

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

MARINE FISHERIES ADVISORY COMMITTEE MEETING

Boston, Massachusetts
Tuesday, March 21, 2017

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1 P R O C E E D I N G S

2 (9:01 a.m.)

3 MS. MORRIS: Let's get started. Good
4 morning everyone. So just to preview of our day
5 today. We're going to start with the State
6 Director's reports. We're going to try to go with
7 the flow here. We're going to start with the
8 State Director's reports then we'll have our
9 budget briefing from Paul about the fisheries
10 budget.

11 We'll have a conversation with Michael
12 Rubino about the aquaculture program. And then
13 because Erica won't be with us tomorrow, she's
14 going to give her working group report on
15 (inaudible) I'm sorry (inaudible). And I'll have
16 some public comment and then break for lunch.

17 This afternoon is devoted completely to
18 sub-committee and working groups work.
19 Task 6 is going to work in the first part
20 of the afternoon. Concurrent the resilience Task
21 4 community impacts group. We'll have a mid
22 afternoon break and then the commerce committee's

1 going to meet. So Julie Bonnie's going to have
2 her plate full with chairing things this morning.

3 And did any other subcommittee want to
4 schedule a meeting in between 3:30 and 5 this
5 afternoon? Does anyone from recreational fisheries,
6 protective resources, or any ad hoc group want to
7 get together during that period of time? Well, if
8 something pops up let me know before lunch. And
9 we'll announce that and that would be it for
10 today. So are we ready to get started on
11 (inaudible) reports from state directors. David
12 your first.

13 MR. DAVIDSON: Thank you madam chair, I
14 appreciate the opportunity to come and talk to you
15 guys. I got three major issues and then we'll
16 talk about in the Gulf. First is the budget, like
17 everybody else we're concerned about the budget
18 and funding for long term data collection. Which
19 is a major activity under the commission. We're
20 working on getting those line items increased for
21 the data collection.

22 We take an annual trip with myself and

1 our state directors go up and talk with the gulf
2 folks. About getting that increase. That this
3 year they seemed receptive but with the
4 uncertainty with the budget. They're not really
5 sure what's going to happen. But we seemed to be
6 getting some traction in some interest in increase
7 in that. I'm also working -- we continue to work
8 with Randy and Bob as the three commissions. And
9 try to get those increases realized.

10 The other issue is aquaculture, we've
11 worked with NOAA Fisheries and Mike Rivino. And
12 that gave us some money to work on a couple of
13 aquaculture projects. The first was we had about
14 400 K for a small grants program. For oyster,
15 aquaculture in the Gulf of Mexico. We funded six
16 projects so work is ongoing and started and will
17 continue through this year.

18 Our plan is next March, March 2018
19 commission meeting will have general session that
20 those six projects will present their findings and
21 research. As Harland mentioned yesterday we work
22 with GSI and sponsored a oyster aquaculture

1 project end of last year. To look at the issues
2 surrounding the issues and impediment surrounding
3 aquaculture in general and how to move forward.
4 We had good participation and continue to work
5 with Mike to see what the next steps are in terms
6 of moving that issue forward.

7 And then of course everyone's favorite
8 fish, red snapper. We recently had our commission
9 meeting in Gulf Port last week. And as part of
10 that meeting we had a general session looking at
11 recreational fishing issues. Had variety of
12 different presentations from NOAA Fisheries and
13 Emirate staff. As well as ASA and CCA Dick Brame.
14 Brame participated in.

15 There was some very constructive
16 discussions and I think people are finally
17 realizing that there are issues with recreation
18 fishing. It's a different animal than commercial
19 and we need to kind of step back and look at some
20 alternative approaches on how to address it. The
21 commission has agreed to help facilitate some of
22 these discussions and try and come up with some

1 solutions.

2 Either legislative regulatory, however
3 the group the sees fit. But we will be meeting in
4 May with our state directors as well as NOAA
5 leadership. And that is one of the issues that
6 we'll be talking about trying to get out the box
7 of recreational fishing in the Gulf of Mexico.

8 Those are the three major things that
9 are going down in the Gulf. And I'm glad to
10 answer any questions.

11 MS. MORRIS: Peter.

12 MR. SHELLY: David, I've followed the
13 red snapper from afar newspaper accounts. And it
14 does always tend to spill out a little bit in the
15 (inaudible) and discussions and other things. Can
16 you -- from your perspective can you kind of
17 capture what's going on there and what the issue
18 is. Is it purely an allocation?

19 MR. DONALDSON: Allocation is an issue.
20 The main problems is and it's the issue of using
21 park quotas and recreation fishing. The problem
22 is when fishing -- when there's not a lot fish you

1 have plenty of days to fish because you're not
2 reaching the quota. But with red snapper the
3 population's rebounding there's increase biomass.
4 Each stock assessment shows more and more fish.

5 And because of that they reached a quota
6 faster, so the more fish you have the less days.
7 So it's a 180 degrees of what you would expect.
8 And that's the jest of it is trying to fit a
9 square peg into a round hole. And it's not the
10 appropriate approach for recreational fishing in
11 the Gulf of Mexico.

12 MR. SHELLEY: There's not a sense that
13 the quota is set too low. Or does some people
14 (inaudible). That their raw quota is actually set
15 too low as well.

16 MR. DONALDSON: Well, and that's another
17 issue with -- we do assessments for red snapper.
18 We wish we could do them on an annual basis, so
19 you could realize those increases in biomass. But
20 because of various constraints in the southeast,
21 we're not able to do that. It's improving but
22 it's still the assessments like, were making

1 decisions on data from two or three years ago, so
2 that adds to the frustration.

3 MS. MORRIS: What are some of the
4 alternatives that we're emerging out of this
5 meeting that you referred to for managing the
6 recreation fishery?

7 MR. DONALDSON: Well ASA sponsored a
8 focus group -- a facilitated focus group session.
9 And they came up with a variety of different
10 alternatives. They didn't select a preferred, but
11 fish tanks were talked about. They talked about
12 managing on a depth stratum that you can fish out
13 to a certain distance. And everything past that
14 is off limits.

