been working on developing a stocking guideline document which will, when it's completed will provide a decision-making framework for future releases.

And that's very important if you're going to do this. You have to have a plan because if you don't have a plan people are going to try to implement their will on what you're going to do.

Now the production of fish for release, I'm just going to go over this really quickly. We collect brood stock from the wild, spawn them in captivity during the natural spawning season. We stock the larvae in our nursery ponds at the Waddell Center.

South Carolina has been very fortunate in the fact that we have a multi-use facility that was already in existence. We didn't have to build a hatchery. And we don't have to justify its existence based on a hatchery. If we decided to quit stocking tomorrow theoretically we could.

We harvest the fish after about 15 to 30 days in the pond. They've been eating natural food during that time. And since 1995 we've been using oxytetracycline as a chemical mark. We have an INAD from the FDA. After the fish are marked in this bath treatment we deactivate the antibiotic properties of oxytetracycline before it's released.

We transport fish to the stocking site. And unlike a lot of other hatchery programs we actually release the fish in the habitat where they're found at the appropriate size. Determination of hatchery origin, this is just a slide to show you.

The bottom right picture there is the OTC mark

which is fairly visible. Our permit only allowed us to mark the fish as fingerlings. I'll talk a little bit later about what we're doing now with older fish.

Now of course, if you're going to do a stocking program or really have any idea of what's going on with your population you need to have some long-term fishery independent data to refer to.

And we're very fortunate in South Carolina, again, to have a long-term program that's been going on. It gives us an indication of juvenile abundance on an annual basis, also gives us an indication of how well the sub-adults are doing over time.

And we also have an adult segment of the population that we're monitoring. So we're very fortunate to be able to have all these programs ongoing that we can use as a database to determine what kind of effect our hatchery program is having on these data.

Now, these are the sites that have been stocked with red drum in South Carolina. And when Spud asked me to give this talk I was very unclear about exactly what he wanted me to talk about. He said talk about everything.

So hold on to your seats because we're going to go through 25 years here in about 15 more minutes. Now, one of the things that we've tried to look at is Dr. Leber published a paper called "Critical Uncertainties in Stock Enhancement, Does it Work" back in 2002.

And he put up some things that you really need to look for when you're conducting this kind of work: the effects of release strategy on growth and survival; the actual impact on production; conservation issues such as the effects on wild stocks and the effects on ecological interactions; accounting issues, of course, are you getting what you're paying for; and sustainability.

Let me back up. The things in red I'm not going to be able to talk about but I'm going to try to talk about the things on this list that we have been able to address to date. The first of those is being the effects of the release strategy.

We've looked at size at release, release habitat, release timing and release magnitude. I'm not going to wade through individual studies. I'm going to just give you the summary at the end but we've stocked really three size groups of fish: large fish which are legal size, externally tagged.

We've stocked these in both South Carolina and Georgia. We've used them to evaluate tag retention and post-tagging mortality which is applicable to the fishery independent work that's going on.

Release during all seasons of the year. They're all externally tagged. We rely on fisheries dependent data collection primarily. They've been used in reward studies and to define reporting rates and also used recently for population estimates.

The next size is what we call a medium size. That's between 100 and 250 millimeters total length. Primarily this was done in the early 1990s. The fish were externally tagged. At that time we didn't have the OTC INAD. There was no other way to really mark them other than coded wire tags. We chose not to use that.

We relied primarily on fisheries dependent data collection, conducted reporting and tag retention studies. They were released in all seasons of the year and released at boat landings. And these are the methods, general methods that went into what I'll describe later in the data.

And then small fish, 15 to 50 millimeters in size, they were released in the spring and fall in some studies. They're all chemically marked. We rely on fisheries independent and dependent data collection. They're released from boats at flood tide directly at the nursery habitat.

Now the size at release, this is the summary of what we've found. Large-sized fish reports range from 15 to 37 percent. Medium-sized fish reported at a rate of 1 to 10 percent. The reporting rate was estimated in a study we did with Georgia at about 57 percent. This number is going to be used in the next stock assessment I believe as the reporting rate.

Fishery independent contribution from releasing medium-sized fish which were externally tagged was only about 1 to 4 percent. This was done with Charlie Wenner's group sampling the stocked area. Not a very high contribution. We were stocking about 10,000 to 15,000 fish per year in that particular study.

However, the contribution to local population for small fish has ranged from 3 to 78 percent and I'll talk about that 78 percent study in a few minutes. But we've never stocked the small fish in the estuary and gotten a 0 percent contribution to date. That doesn't mean it won't happen next week.

Release habitat from the different habitats, this is some stuff from Florida. If you release medium-sized fish in large batches predation is fairly high they observed. And they reported that in a paper.

Exploitation by anglers was also high when fish were released in large batches at landings. And people would catch the under legal size fish within a day or two and report them to us and keep them.

Releasing large and small fish in small batches over a large area of habitat decreases the immediate exploitation of large fish and resulted in high contributions from small fish. Return versus release season, medium fish were actually divided up into three size groups when we did this experiment.

And what you can see is that the spring and fall stand out as the best time to release those fish. As a matter of fact, the smallest group of fish, the 100 millimeter fish, were returned at a higher rate than the largest group of fish when they were released in the spring as compared to the large fish released in the winter and summer.

And this is important. You don't want to put -- obviously these fish going in in the winter at these different sizes didn't do very well. Don't know exactly why -- food availability, low temperatures. There is a whole number of things that could have happened.

Release timing for small fish, this is the actual recapture rate and this is controlled obviously by the sample size here. We sampled 2,000 fish, about a thousand from each of these year classes.

There were four times as many stocked in '96. That's why the number is so much lower as a percentage of the total number stocked. But these were stocked in the fall. And if you look at the fish stocked in the spring you get about half as much contribution from fish that are stocked at the wrong size in the wrong season.

That's one of the stocking strategies that's used by Texas is to stock these fish in the spring, summer and fall. Fall obviously made a bigger contribution. Large fish were recaptured at a higher rate -- this is a summary for release season -- regardless of season of release.

Medium fish were recaptured more often from spring and fall releases, as I said. Small fish were recaptured more often from fall releases. As far as release magnitude goes, we did a study in the mid-

90s in Port Royal Sound where we stocked fish.

In the little red box there -- I don't know how to make the mouse come up but right here -- all the fish in those two year classes were stocked into that location. Then we sampled throughout the estuary with trammel nets.

As you can see, the density was quite a bit different between one year and the next. But in the end the contribution, the part of the population that was made up of hatchery fish in the estuary itself was about the same regardless of the density.

Now during that study we sampled the fish for three years after release and the maximum extent of movement is shown here. We caught two to three year old fish in these locations two to three years after release in fairly high concentrations, as you would see in that paper that was published in 2004.

So they did move around quite a bit. We didn't sample outside of this area so that's really all I can say as far as how far they actually moved. But anyway the density, increasing density didn't increase the contribution.

So since then we've used that 650 per hectare density pretty much everywhere. The actual impact on production is their surplus carrying capacity is one of the questions that Leber had. Are there positive effects on fishery yields? Do fish survive long term? Can stocked fish contribute to reproduction?

And the extent of the impact is one of the things we wanted to look at. In the Ashley River in South Carolina, Charleston Harbor Estuary is a study where we tried to answer some of these questions. And what we looked at is the actual catch per unit effort data for juveniles.

In South Carolina as a whole we sampled five or six estuaries as compared to the Ashley River. In each case the Ashley River was lower than the state-wide mean. And it was also lower than all the other estuaries.

You will also notice that the trend is usually the same. If one is going down the other one is going down. That is important. There is big standard deviations around these means. If I put them in here you wouldn't be able to see the lines.

But the fact is that it's always lower. That's the main point. So what we did is we stocked fish at that density, 650 per hectare into the Ashley River in the

1999 year class. And this is just the data of catch per unit effort of juveniles from '97 to '99 in these other estuaries.

And you can see they were all trending downward in '99, including the Ace Basin, Romain Harbor, Wando, Charleston Harbor; but the Ashley River was trending upward which is the first time that it was ever higher than any other estuary in the state.

Now just because it's up that doesn't mean that those fish were from the hatchery. But we did stock that year, 1999-2000, which was a very strong year class for the wild population and also in 2001. Two thousand and 2001 we also stocked the Wando River.