15 Looking at harvest rates versus
16 landings. There was probably five or six
17 different --

18 SPEAKER: I think there were five.

19 MR. DONALDSON: Yeah.

20 SPEAKER: To look at.

21 MR. DONALDSON: And I could provide the
22 report to you guys if you'd be interested.

1 SPEAKER: It might be worth at some
2 point if you were interested in having Ken or
3 somebody give that presentation. It's pretty
4 illuminating.

5 MR. DONALDSON: I think that would be a
6 good idea.

7 MS. MORRIS: Sorry, I'm personally
8 interested in this. Sorry to take everybody's
9 time. Go ahead Phil.

10 MR. DYSKOW: Real quick I just want to
11 --

12 MS. MORRIS: I'm sorry Phil, I recognize
13 Phil. You'll be after Phil.

14 SPEAKER: Me.

15 SPEAKER: No.

16 MS. MORRIS: Phil.

17 SPEAKER: Phil, Phil. I'm sorry.

18 SPEAKER: The guy sitting next to you.

19 MR. DYSKOW: David, I wasn't able to
20 attend that conference. Was there also discussion
21 around the accuracy of the estimate of
22 recreational catch? That's driving this?

1 MR. DONALDSON: We didn't get into the
2 specifics of the actual data collection. Because
3 there's been numerous discussions, numerous --

4 MR. DYSKOW: Yeah.

5 MR. DONALDSON: -- numerous meetings
6 about that and we wanted to move away from that
7 and actually start looking at the potential
8 solutions. So it came up and the issue of
9 Emirate. Emirate may not be the appropriate tool
10 when you're looking at doing quota managing. Just
11 because of the timeliness we have a nine-day
12 season. And they generate estimate on the 60-day
13 time period.

14 MR. DYSKOW: Right.

15 MR. DONALDSON: I'm no rocket scientist
16 but that doesn't work.

17 MR. DYSKOW: I guess my point David is,
18 you know, if the concerns -- and correct me if I'm
19 wrong Dick. The concerns are in two areas, one
20 the estimate of the population of fish. And the
21 estimate of the recreational catch. And if we
22 don't have science to satisfy those two questions.

1 We'll never come up with a solution regardless of
2 what strategy we have.

3 MR. DONALDSON: Yeah, I mean you got to
4 have accurate data --

5 MR. DYSKOW: Right.

6 MR. DONALDSON: -- and have an accurate
7 picture of actually what's out there before we
8 can. And that's something that we're trying to
9 work on and try to get more timely assessments.
10 More routine assessments so we have data --
11 current data that we're making good decisions on.
12 Not data from several years ago.

13 MS. MORRIS: Harlon.

14 MR. PEARCE: Thank you, sorry. Two
15 things, I think that answer Phil's question. That
16 I think with the advent of the electronic
17 recording mandate in the Gulf, you're going to get
18 more data. From the (inaudible) so that's going
19 to help you with some of your catch data that you
20 need for the record

21 (inaudible). And secondly, I just
22 want applaud Ken

1 (inaudible) for the work he's done.
2 I think it was timely and needed to
3 be done. And I'm glad Keith put it
4 together and I respect Ken and
5 everything he does. And well done
6 that's all I can say.

7 MS. MORRIS: Any other questions or
8 comments from Dave? Or anyone about red snapper.
9 Yes.

10 SPEAKER: I just can't help myself.

11 MR. BRAME: The fundamental part -- what
12 Phil's referring to the fundamental problem is one
13 of the things I talk about. And that's you're
14 taking a point estimate that's measured it with a
15 (inaudible) and comparing it to a APO it's measure
16 in some sort of aerogram. There's a lot of slop,
17 it's like doing cataract surgery with a fire axe.

18 MS. MORRIS: With a what? A fire axe.

19 MR. BRAME: With a fire axe. You need a
20 little more precision if we're going to quote
21 manage we need better data

22 (inaudible). Or let's have another

1 management system to manage. Given
2 the data that they have. Because
3 we're likely or not -- I mean, I
4 don't perceive anywhere ever having
5 to be an effective tool for quota
6 management. It's very good at what
7 it does for high volume species
8 that are routinely encountered.

9 Less of these offshore species cause
10 we're finding only 5 to 7 percent of the drifts
11 are offshore. So they just get swamped by the
12 sampling from the or near core species. And the
13 Gulf states we're trying to adjust that. It's
14 like Dave said, we're trying to put a round peg in
15 a square hole. We need to figure out how to do
16 that better.

17 MS. MORRIS: Any other comments. Yeah,
18 Peter.

19 SPEAKER: I just like to second your
20 thought and make it at some level on this fishery
21 because it does spill out. And some of the issues
22 that concern a lot of us on terms of the

1 precedence and other things. I don't know if it
2 worth an assignment to a committee yet -- or
3 subcommittee yet or a subcommittee yet. But I
4 would love to have a presentation to understand it
5 better.

6 MS. MORRIS: Okay so Dick. When you're
7 trying to figure out work plan for the
8 recreational subcommittee. Perhaps a briefing on
9 the recreational red snapper fishery and.

10 SPEAKER: Gee thanks.

11 MS. MORRIS: And maybe you can get Ken
12 to come to give his --

13 SPEAKER: Yeah

14 MS. MORRIS: -- presentation to the
15 whole --

16 SPEAKER: It would be worthwhile
17 (inaudible 17:04:41.

18 MS. MORRIS: Okay we ready for Randy's
19 report from the Pacific. Randy.

20 MR. FISHER: Sure. Thank you, madam
21 chair. Just for the record I like to say that
22 last night the commissions made a extremely

1 generous offer. To try and improve communication
2 and collaboration with the agency. We were almost
3 rudely rejected, Jennifer and Adele left the bar
4 and in fact they were seen running from the bar.

5 SPEAKER: That's an inside joke.

6 MR. FISHER: Which is no reflection on
7 the commission.

8 SPEAKER: Wow, more details, more
9 details. I don't think that needs to be on the
10 record.

11 MR. FISHER: Too late.

12 SPEAKER: That was in the Pacific
13 commission

14 (inaudible).