When you look at the contribution or the percentage of the population that was from the hatchery you can see, A stands for Ashley; C, Charleston Harbor-Wando, the contribution to the Ashley River for the '99 year class was quite high.

It was also quite high in 2000 in both the Ashley and the Wando. Remember, the Wando was stocked. In 2001 it wasn't quite as high. In 1999 a genetic summary which has just been done found that 45 percent of the young-of-the year in the Charleston Harbor were from the hatchery.

That's from that one stocking in the Ashley. That's just been finished up this -- the geneticists are about six years behind us. But one of the things we saw from that study is that size at release decreased during that time period, so did the actual hatchery contribution.

And so it's even small incremental differences in the size that you release the fish can make a very big difference in the amount of fish that actually survive. So there is a lot of predation going on there, just in a 10 millimeter difference in total length.

Impacts of stock fished from that study were that 50 percent higher than the historic maximum in the Ashley River. Juvenile abundance in the stocked river was the highest in the state. Of course again that's not statistically significant; it's a trend thing. But it was significant to us, not statistically but it was interesting.

The stocked river, the only area with increasing trends. Seventy-eight percent of the fish were of hatchery origin. Size at age was similar for the fall stocked and wild fish. And stocked fish made up greater than 30 percent of the juveniles during the three years of stocking in the Ashley.

The general impact information -- this is based on the Port Royal Sound study as well -- fish stocked at a small size contributed equally at Age 0 and 1. Fish stocked at a medium size and small size were recaptured at a maximum of 6.5 to 2.5 years later.

And since you have to kill the fish, the 6.5 year fish was one that was externally tagged and was caught in spawning aggregation in Charleston Harbor. If you start killing fish that are over about three anglers get a little upset so that's about as far as we can go with these OTC marked fish at the present.

Fish stocked at a small size have a similar sex distribution as the wild population. That may not be important but if the goal is to increase the population abundance you would like to have equal representation of males and females. Some hatchery programs have only stocked females because of conditions in captivity. That's in Japan that has happened.

Maximum documented extent of movement is about 35 kilometers. Conservation issues that we looked at are affects on wild stocks as far as displacement, cannibalism, growth, genetic diversity and fitness and health. And we haven't been able to really look at ecological interactions although there is some anecdotal information which is too convoluted to even discuss.

Displacement versus cannibalism, we did a regression model on the relationship between catch per unit effort of juveniles in Charleston Harbor estuary and the Ashley and we had a pretty high R-square value for that.

And what that model did is allow us to predict what we should have seen as the number of wild fish per set in the 1999 year class. And it actually predicted a .39 fish per set. And the actual catch of wild fish was .38 fish per set which means to us is that the hatchery effect was additive.

We stocked the Wando which was in this model the following two years so we've never been able to run this model again. But taken it for what it's worth. Growth of fish, fall stocked fish and wild fish exhibit similar growth rates.

Size at age is smaller for spring stocked fish, thus probably resulting in a lower contribution. Wild fish grow at a -- growth and size at age were similar for year class before, during and after stocking, even at the highest release densities tested.

Now we've been taking genetic samples since 1992 on all the fish collected -- not us but the fisheries independent guys have. And they've been archived so it provides us with a real good tool to look at the population as a whole.

I'm going to summarize all this genetics work in this one slide. And that was supposed to come in differently but relatively few families contribution to each wild year class. The graph on the right there comparing variability between different year classes indicated that we had a fairly low contribution.

In other words, just a few families hit the nursery habitat at the right time under the right environmental or predator-prey relationship conditions to actually make a contribution. Now the good thing is that this is not the same group of families every year. It's different families each year.

For Florida published a paper that indicates that there is not a high degree of genetic differences within the population of brood stock off the coast between Florida and South Carolina which is important. If you have sub-populations you need to be aware of that.

The long generation time and multiple spawning batches reduces the risk of genetic degradation. As a matter of fact, we release all of our brood stock each year and get new brood stock.

And the brood stock that we release are frequently recaptured in spawning aggregations a year or two years later so that not only are they contributing to the hatchery but they can go on and contribute again during multiple years.

And Chapman published a paper in 2002 which indicated that the hatchery could actually be managed to increase effective population size of wild year classes and that would be especially true during a bad year class.

Now as far as fish health goes, this comes from the Florida Fish and Wildlife Conservation Commission. They have a very extensive disease monitoring program on their hatchery program. And hatchery fish have the same suite of diseases as wild fish.

And in our case since they're not kept very long they don't pick up very many diseases that would be as a result of being in captivity at high densities. Disease diversity in a hatchery is usually smaller.

The chance of disease increases with the time in captivity. And, again, we release all of our fish, today pretty much are released at 30 days of age from a natural pond. I guess we could call a pond natural.

Diseases can be monitored to ensure that the health of the fish when they're stocked is good. And we look at our fish before they're released to make sure they're not carrying any parasites that would be detrimental to the wild population and they do as well.

Now as far as the counting issues go, there are a number of them but yield per fish stocked, for large fish it's about 37 percent; medium fish, when you can't figure in the non-reporting rate it's 14 to 31 percent; small size fish is unknown without population estimates.

We know what percentage of the population is from the hatchery but if you don't know the size of the population it's hard to figure out what that actually means. The optimal size at release, as I've shown you we've found that small fish have provided the highest contribution and are less likely to be habituated to captivity.

We've recently begun to reexamine releasing medium-sized fish using chemical marks for identification. FDA has recently labeled OTC for marking in general. And what we've been doing is putting double marks on medium-sized fish to see what the relative contribution of those would be compared to small fish stocked in the same estuary. Unfortunately it's too early for me to tell you what happened there and as cost-benefit information.

Now there has been some cost-benefit work done in Texas where they estimated that the expenditures were \$199 per fish landed. Of course you have to know how many hatchery fish are landed to come up with what that actually means.

But there was a study done in South Carolina, a willingness to pay which indicated that there would be a positive net benefit from stocking medium-sized fish. That was back in '95. And in the 2005 Rhodes did a study using willingness to donate.

Now I don't know what the differences between willingness to pay and willingness to donate are but I guess one you're forced to give money and the other one you're just asked to give it. But he found that there would be a positive benefit from stocking small fish as well.

As far as genetic marking goes, this is one of my last three slides. We now have the capability to use micro-satellites to identify hatchery fish families and look at their contribution to the wild population without having to mark them.

And this is great for us because it's going to reduce handling and marking stress which can cause mortality of stocked fish. You know you can stock a bunch of fish but it doesn't do much good if they're all stressed and dead when they arrive at the stocking site. And that has been used a lot to say that stocking doesn't work.

It's really bad handling before they get there in a lot of cases. OTC is theoretically less objective than, I mean, excuse me, genetics are theoretically less objective than OTC. OTC marking and detecting of those marks requires skilled people. And there is some possibility that you could mismark fish or misidentify fish as being OTC marked.

More than one release strategy can be tested simultaneously. With OTC you have a batch mark. Every fish released that year has that mark, regardless of when they were let go or what size they were.

With this we'll be able to let go fish from different families at a different time of the year and be able to see which ones make the biggest contribution a year later. It also allows repeated sampling so you don't have to kill the fish to find out whether he's from the hatchery. You can just take a sample and you can watch and monitor their movement through the population.

And, finally, it also allows anglers to collect samples from under- and over-sized fish which again increases the time or decreases the amount of time that is required for us to get an idea of what is going on.

And with that in mind we've begun stocking larvae. We've seen that fingerlings can make a big difference in abundance in the Ashley River so we're stocking the Ashley River now with larvae which are genetically identifiable.

And we're working up the data from the 2004 year class at present. I'm sorry I don't have any information to give you on whether that 17 million larvae made a contribution or not. But what that does is that focuses in more on what the actual problem in the life history is as far as recruitment goes, whether it's larval abundance, larval survival.

Again, we know that fingerlings can survive and make a big contribution during both bad and good year classes — weak and strong, excuse me, not bad and good.

Conclusions. Using responsible approaches allowed many of the critical uncertainties to be addressed. Granted, there are far more to look at. There are many questions that remain but stocked fish survive, contribute and do not appear to displace or reduce growth of wild fish.

Hatchery and traditional management approaches have the same goal. That's increasing abundance of the target species. So often times managers and hatchery people have some conflicts but they have to remember that we both have the same goal in mind.

Stocking is not a panacea as Spud and I have said so many times. If you don't have habitat and if you don't protect the habitat and the recruits from overfishing you're not going to have long-term sustainability regardless of whether you have a hatchery program putting fish out unless they're in a pond where you can just put fish in as people remove them.

Stocking could be used as an additional management tool, especially in areas of low recruitment. And a couple of the estuaries that we are working in are places with documented low recruitment. And stocking can be a powerful tool in understanding recruitment dynamics, limitations and other things about the population.

And finally I want to thank the people who paid for this. We've been very fortunate to be able to get a lot of grant money and money from the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and of course the good citizens of the state of South Carolina. Thank you. I'll take any questions. Well, you're the chairman.

CHAIRMAN WOODWARD: We're going to have some oxygen brought in for Wallace so he can recover himself but thank you, Wally. That was, as he said, that was 25 years of work and millions of dollars and millions of hours of human effort condensed into about a 25-minute presentation.

And as you can see the state of South Carolina has spent a tremendous amount of time investigating the efficacy of using hatchery-reared red fish as a management tool. And we really appreciate Wally coming here.

And at this time I would like to turn it over to the board for any questions you might have for Wally. I guess you answered every question that everybody had. Wow. I think Dr. Daniel has one.

DR. LOUIS DANIEL: It's good to see you, Wally. And it's certainly nice to see that that program has continued since I was there. You've done a lot of good work.

I have a question about the, I know the independent long line information that's being collected off South Carolina and that we're trying to expand throughout the South Atlantic, are you able to get any information from those big fish and see if any of those fish have shown up from the hatchery?

MR. JENKINS: We have funding to do that and we are collecting the samples at present, both off of Port Royal Sound — we started this year off of Port Royal Sound and off of Charleston Harbor.

Unfortunately, I can't really tell you what's going on at present. What we're looking at is fish that are under Age 10 because you can kind of get an idea of what year classes they're from as opposed to when they get over that.

It wouldn't make any sense to test fish from 10 to 50 because there's no hatchery fish in there. So we're limiting it to fish that are under I think it's 95 centimeters total length. And we'll be able to report on that in the future, hopefully.

CHAIRMAN WOODWARD: And just a little comment about that. Whenever we begin our long line work that's going to be funded by ACFCMA you know one of the things we'll be doing is taking tissue samples from all the adult red drum that we encounter so that we can see whether there might be a contribution of some of these hatchery-reared fish that are coming out of South Carolina to the brood stock that occurs in the waters off of Georgia and off of Northeast Florida just to see again whether there is something going on there with mixing in the adult stock. So it's our intent to do that.

But as Wally alluded to, the genetic stuff always lags behind and that's one of the unfortunate downsides of using genetics in lieu of OTC and external marks is that it costs money and it's a slow process.

But it is highly reliable and obviously it gives us the ability to do things that we can't do with traditional marking techniques. But it's just we're going to have

to be patient with it until we have a stronger infrastructure to do it. Any other questions for Wally or general comments? A.C.

MR. A.C. CARPENTER: Yes, that last part that you were talking about identifying the fish with genetics and you said that the sport fishermen or the fishermen could take samples, what do they take? Do they take a scale? Do they take a tissue sample? How does that work without sacrificing the fish?

MR. JENKINS: They take tissue samples off the dorsal fin. And they're preserved in a substance called sarcosurea. Once the genetic tissue is in there it's good forever unless you spill it on the floor.

It dissolves the tissue and the DNA is in there. And we do have a number of anglers collecting samples for us now of young-of-the-year fish because, again, those are the easiest to identify as far as what year class they're from.

And we also have anglers collecting samples off of brood fish as well. The genetics is not really, it doesn't have to lag behind the other ways of getting information; it's just that we haven't been able to throw enough dollars at it up until this point.

But we are hiring two new geneticists and we're going to start processing samples a lot faster. Actually coming up with the technique and all the markers is what they've been investing most of their time into to date.

DISCUSS RED DRUM STOCK ENHANCEMENT PROCEDURES

CHAIRMAN WOODWARD: Any other questions for Wally? Thank you very much for doing that. I think it was as good as can be done to condense this into an understandable — there's a lot of information still in that presentation.

The reason that I wanted this brought up before the board is that those of you who were around when we did Amendment 2 to the Red Drum Plan remember that there was a lot of effort from our technical committee leading up to the deliberations in Amendment 2 and the assessment that we used as the basis for Amendment 2.

And there were two documents that emerged out of the technical committee at that time. I was still actually a fish squeezer at that time and was chair of the technical committee. And as seems to be the case

with anything involving the use of hatchery-reared fish, it's probably the most divisive topic that we have in fishery management.

And that was reflected in the fact that we had a Red Drum Stock Assessment Subcommittee who rendered an opinion back to the technical committee and then the technical committee rendered an opinion in a position statement back to this management board and you were provided those in your briefing document.

The intent was to try to resolve this matter as we moved forward to what we knew was going to be another population level assessment in the South Atlantic and it never really got resolved.

The stock assessment subcommittee went on record as saying they were opposed to any stock enhancement because it was going to obviously contaminate the population of wild fish with fish that were reared in the hatchery and we would not know without a tremendous investment of time and effort you know what proportion of the fish that we were assessing through whatever methods we were using were hatchery-reared versus wild.

The overall technical committee took a softer approach in saying that, you know, if this is going to happen then obviously we need to do it in the right way, that there needs to be accountability for these fish.

And you can see from the work that South Carolina has done that there are methods that you can have accountability, that you can assess what the contribution of the hatchery-reared fish may be to a sample in a variety of methods.

It does add another step in the process, obviously. I mean you can't disregard that. But what I wanted was just some feedback from the board. You know we're going to have another assessment hopefully brought before us in 2008, maybe 2009, which is going to compel us to revisit red drum management on the Atlantic Coast.

And at that time we're obviously going to have to deal with this. And you've got fish that have been stocked in South Carolina that are going to be part of the equation of analyzing this population and it's going to have to be dealt with by the stock assessment folks whenever the time comes.

The Gulf, you know we're looking at a joint assessment being done in both the Gulf and the

Atlantic through a SEDAR process. Well, obviously there is a multitude of hatchery-reared fish in the Gulf. They're going to have to be considered in that assessment. So, I would just like some feedback.

I think that we need to revive, I guess, an examination of this issue, put our technical committee or put together a group, a subset of that technical committee to start looking into this so that we don't get to 2008 and have to sit here and argue about it then instead of having something done about it now. So just I'd like some feedback from the board on that. Dr. Daniel.

DR. DANIEL: The issues in the document that were presented to us, the use of cultured red drum and the position statement from the technical committee, it certainly seems to me that many of the concerns that were expressed by the technical committee in '02 have been addressed in some degree by the work that has been done in South Carolina and Georgia.

You still get into the cost and benefit analysis. And certainly I've always had a problem stocking the fish at a time when they wouldn't naturally occur in the environment. For example stocking them in the spring I think is just a bad idea. And it appears that that is reflected as being the case in Wally's presentation.

It would seem to me that it would be a good approach to have the technical committee have the opportunity to benefit from this presentation and decide if this is still, if these concerns still exist.

It appears to me that a lot of the concerns have been addressed. So, the question then becomes, will then become to the board when we get escapement rates in the new assessment, you know, are we still going to be in the dire straits that we were in in previous assessments where we need to take more action.

Then I see a lot of benefit potentially to some type of an enhancement program. If not, it may not be necessary. The cost-benefit may not be there. But certainly this question is going to continue to come up.

And it's going to really become important in North Carolina now that we have a license system and money is available to do this type of work, which we've already heard the same thing about what do you want to see the license monies given to.

So I personally would like to see, Number 1, the

technical committee have the opportunity to review some of these things, see if they have indeed addressed their questions. And then the second thing that I think would be particularly interesting is recognizing that we don't have a good handle or we don't have a handle at all on the adult population.

And so that has been the constraint we've been under all along is that we can't get a full-blown assessment on red drum anyway. So how could Wally's work at least in the South Carolina to Florida population -- is there any way that you could use that stocking information and recapture information to get some handle on population abundance?

I don't know the answer to that question but certainly the folks that are on the technical committee have been involved in this and there may be some way that you can confirm or deny or whatever some of the information that we're using since we're only basically assessing two year classes.

So that would be my recommendation, Mr. Chairman, and I think if the technical committee were charged with that and to come back with a new statement or with the same statement and say we're not convinced of anything Wally has done or South Carolina has done or we think they've done a great job and have answered our concern.