15 MR. FISHER: Let's go to Alaska.

16 Currently, the secretary of commerce has declared
17 nine disasters, nine fishery disasters. They
18 range all the way from sockeye or silver salmon in
19 Alaska all the way down to Benjamin's Crab out in
20 (inaudible) So they're in the process now --
21 obviously, that's in front of congress.

22 And people are trying to figure out the

1 value of those fisheries. Over the last four or
2 five years we've been involved in a large number
3 of disasters relief programs on the Westcoast and
4 Utah.

5 This year as a result of about 3 years
6 of drought. Counsel's involved with three options
7 in terms of the salmon fishery on the Westcoast.
8 All of them

9 (inaudible). Northern California
10 and Southern Oregon) fish began to
11 shut down. Someone might ask
12 (inaudible) disaster relief program
13 (inaudible). The police already
14 talking about that.

15 You just got through talking about red
16 snapper, red snapper is everywhere. We and the
17 west coast manage the Dungeness crab (inaudible).
18 It's a state and operated program and it's been
19 very successful for about 35 years. We're in the
20 (inaudible) Act it's an authority for the station
21 manager and fishery. Due to red snapper, the
22 authority before that disappeared in (inaudible)

1 Act of September of 2017.

2 So right now, the states do not have any
3 management authority over Dungeness crab. We
4 passed a bill out of the house with the vote of
5 388 to 14. The bill now is suppose to go to the
6 senate. And it appears to be a hold on it. It's
7 somebody in (inaudible) so and it's due to red
8 snapper.

9 So we're trying to figure this thing
10 out. We're trying to either get it on an
11 appropriation bill or a standalone bill. Which I
12 think (inaudible) will probably be drafting a copy
13 very soon and we can't do anything else.

14 The concern is that in theory a boat can
15 come down out of Alaska sitting in federal waters,
16 clean out Dungeness crab. Go back to Alaska and
17 there's nothing anybody can do about it. So
18 that's what the issue is. Also, Dungeness crab
19 (inaudible) Dungeness crabitryis the most
20 (inaudible) on the west coast.

21 We had issues with folic acid
22 (inaudible) yesterday. And the science center

1 (inaudible) working on that. So we been hoping
2 (inaudible) open the west coast stuff usually on
3 December 1st for Dungeness crab take advantage of
4 the Christmas season. Last year it was not open
5 and as a result of that we started fishing later.

6 And the next trouble area for Dungeness
7 crab is

8 (inaudible). This one I think, I
9 seen it on a TV twice now on
10 national TV. And 68 whales were
11 kind of
12 (inaudible). We're going to have a
13 meeting with fleet on March the
14 29th and 30th with a bunch of
15 researchers from NOAA and other
16 folks. To try to figure out what
17 we can do. Cause this thing will
18 setback fishery (inaudible) if
19 we're not real careful. So we'd be
20 looking at different source of
21 entanglement and (inaudible)
22 methods. And try to figure out

1 what to do.

2 Uncertainty on the west coast. Dave
3 mentioned funding I was on the hill (inaudible) go
4 back and

5 (inaudible) on behalf of NOAA
6 fisheries in this instance. I can
7 tell you that there is a lot of
8 confusion. Nobody really knows
9 what they're (inaudible). And the
10 lack of staff within NOAA is
11 starting to be a problem.

12 The other thing is we mentioned
13 (inaudible) a hiring freeze within NOAA is when
14 they started hurting. The accounts process and
15 everything else because they can move people up
16 within the agency but they can't hire anybody new.
17 So if somebody get fired they're screwed.

18 (Inaudible) bringing anybody in and
19 it will start to affect the
20 relationship on how we manage
21 fisheries.

22 Change in the oceans conditions and our

1 ability to respond. Is another huge uncertainty.
2 And its sort of like, you know, what it was there
3 (inaudible) cameras we do a lot of the camera work
4 on the west coast.

5 (Inaudible) people think that's the
6 silver bullet and really is not the
7 focus (inaudible).

8 Now, what they're trying to talk about
9 is stock identification on quick turnaround.
10 Stock identification meaning genetic sampling.
11 What that came up is with the lack of salmon,
12 midwater crawlers off the west coast are now
13 having to battle with the salmon fisherman.
14 Because salmon fishermen feel that the midwater
15 crawlers are intercepting the salmon.

16 And as a result of that they want a try
17 and figure out where those fish are from. So
18 (inaudible) the genetics of the wild fish. That's
19 going to be a problem. Other things in terms of
20 conflict, we continue to have serious issues with
21 marine mammals on the west coast in Atlanta.
22 There's a base number of 11,000 (inaudible) winter

1 steal head this year, 481 already down.

2 And there is a bunch of sea lions that
3 are camped up right by Walton Falls now. And
4 we're trying to figure out whether to get
5 authority to trap marine mammals on Columbian
6 system. They've trapped about 35 of them last
7 year. We need to do something.

8 Commercial recreational conflict on the
9 west coast has been quiet for quite some time.
10 It's starting to bubble up again. I think part of
11 that is now (inaudible) you start dealing with low
12 numbers of salmon and other things. That
13 (inaudible) starts heating up.

14 Lawsuits -- they're a number of lawsuits
15 on the west coast with NOAA -- against NOAA will
16 hatch our operations. What that basically does is
17 that reduces the ability of the agency to do other
18 things when they

19 (inaudible). There are a number of
20 those. Terms of good stuff a
21 number of years ago -- about 4
22 years ago, I believe it was. National

1 Fishing Service took the two regions the northwest
2 and southwest regional offices and made it one.
3 That is actually a good thing. It seems to us
4 that it's making a (inaudible) be a little more
5 coordinated. (Inaudible) extremely complicated
6 person.

7 Good and bad stuff CISCO moving out is a
8 bad thing.

9 (Inaudible) besides settling
10 (inaudible) from the south. Plus,
11 going to headquarters is a good
12 thing for us but a bad thing also.
13 So that's a better (inaudible) so.

14 MS. MORRIS: Questions for Randy? Yes.

15 MRS. HAMILTON: Yes. I haven't been
16 able to get an answer on the disaster relief on
17 whether it effects both fleets or not. The way it
18 was written some folks think it's just for
19 commercial fisheries. As we all know both
20 industries.