CHAIRMAN WOODWARD: Thank you, Louis. Any other comments toward Louis' endorsement of that? Mel.

MR. BELL: It wasn't exactly on that point but I just wanted to point out, Number 1, that being in South Carolina Wally mentioned that we're trying to kind of work on what we'll have as guidelines in place for us.

Right now everything that we've done is simply outstanding in terms of research and development which in my mind as a manager -- I'm kind of on the management side of the parking lot there at the MRD -- but you know I look at this, as Louis was mentioning, from a cost-benefit.

I kind of view myself as a potential customer of what Wally and Ted and others have basically developed in terms of a tool. So when I'm making a decision at some point about when do I use that tool, how much resources can I put towards the use of that tool, you know that's where cost-benefit becomes an issue.

And cost-benefit is based on what is your goal. So any stocking program that you engage in obviously

has to have very clear goals that you can measure, that you've achieved. And it doesn't matter if it's red drum or sturgeon or spotted seatrout or flounder or whatever it is.

But I think that trying to get a handle on the cost is something that we're still sort of struggling with. And Wally showed you all the great stuff we're doing there in South Carolina in terms of the responsible approach.

And he mentioned it is a multi-disciplinary responsible approach. But that just goes to show you if you're going to engage in a stocking program and you're going to commit to that responsible approach, the responsible approach is pretty expensive.

Now we're just blessed that we've had the work going on down there for years with red drum, whether it's Charlie Wenner's fishery independent work in the estuaries or the stuff that Glen Ulrich has done offshore.

We're also fortunate to have the capabilities to do the genetics work. But all of that stuff is in place right now and it all matches up for us real well. But anybody that's going to go down that road and consider an actual stocking program, if you're going to do it responsibly you've got to commit to that. And you've got to commit long-term.

You know we mentioned yesterday with sturgeon, you know if you were going to do something with sturgeon, well, sturgeon are very long-lived fish, you've got to have a long-term commitment to measuring that, you know achieving that goal. So I guess I just sort of throw that out from a manager's perspective as kind of a precaution in terms of considering use of the tool.

I don't think there is anybody that can do it any better than we can do it but keep in mind, you know, what we have in place down there is kind of unique in some respects in terms of all the support capabilities and the multi-disciplinary approach.

But you know what we're doing I think is outstanding and I'd match Wally and his folks up against anybody in the world in terms of this kind of work.

CHAIRMAN WOODWARD: Thank you, Mel. And I think that kind of gets to one of the things we've got to wrestle with is we've got the situation that Louis so eloquently described, that we have a technical element to this discussion that we have to

deal with and then we have, for want of a better term, a policy element of this discussion.

And in some ways the technical stuff is a lot easier to deal with than the policy is to deal with. And that's why we have a tendency to procrastinate on dealing with policy, because it involves things that we often times don't have empirical data about.

And we have to start making value judgments and that gets us into some dangerous territory when we start making value judgments and superimposing them on top of people that may have different sets of values or beliefs than we do.

But it's something we've got to deal with. And I think if everyone is in agreement we can probably activate the technical committee. I know we did not have a meeting of our technical committee scheduled in the action plan but we can probably figure out a way to do that, maybe, squeeze a little money here or there to get them convened and maybe get Wally there with them and start dealing with the technical side of this.

Now the question is how do we deal with the policy side of it? I've talked to Mel at length about the fact that we want to be in the dialogue with them in terms of making you know decisions about how do we prescribe the use of hatchery-reared fish you know as a treatment, so to speak, in fishery management.

And you know my question is, is this something that this board needs to be involved in? You know we have developed, this commission has developed guidelines, protocols and policies for the application of hatchery-reared fish under other FMPs and is this something this board needs to deal with?

And you know I'd just like some feedback on that from you. I mean we're going to proceed as individual states because we've got to deal with it but is this something that it would be useful to have this board deal with and particularly liaison maybe with the Gulf Commission as well on this because it is a topic of shared interest and they've got a tremendous amount of data to bring to the table. Wilson.

DR. WILSON LANNEY: I support what Louis said and what you said also about going ahead and initiating a technical review by the technical committee.

I think it's a great idea to pull that group together, provide all of South Carolina's and any other literature that Wally thinks would be relevant to that

discussion well in advance so they have time to digest all of that stuff and read it, hopefully, before they come together and lay the framework for a good discussion.

I'm: A, I will confess that I'm a skeptic you know when it comes to marine stock enhancement programs in general but I am tremendously impressed by the work South Carolina has done. I think it can be said without any qualification that they've done a better job than anybody else at trying to answer all those questions that were raised by skeptics.

And to me that's the way science is supposed to work. People pose questions and other folks go out there and try to answer them. So, I heartily support that. I also think it's a good idea for the board to go ahead and begin thinking about what policies should be. I think we've got some documents out there that can serve as models for the board to take a look at.

We've already put together stocking protocols for striped bass and Atlantic sturgeon so I don't think you have to reinvent that wheel. But I think Mel raises a good point about the cost-benefit.

I know economics is a major concern to both federal and state fishery management agencies these days and it doesn't look like, looking toward the horizon, that it's going to get a whole lot better in the near future anyway. So I think it's not too early again to begin addressing that question.

CHAIRMAN WOODWARD: All right, thank you, Wilson. I guess with that support that I've heard and without any opposition then we will proceed with trying to re-activate the technical committee.

And to that end you know it has been a while since the Red Drum Technical Committee has met. Each state needs to review your members and see who might be the most appropriate person to be on the technical committee. You'll be hearing from Nancy on that because we want to make sure we have the right people.

And, you know, I can see a situation where we may you know convene an ad hoc stocking committee that comes out of this technical committee to start dealing with more in-depth treatments of these types of issues. So thank you for your support of that and we'll proceed along those lines. Louis.

DR. DANIEL: I agree 100 percent but I would also just encourage us to take advantage of any

meeting of the technical committee to start looking at the information we're going to have for the upcoming assessment.

That's real important for I think certainly North Carolina for sure and the other states as well to start to get a handle on the kinds of information that we have so that it doesn't hit them. When is the update due, in '08? I can't remember.

Yes, whenever that is. North Carolina is going to have to be in the process of doing it this year so this could really benefit us as well in terms of getting that update done. So I wouldn't want that committee to just talk about aquaculture. Let's talk mericulture. Let's talk about everything.

CHAIRMAN WOODWARD: In fact Nancy and I were talking early this morning about the possibility of trying to get the interested parties in the Gulf and the interested parties in the Atlantic together maybe sometime in early 2007 just to have an overall red drum workshop, just to put everything on the table, you know, what's working, what's not working, what assessment techniques do we need to be exploring in advance of the '08 or '09 assessment, depending on whose schedule you believe, ours or SEDARs.

And we've got to still have to resolve that. But that's something that hopefully by the end of this year we can firm up and maybe have a more definitive plan.

DR. DANIEL: And just one more thing, Mr. Chairman, just because we've got a little bit of time here, it just seems like to me that this is one case in this whole stocking debate where many of the concerns have been discussed and dealt with. Okay?

And it seems that the South Atlantic with the benefit of having the South Carolina program under our jurisdiction or in our area, that we have an ability here to sort of set policy for the way that the ASMFC does this type of work.

And one of the fears that I have is that if we all of a sudden are told by the powers-that-be that we will have a hatchery in Southport, North Carolina, and we are to start stocking fish in 2007, some type of a protocol that shows us how, like South Carolina has done with red drum, you need to make sure that you can address all of these questions.

And I think that would be a very forceful thing to show that this is a lot of legwork before you just start throwing fish in the water. And I think that's an

important thing for us to come out with for the future.

CHAIRMAN WOODWARD: Well, perhaps maybe a way to deal with that is since South Carolina is already initiating this effort you know we want to join in that. Perhaps at the annual meeting we can come back with some sort of draft protocols. I mean would that – Mel, would that be an impossibility?

MR. BELL: I'm sorry, Mr. Chairman, what was the timing of that?

CHAIRMAN WOODWARD: Perhaps by the annual meeting which will be in the autumn, October of this year, to maybe have something.

MR. BELL: Yes, sir, I would hope so or I'll be dead. Our director will have killed me and gone after Wally at that point if we're not. And as Louis was mentioning, public perception in this sort of thing is everything.

And I can speak from the personal experience of having run an artificial reef program and been involved in that for over 20 years, that it's very similar. As Wally mentioned, stocking programs are very popular with the fishing public but so are artificial reef programs.