21 MR. FISHER: That hasn't been determined
22 yet. It won't.

1 MRS. HAMILTON: So that still too --
2 it's still broad enough --

3 MR. FISHER: Yes.

4 MRS. HAMILTON: -- that both industries
5 can participate? Because that's --

6 MR. FISHER: Depends on how it's
7 allocated basically and the past is always
8 (inaudible) effective --

9 (inaudible).

10 MRS. HAMILTON: Right.

11 MR. FISHER: (Inaudible) the language.

12 MRS. HAMILTON: Okay. Because I know
13 you know the drought is equally hard.

14 MR. FISHER: Yeah.

15 MRS. HAMILTON: Statewide collators to
16 fisheries in

17 (inaudible) just the oceans, rough.
18 And then on the whale (inaudible)
19 has there been any deaths from the
20 entanglements. I mean 68 is a big
21 number but (inaudible) but have
22 there been deaths from.

1 MR. FISHER: Not that I know of. Well,
2 we don't know. And then 68 may not even be the
3 right number. It could be 268 because we just
4 don't know. That's the issue. And I don't know
5 what the solution can be. Some people say, well
6 now (inaudible) crab fishery blog book. Well if
7 you look at it that's a nice idea. But why don't
8 you ask the whales where they're going to go.

9 Because (inaudible) crab going to just,
10 you know

11 (inaudible) and they may swim over
12 but. Last year I think the water
13 was so warm they came in very
14 close. And that was probably
15 (inaudible) a lot of the issue.

16 MR. MORRIS: Yes, Heather.

17 MR. BRANDON: The team that's being put
18 together

19 (inaudible) being a official take
20 production team? Or is it a...

21 MR. FISHER: No, it's not official.
22 It's an opportunity for us to sit on liquid fleet

1 and say, hey your guys you better pay attention to
2 this thing. Because this is not funny. You need
3 to have one picture of a baby whale today
4 (inaudible). So we've ask people from NOAA to
5 come out and I'm not sure (inaudible) white whale
6 (inaudible). But I don't know what the solution
7 is going to be.

8 MS. MOORE: Julie.

9 MRS. BONEY: So what kind of whale is
10 it?

11 MR. FISHER: Grey whale.

12 MRS. BONEY: Grey whale. Okay. So they
13 do Alaska was really worried about the white
14 whale.

15 MR. FISHER: Yeah.

16 MRS. BONEY: And so there's some things
17 that we would take here.

18 MR. FISHER: Yeah.

19 MRS. BONEY: I don't know if they can
20 use the breakaway lines or whatnot. But that
21 would be a path if they had to.

22 SPEAKER: This issue about the salmon

1 interception in the midwater fishery.

2 MR. FISHER: Yeah.

3 SPEAKER: It's been kind of recycling
4 for quite a while. And an anecdote people are
5 worried about it's out in the ocean. That salmon
6 travel in cohorts somewhat.

7 (And so the concern is that it
8 might be a lot of salmon overall
9 but it could be a huge portion of
10 the single run through. Is there
11 any data on that?

12 MR. FISHER: No. The other issue you
13 have, you know, they were asking us about it. And
14 we said, well sure we can put cameras on the boats
15 and those sorts of things. But the issues is
16 (inaudible) trawlers bring in the net and dump it
17 in the hole. And (inaudible) that there may be a
18 salmon in there but you wouldn't know where, you
19 know, by the time they got back to the shore, you
20 wouldn't know where exactly they caught it. So
21 that's one of the issues.

22 You can have them sort on deck but

1 they're not really going to want to do that. So,
2 you know. So you're not going get -- you can get
3 genetic information when they're back from shore.
4 But you wouldn't know where that fish was coming
5 from.

6 SPEAKER: Still be a big step in the
7 right direction just to get that genetic
8 information.

9 MS. MORRIS: Mike.

10 SPEAKER: So Randy the trawlers do not
11 sort as I recall, on whiting fish reef. But I
12 thought on mid water they declared if it was a
13 midwater trip. I thought they did have to sort,
14 is that not the case?

15 MR. FISHER: No.

16 SPEAKER: But not with (inaudible).

17 MS. MORRIS: Any other questions, Julie.

18 MRS. BONNEY: Well, I was just going to
19 point out that he should look at the salmon the
20 black fly catch regulations in the North Pacific.
21 And the genetic information that they are doing.
22 So they've come up with a sampling regime to look

1 at the cohorts. They looked at time of year.

2 So I hate to see you spend a lot of time
3 reinventing the wheel. If there's another fishery
4 that's mid water pollock which doesn't sound
5 (inaudible) catch is the big issue (inaudible).

6 MS. MORRIS: Okay. Thank you.

7 SPEAKER: I don't have any questions for
8 Randy. But I thought the committee might be
9 interested in the Atlantic States Commission is
10 taking a (inaudible). They're going to be writing
11 a joint plan with -- it's a federal species just
12 long as they're harvested in state waters. We
13 asked him let us see his writing. The fishery
14 made complaint for (inaudible).

15 SPEAKER: (Inaudible 17:18:36

16 SPEAKER: (Inaudible)

17 MS. MORRIS: So some news from Atlantic
18 states even though Bob is not with us.

19 SPEAKER: Tell Bob, I was speaking for
20 the Atlantic states. But if you got any questions
21 I'll be happy to answer. They're through the
22 what's called a PID for the discovery phase.

1 They'll have a plan in place by the end of the
2 year. They'll be talking (inaudible) to the
3 federal.

4 SPEAKER: Is it true then (inaudible)
5 federal lakes and state water (inaudible)?

6 SPEAKER: No. The reason (inaudible)
7 they'll be able to divide it up into state quotas
8 and however the states want to manage. Their
9 waters under the federal
10 (inaudible).

11 MS. MORRIS: Okay we're ready to move
12 into Paul's presentation on the budget and
13 operations output. Paul.

14 MR. DOREMUS: My favorite topic yet
15 again. I'm going to step through where we are
16 today. I understand some of this was discussed
17 already. And Sam's overview yesterday, but will
18 have at least an opportunity to pick up some
19 budgeting operational issues. Including the topic
20 that Randy brought up about the impact (inaudible)
21 what we do and don't about our situation there.