I mean we're basically almost tied neck-and-neck for public popularity in terms of how our angling public would like to see us use our license dollars. So I can tell you, you have to have something in place.

That's what Louis was saying. That we've had an artificial reef plan in place since the early '90s and that has helped us to some degree kind of fight off some of that desire to build a reef in everybody's backyard and that type of thing. And you know everybody struggles with that that has a program.

But stocking is a very similar thing. It's, the public looks at it and they go, wow, this is the greatest thing since sliced bread. And as Wally mentioned at our meetings that we have, we have a gentleman that wants his particular fish in his particular creek and can't understand why we just can't do that because we're giving them to everybody else.

But that is essential to have in place. And it would really be better if you can -- you know, maybe we're kind of the pioneers in this from the work we've done in a lot of areas, particularly the red drum. So it looks like we may be pioneers in terms of development of internal guidelines or policy as well.

And having spent some time looking at this I've checked around with other states and there is not a whole lot going on out there, even let's say Texas that has been doing this for a long, long time and as Wally mentioned has stocked a tremendous amount of red drum.

They have no sort of policy or guidance in place that kind of deals with this. And so to keep yourselves from having to deal with what you might consider unrealistic public expectations of a program, yes, we need to get that stuff in place. And we'll be glad to share whatever we're doing with the commission.

CHAIRMAN WOODWARD: I think that means we'll have Mel on the agenda for the annual meeting. And if that suits everybody on the board that's what we'll do. That will give us at least something as a springboard for further discussion. Any other comments or questions about red drum stock enhancement? If not we'll move along on the agenda to Item Number 7.

DISCUSS INCONSISTENCIES BETWEEN THE SAFMC SHRIMP FMP AND THE ASMFC WEAKFISH FMP

I sent out a memo to the board and other interested parties. Included along with that memo was some background information about recent changes in the South Atlantic Fishery Management Council Shrimp Plan, particularly as it related to the use of bycatch reduction devices in food shrimp trawls.

And we have now a situation that has arisen. And I want to ask Louis Daniel in his capacity as chair of the Council to sort of brief us on this. And we need to help guide a process within the commission that will help address this inconsistency. Louis.

DR. DANIEL: Thank you, Spud. In your materials you have Final Amendment 6 to the FMP for the shrimp fishery. It's a short handout. We ran into a lot of problems trying to test and develop BRDs in the South Atlantic -- bycatch reduction devices -- to reduce bycatch in that fishery.

And one of the problems was trying to locate the target species. What this, the way this started out was in Amendment 3 to the Weakfish Plan ASMFC came in and required that all shrimp trawls be outfitted with bycatch reduction devices that achieved a 40 percent reduction in weakfish by number.

And we made a good effort towards that, went out, tested the BRDs, had protocols for testing the BRDs. The problem was the fishermen couldn't find the fish. And so what they were forced to do in many instances is go into locations where they wouldn't normally shrimp in order to locate concentrations of weakfish.

They would be able to reduce the number of weakfish by the prescribed amount but it really was in no way reflective of the way the fishery was operating. And so what that resulted in is it resulted in very little interest by the fisheries to try to certify new and better devices because it was so difficult to do.

And also, the statistical techniques and procedures required in order to have that BRD certified were particularly onerous to the fishermen and really made it difficult to get one that would be certified.

And so after a lot of discussion with our Ad Hoc BRD Advisory Committee through our council process we tried to come up with a new approach, looking primarily at overall finfish reduction instead of just focusing on one individual species.

And some of the information that was presented to the council in our development of this amendment for the shrimp was that in general when you had this particular percentage reduction in a BRD it was just as good at reducing croakers as weakfish, as spot, as Spanish mackerel, as all the various species that we're interested in and concerned with.

Also, we were able to come up with a new protocol for certifying the BRDs and it gives the fishermen much more flexibility and much more opportunity to go out and test many devices that are sitting on shelves right now that they just weren't able to catch the fish that they needed the numbers of weakfish and Spanish mackerel that they needed.

So what we put forward in our plan was to change that protocol. So now we're inconsistent with the Weakfish Amendment 4, 3 and 4 in that our BRD testing protocol in the South Atlantic is contrary to the weakfish way to do it.

What we'd like to see done is -- and it could be done as a recommendation from this board would be -- to request that the Weakfish Board in the next amendment or addendum, whatever the case may be, modify the weakfish requirements for the BRD protocols to be consistent with what we're doing in the South Atlantic.

I don't think we lose anything in terms of weakfish protection. And I think what we gain is much better technology, a new, renewed interest in testing these devices and hopefully come up with those devices that are even better than the ones we have now.

Most of the fishermen are using the very simple metal grids in the nets. They do the job but there is other technology out there that can do a much better job of reducing overall finfish bycatch.

And so I think, Mr. Chairman, that sort of outlines the issue/problem. Spud or I could answer probably any questions you may have, I hope. But, again, we'd like to see a recommendation from this board to the Weakfish Board to make that, recommend making that change.

CHAIRMAN WOODWARD: Thank you, Louis, for that summary. Vince.

EXECUTIVE DIRECTOR JOHN V. O'SHEA: Just a question so I understand. So basically what you're saying is that you're now using in the South Atlantic a methodology that you think is better than the old methodology to certify the BRDs and that that's different than what we have at ASMFC and you think they ought to be consistent.

DR. DANIEL: Yes.

CHAIRMAN WOODWARD: And the further complication is that we're turning this BRD testing oversight authority to NOAA Fisheries. So now they're facing two qualifying criteria and so that's going to paralyze the situation until we resolve it one way or the other.

I mean they're not going to do anything. Fishermen are not going to know what to do so this just needs to be resolved. Wilson, I think you had a comment or a question.

DR. LANEY: A question for Louis. Louis, I read over all this stuff and help me understand. It seems to me that you're looking now, the preferred alternative which is the one I guess you adopted was the 30 percent reduction in total weight of finfish and that's compared to what is presently in place in the Weakfish Plan which is the 50 percent or 40 percent reduction in numbers for weakfish and Spanish mackerel.

And it seemed to me that we're sort of talking apples and oranges. Can you help us translate one into the other? I mean it seems to me that if you're fishing on

an aggregation that was predominantly weakfish and Spanish mackerel, how does the 30 percent reduction in total weight compare to a 40 to 50 percent reduction in numbers?

DR. DANIEL: That's a good question. And You needed to get 30 fish in a tow in order to do the comparisons, in order for it to be a positive tow. And so some of the frustration came in where a guy would get a grant or get a research project to go out and test these BRDs and spend 6-8 days out looking for these things and never get a positive tow.

And it was a total waste of their time, money, effort and energy. Okay? So that is one of the reasons we wanted to change it. The reason we went with weight is because generally speaking there is a reasonable correlation.

And I think it's actually more conservative to go with weight because generally speaking in terms of numbers the fish that are going to be retained in the net are going to be the smaller fish.

They're not going to have the power to swim through, out of the BRD. So generally speaking what you reduce through bycatch reduction devices are generally going to be the larger fish. So if you do it by weight it takes more. Obviously it takes more little fish to make a pound than it does more big fish to make a pound.

So if you go with weight that comes out to be in general terms about the 50 percent reduction by number. It could be more; it could be less. And that's the problem, trying to pigeonhole this into one thing for all these various species that we deal with.

And as you know from dealing with red snapper in the Gulf, I mean red snapper, you know bring up a totally different problem in that they like to hang around in you know the BRDs until the net comes up and then they swap to the back. They won't go out.

So what we're trying to do is come up with a device, you know, come up with a protocol where we get the maximum biomass savings. And if we do that with weight I believe what we're going to end up with is a much higher percentage in numbers.

Now until we do the testing, until we do the comparisons, you know, get in there and really get to it and look at all the individual species -- but when these guys were going out, Wilson, they were going out.

I think I can answer it in 100 words or less. One of the issues was, Wilson, is that Number 1 it's very difficult to encounter Spanish mackerel and weakfish in any numbers, the numbers necessary to get a positive test.

The only thing they were counting, enumerating, was weakfish. We didn't get any information on any of the other bycatch issues. I mean this way we get a total finfish reduction by weight. And because of the small fish in the back of the net it's going to end up being a higher number. I think. But nobody knows right yet I don't think.

CHAIRMAN WOODWARD: Wilson.