22 So I'm just going to look at '17 what we

1 know from the '17 process so far. And then have
2 another look out overtime. We always like to
3 point out where we are in the process. I think
4 many of you well know, but it's a complex federal
5 budget cycle transition years. Things really get
6 thrown off because of the timing of the
7 establishment of new administration. That is
8 typically for annual budget within a month of the
9 inauguration.

10 That clearly got pushed back. The FY'18
11 Presidents budget was just delivered. Congress
12 has not made appropriation decision on '17. And
13 I'll speak to where we are with the whole
14 congressional resolution process. In a normal
15 time, we would actually be working right now on
16 our '19 submissions. Looking out a little bit
17 over the horizon planning for that. But these
18 aren't necessarily normal times.

19 We haven't formerly started that process
20 folks in fact are assimilating information from
21 '18. Budget was put forward in broad relief.
22 We're expecting more detail in May. So this gives

1 you a picture in any given point in time. We're
2 trying to execute '17 (inaudible) the execution
3 phase even though we don't have a budget, we don't
4 have congressional continuing resolution to
5 operate under. We're dealing with a PD release
6 with limited information about what is fully
7 incumbent in that at this time. So we're getting
8 compression around '17, '18, '19. With some
9 potentially very significant implications for the
10 long term.

11 Starting with the CR we're good till
12 April 28th and I think many of you are familiar
13 with the terms of CR. We can start new programs
14 it keeps us at roughly FY'16 levels. And there's
15 an adjustment that's actually slightly lower than
16 that but not by huge amount.

17 The big issue here is there's still some
18 unknown about whether the administration is going
19 to ask for FY'17 resources. To be put against
20 some of the administrations priorities and defense
21 and homeland security. That's still out there.
22 There's been a proposal discussed. So there's

1 some possibility and there's already a lot of
2 politics around this.

3 Some of you may have seen it in the
4 national press the democratic party has very
5 clearly said, that they don't want a CR that has
6 these additional conditions attached. They want a
7 so called clean CR doesn't have additional policy
8 driven budget dimensions in it for '17. But that
9 has yet to be worked out. So there still some
10 uncertainty, this is our new reality we been
11 talking about for years now. A great deal of
12 fiscal uncertainty.

13 There is even with '17 and the remaining
14 months that we have, there is some uncertainty
15 that there may be a recession of some type, to pay
16 for some immediate priorities that the
17 administration is trying advance in the defense,
18 homeland security domains. Remains to be seen how
19 that will play out. But there is a possibility we
20 may end up in again one of these shutdown
21 scenarios. Where there's been some (inaudible)
22 playing out politically with budget and policy

1 tied together all around. Do we keep the
2 government running or not or do we shut down?
3 And this is something that's been happening with
4 increasing frequency in our congress. It's sort
5 of --

6 SPEAKER: This shutdown scenario in
7 April or October.

8 MR. DOREMUS: It be April 28th.

9 SPEAKER: Okay.

10 MR. DOREMUS: And April 28th is -- this
11 is the real driver here. It's not terribly far
12 off. And right after that I forget the actual
13 date, but not long after that is a requirement --
14 it's a debt ceiling requirement congress has to
15 improve an increase in debt ceiling. And this
16 whole dynamic is really quite interesting.

17 It was the debt ceiling decision in
18 prior congresses that lead to the showdown
19 scenario. And there was even - - they're
20 proposals to allow the government to shut down and
21 default on its debt. To avoid having to raise the
22 debt ceiling and one of the leading proponents of

1 that in prior congresses was the current director
2 of OMB. So things have really changed around
3 quite substantially. And I couldn't begin to
4 predict how this would play out.

5 SPEAKER: How are you sleeping?

6 MR. DOREMUS: Sleep.

7 SPEAKER: Yeah. There you go.

8 MR. DOREMUS: There's a lot of
9 inflection on this. But we hadn't really had what
10 you might call designed decision making on budgets
11 for quite some time. I think the last time --
12 this is an interesting graft from Congressional
13 Research Service. About the use of continuing
14 resolutions to deal with difficult budget decision
15 making, difficult appropriations decisions. And
16 if I recall from this, I think the last time that
17 congress passed all of the appropriations bills on
18 time was in 1996.

19 SPEAKER: And I know what happened right
20 after

21 (inaudible).

22 MR. DOREMUS: So that was a while ago

1 and this shows you the kind of pace and timing
2 over time of congressional resolutions. On
3 average, I think there's something like five and a
4 half of these a year. And some of them are days,
5 I think the longest one was 32 weeks. I guess
6 here on average 520 I thought it was five and
7 half.

8 So it's an interesting statement about
9 the legislative process. And something that is
10 likely to continue. We shall see. What we have
11 to go on right now in terms of congressional
12 indicators are house and senate marks on '17.
13 Working off of the former administrations FY'17
14 request. So we're clearly inside the level that
15 was requested for fisheries.

16 We had very positive response by the
17 administration in FY'17 towards a number of the
18 issues that we're trying to deal with. Some of
19 them discussed by our commission directors here
20 this morning in terms of priority areas. I'll
21 show you in a sec roughly how that played out.
22 But we had pretty close -- some different

1 fewer people.

2 And increasing backlog with significant
3 economic consequences. There's a lot of focus on
4 trying to restore that capability. We have a
5 number of other things here that can considered to
6 be augmentation of core capabilities, including
7 facilities. I'll speak to facilities as well as
8 fleet in a second here.

9 But think generally speaking maintaining
10 your core capabilities in a flat to declining
11 budget environment. And also where we have
12 capital intensive observing and facilities
13 requirements. It's a really difficult thing. And
14 that's going to be a big part of our discussion
15 going forward. And I'll highlight a couple
16 elements on both the observing system and the
17 facilities front in a minute.

18 We also ask for some key science
19 investments in a variety of areas eco system based
20 solutions to management, aquaculture. Some
21 grants around resilience, observers, (inaudible)
22 et cetera. And pretty much no response here with

1 the exception of some very different numbers on
2 aquaculture. An increase of three million over
3 the request level from the senate, a decrease from
4 the house.