DR. LANEY: Well, that was going to be my next question was whether or not you had the data to generate a nice table that would show us the difference between or show us the two sets of, you know, show us the 30 percent reduction by weight and then show us the 40 to 50 percent by numbers and see how that compared, see how the two criteria compared using the same BRD in the net. But I gather you don't have those data yet.

DR. DANIEL: Well, we do have some of that data from work that the state has done and I can't speak to South Carolina, Georgia, Florida, but certainly North Carolina in our BRD testing work we looked at all the species, not - when the fishermen do it they simply just look for Spanish mackerel and weakfish.

But what we found, the thing that really tweaked my interest in this thing was that we had some BRDs that were being tested by fishermen that just missed the weakfish requirement but got an 80 percent overall finfish reduction.

And it made absolutely no sense to me that we would tell somebody, no, this BRD is unacceptable because it only got a 38 percent reduction in weakfish by numbers yet the overall finfish reduction was 80 percent.

And so that way, so that was really some of the main driving factors behind it. Some of these, weakfish -- you know, if you've only got 30 weakfish and you're trying to look at their reduction yet you've got 1,000 spot, you're going to have much more confidence in the reductions that you're getting on 1,000 spot than here on 30 weakfish.

And that's the main driver. But, yes, the division, at least our division, we have that information in table form in all the BRD work reports that we've

submitted, that Shawn McKenna has worked on who was the chair of that BRD Advisory Panel for the council. And so we had that information in front of us, too, which was pretty compelling.

CHAIRMAN WOODWARD: Pat.

MR. PATRICK AUGUSTINE: Thank you, Mr. Chairman. In view of what Wilson said and the fact that we don't have any data that we could present to the board, to our full board, wouldn't it be appropriate to at least get that data together and present it to our technical committee and let them at least take a pass at it before we just go ahead and say yes, we make a motion to make this change accordingly?

I don't think anybody doesn't agree with what you're saying, Louis. I think it's a matter of typically our process calls for step-by-step to do this as opposed to us just making a recommendation to move forward to make this change.

CHAIRMAN WOODWARD: To that point, Louis.

DR. DANIEL: Yes, that would have been my intent, Pat, would be if we make this recommendation certainly before it goes through an addendum or an amendment it's going to have to go to the technical committee for their review.

It was not my intent to suggest that the board just do it without looking at it. Certainly there is going to have to be a comfort level at the Weakfish Board. And by doing so they're going to have to, their technical committee is going to have to look at it.

CHAIRMAN WOODWARD: Any other questions for Louis on this topic? Vince.

EXECUTIVE DIRECTOR O'SHEA: Yes, I think what I sort of see here is you know a recommendation or a request from the South Atlantic Board to the Weakfish Board that they consider an addendum to adjust this.

And I think the only other question would be is whether or not the -- some people have the idea that, well, we've got a stock assessment that's supposed to come out and should it be tacked on with the next management action.

The other alternative is to request that it start you know that it start before then and that might be another helpful signal that the South Atlantic Board

might want to send, you know, give some sort of priority or urgency to doing this, whether it be to wait six months until after the stock assessment comes out or start it right now.

What I hear around the table is that you think this change could result in the deployment of better BRDs and more effective BRDs and based on that it would seem sooner is better than later.

CHAIRMAN WOODWARD: Louis.

DR. DANIEL: I would agree. And also I think it's important to note that back two peer reviews ago they recommended that we not include the shrimp trawl bycatch estimates in the assessment. So the fully recruited Fs and the things that we're working on with the weakfish assessment don't even include the shrimp trawl bycatch estimates if I'm -- I believe I'm correct there.

And so it really has no, the shrimp trawl bycatch reduction devices don't really have much of a bearing on the assessment results. But I agree that any, if it's a simple fix as an addendum to run through and just change it, then certainly sooner rather than later is better because we've got this in place now in the South Atlantic and would like to move forward as quickly as possible and we just don't want to create the conflicts with the Weakfish Board.

CHAIRMAN WOODWARD: I think we have an essence of what we're dealing with here and what I'd like to have is a motion from the board to formalize this to the Weakfish Board. Bob.

MR. ROBERT E. BEAL: One other option to kind of accelerate this that the South Atlantic Board could consider would be to have a discussion later on this week at the policy board and if the policy board kind of can act in lieu of the Weakfish Management Board since they're not meeting and ask staff to go ahead and draft this one issue addendum -- and Louis is the chair of that board so I'll look to him for any comment -- but you know a one-issue addendum have that draft ready for consideration in May for public approval.

It will speed things up. I think it should be a pretty straight-forward document given that the South Atlantic Council has done a lot of the background work and North Carolina has the documentation. And you know it should be pretty clear.

So technically the South Atlantic Board can't charge staff to develop a weakfish document but if we do it

at the policy board I think it would be fairly clean and could accelerate this quite a bit.

CHAIRMAN WOODWARD: Lord knows we need efficiency in this process. I appreciate that, Bob. But we still need a motion.

DR. LANEY: Okay, Mr. Chairman, I'm somewhat confused as to what motion I should attempt to make now but it sounds to me like what we should do then is bring this issue up at the policy board, Bob?

Or should the South Atlantic State and Federal Board make a recommendation to the Weakfish Board? Is that the way you want to go with this? No. Okay, I see Vince shaking his head no.

MR. BEAL: I would think it would be a recommendation from the South Atlantic Board for a discussion at the policy board to initiate an addendum on BRDs.

DR. LANEY: Okay, that sounds good to me. **I so move.**

CHAIRMAN WOODWARD: Well, we can make this less formal just by saying it's the sense of the board unless there is any disagree that this be brought up before the policy board later this week. Everybody understands what we're going to be doing? So there is no? Okay. Louis.

DR. DANIEL: And just for the record, I mean we have a lot of Weakfish Board members around this table and I haven't heard any significant objections there. I won't be here for the policy board meeting but certainly as the Weakfish Board chair I support moving forward on this as quickly as is possible, suiting the policy board.

DISCUSS PRIORITIES FOR SPOT AND SPOTTED SEATROUT FMPS

CHAIRMAN WOODWARD: Okay. Very good. Without any further discussion on that matter we'll move along to Agenda Item Number 8 which is a discussion of priorities for the Spot and Spotted Seatrout FMPS. I wanted to bring this up before the board because we've got a couple of FMPS there that we really have not you know taken any action on these since the early 1990s.

These are two species that although they do have an inter-jurisdictional component to their populations are obviously very different than a lot of the other

species that we manage that do have a larger scale inter-jurisdictional movements.

What I wanted to do was just have a very, I guess, pragmatic discussion about what do we do with two fishery management plans like this? Is there a need to possibly consider you know eliminating these plans?

I think, you know I just wanted to put it out there and let's just talk about what do we need to do and so that we can get an action plan going and just stimulate a little discussion on them. Anybody have any strong feelings one way or the other? Wilson.

DR. LANEY: I don't have any strong feelings one way or the other but I seem to recall a prior discussion of this very issue probably a decade or so ago, not too long after the Atlantic Coastal Fisheries Cooperative Management Act was passed. And I don't remember what we talked about with regard to spot.

With regard to spotted seatrout I know we discussed the fact that a lot of the tagging studies and I guess some of the genetics work -- and Wally can chime in here and correct me if I misspeak -- seemed to indicate that a lot of those stocks were sort of estuarine specific stocks.

And the decision at the time was just to keep the plan in place and let it stay as it was at present, you know, not do anything with it because we thought, well, there might be a need for it at some point in the future. That was -- some people around the table may want to correct me if they remember otherwise but that was the general gist of the discussion we had at that time.

And it may have been the fact that we were sort of overwhelmed with beginning the whole process that was set forth by the plan and we were in the throes of you know doing striped bass and weakfish and some of the other early initial re-writes of the existing commission plans. And so we just sat spot and spotted seatrout aside because both of those fisheries didn't seem to have any immediate need for attention.

CHAIRMAN WOODWARD: And I guess that's sort of the reason we're bringing it up. I guess we have to do this on a decadal basis. We've got to bring them up, look at them, decide whether we want to keep them or reject them.

And if we're going to reject them, what are the unintended consequences of that? They're low

maintenance plans, obviously. You know we just went through croaker to bring it up to speed. And you know is this something we need to consider doing with these other two species? I mean I have mixed emotions about it.

Obviously, I like operational efficiency and here we are taking on an aggregate of what, 20-something species of sharks now to have to deal with that we haven't been dealing with and you know just looking at the workload on staff and the workload on ourselves as a decision-making body.

And you know is there something we need to do different? And there is something to be said for having that plan out there when things get a little hinky back home, you know to be able to use it, to hold it up and go, okay, let's don't forget about this.

And so obviously I have concerns about just abolishing something -- not that we have to do anything now. I just wanted to bring it up and at least have some discussion about it. It doesn't seem to me that there is any inclination to go with anything different than the status quo at this point.

And if not then we will dispense with Agenda Item Number 8 and I will have a clear conscience for having done it, like I needed to. That's right. And ten years from now I won't be here so somebody else will be dealing with this.

SEAMAP ACTIVITIES

We'll move on to our SEAMAP Update. I want to invite Peter Mooreside to give us an update. You will notice that we do have some actions that we need to take here so pay attention closely.

MR. PETER MOORESIDE: Thank you, Mr. Chairman. There are three topics that I'd like to address the board this morning with regards to SEAMAP. The first topic is an update that concerns the budget.

In August 2005 you approved a draft SEAMAP South Atlantic budget based on the assumption that SEAMAP would be level funded. All together for fiscal year 2006 the SEAMAP South Atlantic component will receive a total of \$383,981 which is a slight increase from that awarded in 2005. It's approximately \$6,500 more.

Specifically, the ASMFC will receive about \$60,000 and the South Atlantic -- excuse me -- and South Carolina will receive approximately \$324,000.

NOAA personnel have informed me that the SEAMAP grants are being awarded slightly late this year due to complications related to Hurricane Katrina.

Commission staff will advise you once the grant is awarded. The SEAMAP South Atlantic Committee will also prepare a final budget that will be sent to you via e-mail for your approval. The second topic that I'd like to address is the operations plan.

At the SEAMAP joint meeting in August the SEAMAP South Atlantic Committee prepared the 2006 operations plan. The plan was included in your meeting materials today and it closely resembles the 2005 plan.

Upon a brief comparison of the two documents I can tell you that the 2006 plan differs from the 2005 plan other than with a few cosmetic changes in the following ways. First, two additional activities have been assigned to the South Atlantic Fishery Management Council, shown on Pages 2 and 3.

Second, American harvest fish has been added to the priority species list on Page 5. Third, a brief description of a deep water habitat project in the South Atlantic Byte is provided on Page 6.

Fourth, a new report is to be produced in 2006 regarding future collaboration with the MARMAP program which is shown on Page 7. And lastly, the members of the four SEAMAP workgroups for 2006 are designated on Page 8 and 9. If the members of the board do not have any questions with regard to the document, I ask for your approval of the 2006 operations plan at this time.

CHAIRMAN WOODWARD: Thank you, Peter. Any questions or comments? Vince.

EXECUTIVE DIRECTOR O'SHEA: Thanks, Mr. Chairman. I did have a comment and that was, I noticed on the priority listing for the species on Page 5 there is probably others around the table that have all those scientific names memorized but other than menhaden I don't recognize any of them.

So my only comment would be I understand that in years past the SEAMAP plan has just listed the scientific names but I think if this plan was approved I would maybe suggest that we include the common name and make that the convention here.

And then I had a second question or comment and

that would be if the mode has been to just simply reprint the prior year plan with minor tweaking, that it might be in the future more helpful for us to put those tweakings in bold so the members of the board would be able to more clearly see them. That would have helped my review when I went through this. Thank you, Mr. Chairman.

CHAIRMAN WOODWARD: Thank you, Vince. I think those comments will be duly noted. And we will try to reduce the nerd factor in this with some common names. Or, as Louis said, get the scientific names correct which means he really is a nerd because he is worried about that.

DR. DANIEL: Thank you, Mr. Chairman.

CHAIRMAN WOODWARD: It's meant in a complimentary fashion, Dr. Daniel. Do I have a motion to approve the operations plan as presented with the comments incorporated from Mr. O'Shea?

DR. DANIEL: **So moved.**

CHAIRMAN WOODWARD: Okay, do I have a second? I have a motion from Dr. Daniel. We have a second by — who gave me — a second by Dr. Wilson Laney. Any opposition to the motion? If not the motion carries. Okay, Peter, back to you.

MR. MOORESIDE: Thank you. The third and final topic deals with the five-year management plan. The three SEAMAP regions have worked together to develop a 2006 to 2010 management plan. The plan is similar to the five-year plan, to the previous five-year plan.

It has been updated to include information on accomplishments made during the past five years. It also has an updated section starting on Page 51 entitled, "Expanding SEAMAP Activities." This section was developed to assist in determining how much money would be needed to collect various types of data.

For your information, the expansion section is divided into three categories: A, restoring current projects to full utilization; B, expanding current projects to collect additional data on existing platforms; and C, developing new fishery independent data collection programs.

The items contained within these categories are not listed necessarily in order of priority. It is also important to note that the Atlantic and Gulf States Commissions have provided funding for a SEAMAP

external program review in 2006.

You should be aware that it is possible that additional changes to the five-year plan could be made upon completion of this review. I've been told that the five-year plan will need to be approved by the board. If you are comfortable with approving the plan today it would be most helpful.

I can tell you that the South Atlantic and Caribbean Committees have already approved this document in its existing form. At this time if the members of the board are willing a motion will need to be made in order to approve the five-year plan either in its current form or with any suggested modifications.

CHAIRMAN WOODWARD: Thank you, Peter. Questions, comments on the five-year plan. Vince.

EXECUTIVE DIRECTOR O'SHEA: Thank you, Mr. Chairman. I guess my only question is I think it would be maybe helpful for the board to have a little bit of a discussion about what happens if this plan is not approved at this meeting versus what happens with the information generated by the program review that is going to start very shortly.

It seems to me that there is you know setting the course for the next five years on the eve of a program review seems a bit out of sequence here so maybe just a discussion about the pros and cons of that.

CHAIRMAN WOODWARD: Okay. What Vince is referring to is that we've sort of got a, I guess a cart-before-the-horse situation here where we're, SEAMAP is undergoing a review but yet we are being asked to approve a strategic plan, as it were, in the absence of the information that that review is going to provide.

And so any comments, question about it? Is there a discomfort level with the board approving this at this time? I mean are we binding ourselves to something? Mel.

MR. BELL: Mr. Chairman, I just have a question. I guess what would the process be if the program review is done and there are some substantive changes that need to happen? How do we make that happen? Or how do they make that happen, I guess?

CHAIRMAN WOODWARD: Anybody want to address that? I'm assuming that it's obviously not a binding contract. I mean it's a

working document and it can be refined and modified as new information is made available.

And I'm assuming that's what comforted these other bodies with their approval. But I think the approval, if this board makes an approval, should be obviously in recognition that there is going to be more information coming forward and we may need to revisit this in light of that information.

Does that answer your question, Mel, that we can review this and have an alternative version brought before us, sort of putting the ship on another course, so to speak, if that is deemed necessary?

MR. BELL: Right. I just wanted to make sure that that could be done and I mean it's not a technical issue with that. Like you said, it's not a binding contract in terms of every line item the way it says. So as long as we can adjust that's fine. But Vince's point does make sense.

You know you're kind of committing to something in theory for five years at a point where you're about to assess where you are. And maybe you're not where you think you are. But as long as we can handle it, good.

CHAIRMAN WOODWARD: I see a lot of heads nodding that we can do that. And in essence this is sort of conditional approval that we would be granting to this plan at this time. I see a wrinkled brow on Dr. Daniel over here but I'm used to seeing that on Dr. Daniel. So you have a question or a comment?

DR. DANIEL: Yes, I do. I'm looking at the, at the last meeting we discussed some of the various issues and concerns related to the SEAMAP data and how it is useful in our assessment process and the types of reliable indexes of abundance that we get from these.

And I know that in many instances we can't use the SEAMAP data for many of the species that we're all interested in. So certainly some type of a report on the reliability of the various indexes that are conducted I think is a critical component lacking in this document, Number 1.

Number 2, in terms of the information in here about developing new programs, the South Atlantic components on Page 59 of the big plan here has a lot of blue crab work which certainly is important. Then there is a Number 3 here on Page 60 which I don't really understand, Pete. And then the Number 4 I

certainly support.

That would be something that would be very helpful. But no where in here really does it talk about complementary work with MARMAP because the outside of 10 fathoms area is the MARMAP survey.