5 We don't think that that was a real
6 indicator of a probomatic signal of any sort. It
7 was people making numbers. Although, there's
8 very, very interesting support here particularly
9 from the northeast. Senator Blumenthal has had a
10 big focus on aquaculture. And that's in part to
11 hear why we have an augmentation. We're going to
12 talk about aquaculture in the next session.
13 Coincidentally it is a very bright strategic
14 priority of ours. This is the budget environment
15 we have to work in to advance it. So just a
16 reference point there for discussion going forward
17 in the future.

18 MS. MORRIS: (Inaudible)

19 SPEAKER: Are there any revenue offsets?

20 MR. DOREMUS: No.

21 SPEAKER: (Inaudible).

22 MR. DOREMUS: Not in. The biggest area

1 where we have revenues is in our secret inspection
2 program which is fee driven. And I'll reference
3 that when it comes to some of our staff
4 constraints. But we don't have revenue offsets
5 beyond that. And beyond keeping in mind we often
6 take for granted what is in effect a huge hundred
7 thirty plus million-dollar revenue offset. Is
8 invoked and develop account which comes off of
9 taxes and seafood imports.

10 And congress makes a decision every
11 year. Well a portion of that basically offsets
12 our operations research facilities line. And what
13 portion of that goes to our (inaudible) grant
14 program. So we in effect -- it's very rarely
15 discussed this way but we in effect in terms of
16 our core operations. Have a substantial revenue
17 offset in the form of import fees. So there's
18 that's (inaudible) as well.

19 If that went away that would be an
20 appropriations challenge. They would not have --
21 it would be a (inaudible). We did also ask for
22 some follow on to strategic investments that we

1 made in an international domain. This was to
2 assist with some of the data management
3 requirements in the arena of our traceability
4 work.

5 And John Henderschedt who spoke with you
6 at the end of the day yesterday about. And also
7 an effort to try to bring along some additional
8 resources to our state partners. To involve them
9 in some of our international related work as well.
10 So those are some key things and it gives you a
11 sense -- we are fortunate that both the house and
12 senate did recognize some of our core capacity
13 investments. But I think our ability to invest in
14 new things, even in the best of circumstances is
15 very constraint. That's the main message from my
16 vantage point with this slide.

17 On the infrastructure front, this is not
18 in our budget, it's not in the fisheries budget.
19 It's in our program support line but a big issue
20 to watch out for -- and we've come a long way
21 after mini fix it starts with fleet (inaudible).
22 We have an aging fleet, we've got a defined life

1 kind of timeframe with our white ship fleet. That
2 Fisheries relies on, NOS relies on, OAR relies on.

3 Sixteen vessels and we need a recap plan
4 and it's been years in the making. We finally got
5 to congress some provision of funds already get
6 going but not sufficient for our first RSV. And
7 that is what we were looking for in FY'17. A big
8 thing to watch in upcoming budget proposals '18
9 and future, is the extent to which we're able to
10 secure support for fleet recap.

11 So we have our fleet recap plan out. We
12 had the sixteen-appropriated funding level for
13 that. We're trying to get to the point of our
14 first bill in many years. And the idea is to have
15 ultimately congressional recognition of a
16 sustained line, for fleet recap that would be able
17 to handle the

18 (inaudible) applications without
19 these continued spikes. On a ship
20 by ship basis that's actually the
21 most cost effective long term. But
22 we'll have to see how congress

1 responds to that.

2 We're asking for an increase on this
3 order but magnitude is difficult. The other area
4 in the facilities front, a couple of pieces here.
5 This is in response to a particular question that
6 you all had about how we're incorporating climate
7 and resilience related considerations into our
8 facilities plans.

9 We are noting here just for your
10 reference there are government wide requirements
11 listed here. A GSA document this whole concept of
12 adaptive management. We're trying to implement
13 that as well as possible. Recognizing we're in a
14 coastal and ocean oriented line of business. And
15 we have recapitalization priorities that are right
16 in the coastal zone. And are raised challenging
17 issues when it comes to climate related topics.

18 Our three highest priorities in terms of
19 facilities recap right now, are our small

20 (inaudible) laboratory that is in
21 Washington state. It has had
22 erosion of its support (inaudible)

1 literal pilings from king tides
2 there. The recapitalization effort
3 would give it some renovation.
4 That is a do or die proposition.
5 They already have about less than
6 five years now. Before we really
7 have to vacate the building. We
8 have to evacuate it until it was
9 stood up on jacks.

10 We have as our second priority our
11 Mukilteo Laboratory. That's on the waterfront
12 we had significant flooding issues there. And
13 recapitalization concepts would involve staying in
14 that area. But moving and maintaining a working
15 dock side capability. But moving a lot of our
16 actual facility capability inland a little bit.
17 There's different scenarios there. And a business
18 case analysis that we've done.

19 And then our third highest is our Miami
20 lab which also sits right on the coast. And
21 there's serious vulnerabilities there. When we
22 did, our strategic facilities review for Miami,

1 looking on decadal basis. We got a problem
2 finding a safe place in all of South Florida to be
3 honest. I hate to tell you and we actually
4 considered as far away as Atlanta. If you really
5 take those kinds of planning considerations
6 seriously. The cost to our ability to operate on
7 mission in the near terms would be a little bit
8 too high.

9 So recapitalization options in that area
10 involve finding higher ground in Miami. Right
11 next to our Atlantic Ocean graphic (inaudible)
12 laboratory in OAR which is literally across the
13 street, slightly higher elevation. Or to do some
14 combination of a field office in Miami and a
15 recapitalization in St. Pete. So those were the
16 two options that came out of that.

17 To just give you a sense of how we're
18 grappling with this whole issue. It's a big one
19 for infrastructure investments generally. And
20 those are the -- at least the government wide
21 reference points. I think it's with our line of
22 business it's a serious challenge. The other

1 serious challenge is right in front of us and
2 create very real effects. Randy referenced this
3 already.