So I think there needs to be much more discussion in Number 4 on how to dovetail any new SEAMAP projects with the existing MARMAP data that's being collected and particularly paying important consideration to the lack of sampling outside of that core area which essentially is off South Carolina because of where the MARMAP survey occurs. So I think those are some critical components there.

The other question that I would have would be in Numbers 5 and 6 whether or not those could be combined in some way. And I would may be defer to South Carolina or Georgia to ask that question. But certainly if you've got a red drum long line survey and a shark long line survey do those need to be mutually exclusive surveys?

Are those going to be handled differently on the cruises where you're going to set different long lines on different cruises? Are you going to set them at the same time?

And then on the develop a plankton survey I think with the absence of good fishery independent adult abundance information that we have in the South Atlantic, particularly for those species that are important to the ASMFC and the South Atlantic, I would certainly prefer to see our money spent more on the adult assessments and even juveniles rather than getting involved in developing a new plankton survey.

And I'd really want to hear a lot more about the potential uses of those types of surveys and how we're going to use those in our current assessment products and techniques.

MR. MOORESIDE: I can make these necessary modifications to the document and then if you prefer I can submit that to you via e-mail.

DR. DANIEL: I certainly -- unless the board has different ideas I certainly think those are very important components of this. If we're going to look at a five-year plan and recognizing all the concerns in the South Atlantic in terms of data -- all right? -- we keep talking about SEAMAP but we need to see what we're getting.

And we need to be able to see what we're going to get. And we need to be able to coordinate that with all the other activities that are going on. And one of the documents that would be very helpful I think to look at would be some of the SEDAR research recommendations that we've been putting out for the last four or five years in the South Atlantic.

And many of those research recommendations support a lot of the work that has been done, that is being proposed in here. I just want to make sure that it's done cooperatively, collaboratively, but I also would like to see much more justification for a plankton survey because I just don't see the need for that right now with the problems that we have on the adult stuff.

CHAIRMAN WOODWARD: All right, well now we have a situation where we have some fairly substantial changes being recommended to this document and obviously those would be changes that we would approve and would not have been approved by the other bodies.

So I think perhaps we're in a situation now where we need to delay action on this, let Peter incorporate these and then figure out the proper way to vet these back through these other bodies for some form of approval and then bring it back before this board for non-conditional approval, shall we say. So, we'll just hold action on this. Peter, do you have a comment?

MR. MOORESIDE: All that I wanted to mention was that once the modifications have been made then the board approves that document I can send the document back to the Gulf States as well as the Caribbean Committees and then to have them review and then approve that modified document.

CHAIRMAN WOODWARD: Are you satisfied with that, Dr. Daniel?

DR. DANIEL: Yes.

CHAIRMAN WOODWARD: Okay, Vince.

EXECUTIVE DIRECTOR O'SHEA: Thanks, Mr. Chairman. Maybe the -- and I'm not sure whether at this point if you were looking for other comments as well or are you just going to consider this to be an open document but one of the, I think the two, I have a mackerel point to make and it's a long the lines of what Dr. Daniel said.

I think at the end of the day if there are concerns that we're not getting the bang for the buck out of

SEAMAP that we need that the path to correct that needs to be in this document. And I don't, I'm not sure that that's there.

And that's really a question for North Carolina, South Carolina, Georgia and Florida to answer. So if the data that is being generated is not supporting our most critical needs, how do we change that? And that should be in this document.

The second comment is I get nervous whenever there is numbers and dollar signs. and there is proposals in here to restore a different terminology on money.

And I'm just thinking that it may be more helpful for this to be presented maybe in a table or something that says how much we had been getting and how much they're proposing to increase because one of the concerns in the past has been what is the sharing formula between the Gulf, the Caribbean, and the Atlantic.

And when I've asked for that sharing formula I have not been able to get that. So I think a section that more clearly lines out the money issues here I think would be helpful for the five-year plan.

And it would certainly be helpful when we get questions that say will you help us go up on the Hill and get money for SEAMAP. And when I ask the states about that they say, well, we don't know what we're getting for the money we're spending right now, let alone more money.

And I guess the third one is on a format issue and this is minor but when I reviewed the document there is a valuable part about history but it's built right into the middle of the five-year plan.

And I would suggest that maybe that would be better put in as an appendix at the back for reference. But to me you're shifting us to the future and then you've got a substantial portion of history in the middle of it. I know why it's there but I just think it would be a more useful document if that was tucked away as an appendix. Thank you.

CHAIRMAN WOODWARD: Thank you, Vince. Wilson.

DR. LANEY: Well, just one question for clarification to Peter, so Louis has made recommendations for a bunch of changes. I presume those would have to also be vetted back by the SEAMAP South Atlantic Committee.

MR. MOORESIDE: Yes, yes. Before passing it on to the other committees I would show it again to the board and the committee for review.

CHAIRMAN WOODWARD: Well, this is what I suggest, that Peter take the comments that have been made here today, incorporate those back into the document, make sure, Louis, you make sure that your concerns are addressed.

And I encourage the other states to look more closely at this and make sure that whatever we do, we do in one action as much as we can and then he properly vet it through the other partners in SEAMAP and bring it back to this body for final approval. Vince.

EXECUTIVE DIRECTOR O'SHEA: And I think, Mr. Chairman, that a lot of the concerns here today from the South Atlantic Board are really going to reflect the Atlantic side of this so I'm not, I wouldn't think we ought to be too intimidated by the prior approval by the Caribbean and the Gulf Council. This is just how we want to do business on the Atlantic side. And I think that should be a benign issue, frankly.

CHAIRMAN WOODWARD: Well, speaking as a person on the South Atlantic, we have never let those folks intimidate us so we don't need to start now. So, anyway. Any other questions or comments? Wilson.

DR. LANEY: Yes, just a point of clarification, Vince. I agree totally with that sentiment but noting that this was coming to us from the SEAMAP South Atlantic Committee I think that committee certainly deserves to see the comments and the recommended changes and have an opportunity to respond back to some of Dr. Daniel's question before, you know, we cast it in concrete.

CHAIRMAN WOODWARD: Yes, that's my intent is to make sure that it goes through all appropriate bodies for consideration and discussion before it circulates back to us. Okay, any other questions or comments about SEAMAP? Peter, we appreciate it. Sorry we couldn't give you a final product but that's what happens sometimes when you inherit things.

MR. MOORESIDE: Well, thank you for your time.

**RED DRUM ADVISORY PANEL
NOMINATIONS**

CHAIRMAN WOODWARD: Okay. Our next agenda item I'm going to turn over the mic to Nancy Wallace to talk to us about our Red Drum Advisory Panel.

MS. WALLACE: We have two new nominations to the Red Drum Advisory Panel. The first is Daniel Dugan from Delaware and the second is Tom Fote from New Jersey. Tom was originally on the Red Drum AP, then when he was made a management board member he was taken off and now New Jersey would like to put him back on the AP.

The Red Drum Advisory Panel has been relatively inactive since the passage of Amendment 2 so now that the technical committee might start gearing up and we're having some more red drum issues I think it would be a good time to activate them and get them updated with everything that is going on so if we could have a motion to approve those two nominations.

CHAIRMAN WOODWARD: We're looking for a motion. Yes, sir.

MR. THOMAS McCLOY: **On behalf of New Jersey I'll make that motion.**

CHAIRMAN WOODWARD: All right, let's get it upon the board there, Mr. Spear. Do I have a second?

MR. PANKOWSKI: Second.

CHAIRMAN WOODWARD: We have a second. All right, let me read this into the record. We have a motion to approve to the Red Drum Advisory Panel the nominations of Tom Fote and Daniel Dugan. Motion made by Mr. McCloy, second by Mr. Pankowski.

OTHER BUSINESS

Any opposition to the motion? If not, the motion carries. Thank you very much. Other business. Is there any other business to come before the South Atlantic Board? Well, thank you very much for your attention. We covered a lot of ground. I appreciate it. And unless — Bob Beal.

MR. BEAL: Well, after your adjourn I just wanted to announce that the habitat workshop will be in this room at 10:15.

ADJOURN

CHAIRMAN WOODWARD: Thank you, Bob. Without opposition we'll stand adjourned.

(Whereupon, the South Atlantic State-Federal Fisheries Management Board adjourned on Tuesday, November 1, 2005, at 9:40 o'clock, a.m.)

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