4 His hiring freeze it was proposed in a
5 presidential -- well it was required in a
6 presidential memorandum on January 23rd. It's a
7 90 day freeze to be followed by an OMB sanction
8 plan to reduce the size of the federal workforce
9 by an unspecified amount. The plan will specify
10 something we don't yet know. Using attrition, so
11 we have an attrition rate on the order 4 and half
12 4 to 5 percent a year.

13 And we are awaiting guidance from OMB on
14 what we are expected achieve in terms of a
15 reduction target. We don't know what baseline is,
16 reference point. We don't know what the target
17 level is. And we know that we are already because
18 of this freeze realizing some significant
19 constraints. And we have been for years in fact
20 -- and this is another key slide that I like to
21 show people.

22 Looking out as we've talked about for

1 years now, our budget and consequence staffing
2 levels have been declining. For several years
3 from 10 to 13 this sort of staff decline followed
4 in the wake of about a thirteen and half budget
5 reduction. We did have budgets in '14, '15 that
6 rebounded slightly four and half and one and half
7 percent. But the staffing level what we could
8 afford is much lower. And we have also had a very
9 difficult situation with our ability corporately
10 in NOAA's workforce management operation to hire
11 at the pace that we need to hire.

12 So right now we have -- we are
13 anticipating and I have approved and FY'17 staff.
14 These are physically balanced staff plans that we
15 now require. We have given a expected attrition
16 as well as new positions. We've approved about
17 500 replacement positions and 200 new positions.
18 And very often those new positions are trading
19 off. They're not new as in add net total.
20 They're trading off old positions that, kind of
21 cycling them out.

22 So right now, we've had a little bit of

1 a hiring increase. As some of our capabilities at
2 NOAA have come into play. But we're still
3 operating well below 3000. And after having given
4 well above 3300 a few years back. So we are
5 operating with a lower workforce. And with this
6 hiring freeze and with the expected continued
7 reduction in capability through attrition. You
8 are going to see continued pressure of the type
9 that Randy cited earlier.

10 We have authority to reallocate
11 positions to the highest priority areas. And that
12 was at least a flexibility that was welcome. And
13 we're pleased to have that on each specific
14 administrator for each line can approve internal
15 transfers. So moving back fields from to the
16 highest priority needs. Is what inflexibilities
17 we have that's a good thing. But overall, we're
18 good you know, it's a productive capacity here
19 we're going to be constrained.

20 We are now in an increase. We're still,
21 you know, focusing best as we can on our core
22 strategic goals. We do think as always there are

1 ways to advance your capabilities through
2 innovatively through partnerships. Through more
3 effective efficient use of our existing resources.
4 That's the organizational excellence piece and
5 it's based upon pushing very hard here. To see if
6 there are not ways to maximize our program
7 dollars. But we have core mission
8 responsibilities.

9 We still have right now in our OARF just
10 over \$850 million dollars. And whatever the
11 outcome in the future we would need to meet these
12 expectations and be as creative as possible and
13 how we go about doing that. And that's where we
14 rely on your advice and your counsel. So we're
15 looking at uncertainty in an amplified way.

16 Already with our CR and we're moving
17 ahead and continuing to try to keep staff focused.
18 I think it's probably not hard to imagine that
19 budget uncertainty of this type is a distraction.
20 And our management team is trying to, you know,
21 keep people moving ahead. Doing the mission that
22 we're currently funded to do. We don't know where

1 things are going to go. There's a lot of
2 concentration left to play out in FY'18. And I
3 think once that happens on the hill we really
4 welcome it. All of you are in a position to
5 contribute to that discussion.

6 And we'll see where that ends up and
7 what kind of reference point that gives us for
8 future activities. It will be very significant.
9 And we will need to -- I think work even more
10 aggressively as we're doing internally here at
11 fisheries.

12 And I'm advocating for all of NOAA to
13 use scenario based planning techniques. To look
14 at what these alternative ways that are budget and
15 policy environment might turn out. Would mean for
16 our organization and use them to target our
17 stakeholder community with all of you. And then
18 our own internal planning processes to really
19 think through how we can best respond to what's an
20 increasingly volatile budget and policy
21 environment.

22 So that is where we are in a nutshell.

1 Sorry to not provide a more rosy outlook but that
2 is the reality that we're looking at.

3 MRS. MOORE: Peter.

4 MR. SHELLEY: Paul, statement is sort of
5 an obvious point I guess. You know, given the
6 number of recovering fisheries -- recovered
7 fisheries. The opportunity cost of not having
8 real time data available to increase quotas.
9 (Inaudible) is producing a significant economic
10 cost I think. And so, I hope you keep your eyes
11 on the data streams and modernization data streams
12 and funding, scientist assessment because of that
13 linkage. Obviously, the new secretary emphasized
14 increasing yield to the extent possible. And a
15 lot of that is held back by stock assessments that
16 can't be done rapidly enough so.

17 SPEAKER: Well, thank you for the
18 comment. We're certainly well aware of that. We
19 have been doing in this environment, that has been
20 constrained for some time already. We been doing
21 what we can to try insure the continuity, you
22 know, data collection efforts. Both surveys that

1 we conduct, surveys we fund.

2 Our work with the commissions and with
3 our state partners as well. Has been a major area
4 of focus given the level of funding of our fishery
5 information networks. And other types of state
6 partnership programs. We've even directed based
7 on input from our state partners a portion of our
8 (inaudible) grant funds towards
9 those data collection efforts to
10 keep them as robust as we can.

11 It's not a long-term solution but
12 it has helped.

13 And I'll say broadly speaking, even
14 during that whole period of decline from '10 to
15 '13. The piece of NOAA's budget that decreased
16 the least was our fishery research and management
17 funding. There tends to be bipartisan support for
18 that core business function. I think a lot of
19 people agree -- I think that what we're seeing now
20 is broad across the board pressure for fiscal
21 reductions.

22 And I think the more nuance discussion

1 that takes place on the hill on an appropriation
2 by appropriation basis. Can attend to those sorts
3 of things. In the information that was made
4 public about the FY'18 budget. I think there were
5 some comments made by the administration.

6 That in terms of NOAA's broad portfolio.
7 That the National Weather Service and the National
8 Marine Fishery Service are two of the ones that
9 had the least adjustments to make. So I do think
10 there's some recognition in those core mission
11 functions. And we do hope to do justice to those
12 data requirements as we move through this
13 (inaudible).

14 MS. MORRIS: Julie.

15 MRS. BONNEY: So I have a couple
16 questions, one is the hiring freeze. So based on
17 your date on the slide, it suppose to (inaudible)
18 at the end of April. But then you have this
19 confounding issue in terms of whether they going
20 to re-probe in terms of how many positions you can
21 actually have.

22 SPEAKER: Yeah.

1 MRS. BONNEY: I'm just wondering whether
2 there's something that made that confuse and kind
3 of raised that. Because it shown that people to
4 do the work then they don't service the industry.
5 And we're all kind of in this negative
6 environment. Is there any possibility that they
7 could kind of move us ahead of the pack so to
8 speak? In terms of doing some hiring before the
9 90 day.

10 SPEAKER: There are provisions in this
11 freeze for public safety and security kinds of
12 positions. There are also provisions for OPM to
13 grant waivers for other essential functions.
14 Slightly clear guidance on what that mean. We are
15 making some requests. But right now, I think it's
16 very limited. And the freeze is -- the end of the
17 freeze is within site.

18 I think the broader issue for us is
19 going to be what is the freeze replaced by. What
20 are the attrition replacement requirements? Are
21 there going to be percentage changes off of some
22 baseline in our total staffing levels that we're

1 going to be expected to make. So it's very
2 unclear what the environment in the longer term.
3 Planning for a balance of the year and for FY'18.
4 What that's going to mean in terms of our staff
5 capabilities.

6 So that's the part that concerns me even
7 more than our ability to get waivers in the near
8 term. We're seeking them in some areas, but I
9 think generally speaking the orientation seems to
10 be towards public safety. And national security
11 types of extensions.

12 SPEAKER: So the three percent
13 (inaudible) is gone into the place in the North
14 Pacific. And several of the timeshare programs.
15 Where's that funding going? I mean, I would think
16 that you could use that money for hired. Unless
17 it's wrapped up into your overall budget.

18 SPEAKER: It's already wrapped up into
19 our overall budget. That's required to go into
20 program implementation in those domains. I do
21 think generally speaking, it's reasonable to
22 expect, and this is something for potential

1 committee consideration. It's reasonable to
2 expect that the new administration will look for
3 ways -- I guess the question is well -- to look
4 for ways for revenue generation.

5 And I think that's an anticipated
6 question. We have that provision could be
7 extended into other areas. That's going to be a
8 question that I'm sure we will need to address at
9 some point.

10 MRS. BONNEY: But I guess just to follow
11 up, it would seem to me if you're generating
12 revenue to support fishery programs. Then you
13 wouldn't be tired up in a hiring freeze. In other
14 words, that three percent is covering the
15 employment based that you need to run those
16 programs. So is those wrapped up in the hiring
17 freeze?

18 SPEAKER: Everything is. At this point
19 in time. Even our fully reimbursable secret
20 inspection program which is paid for by industry.
21 Even that is wrapped up. There are no exceptions
22 at this point.

1 MRS. BONNEY: And then one more question
2 and

3 (inaudible).

4 MS. MORRIS: All right, I'm getting in
5 patient.

6 MRS. BONNEY: (Inaudible) grant funding.
7 I see in one of your supplemental slides.

8 SPEAKER: Yes.

9 MRS. BONNEY: Is that secure for 2017 or
10 do you feel that that may...

11 SPEAKER: We don't know yet.

12 MRS. BONNEY: (Inaudible).

13 SPEAKER: We expect that there will be
14 fines. We're anticipating around the
15 10-million-dollar program for '17. But that could
16 change depending on what happens (inaudible).

17 MS. MORRIS: Go a little bit faster. A
18 lot faster.

19 MRS. HAMILTON: Just to comment, you
20 know, I've been here for a few years and supported
21 and watched the climate change discussions. And
22 notice monitoring and response to it. But I have

1 to say I have trouble with this whole idea of
2 rebuilding facilities in an area where we know
3 that there's just going to be more king tides for
4 instance.

5 (Inaudible) and I know I've seen
6 whole state agencies move a half
7 hour down the road. So, you know,
8 just to comment on that. I just
9 don't think that it's a good
10 example to rebuild in a place that
11 needs (inaudible) and be more
12 destructive storms.

13 Two questions, one on the (inaudible)
14 just a little bit of a follow up. You mentioned
15 the OMB plan -- I'm sorry I don't know the
16 mechanisms of this. But does congress have a say,
17 after the 90 days OMB is going to come out with a
18 (inaudible) some sort of structure (inaudible).
19 But I wonder what the role of congress
20 (inaudible). And then I'll I give you my other
21 questions so fast or

22 (inaudible). Out in the west being

1 (inaudible) we're
2 concerned about pacific coastal salmon
3 restoration fund and especially as that plays into
4 a new judge looking at, you know, (inaudible)
5 opinion process. And of course, there's always
6 most of the support for commercial tribal
7 fisheries on salmon are highly dependent on
8 capturing production.

9 SPEAKER: Yeah.

10 MRS. HAMILTON: So those two funding
11 things are you just want to put them in the bucket
12 and

13 (inaudible). They affect business,
14 they affect lawsuits.

15 SPEAKER: We certainly understand and
16 appreciate that. Look closely at the FY'18 when
17 it comes out. And see how those particular grant
18 programs faired. And then it's on to congress
19 from there. And that's going to be the key
20 element for all of our programs. It's going to be
21 congressional consideration that comes in to wake
22 of the more detailed budget which we don't yet

1 have.

2 So I can't -- can certainly appreciate
3 and we are well aware of the types of program
4 dependency and benefits streams from those
5 existing funds. Hope that they're continued.

6 SPEAKER: Congress determines our
7 funding level. The administration can implement
8 guidance on our staffing levels and I'm not
9 entirely sure what happens if those two end up
10 being not lined up. I mean typically the hiring
11 levels come in the wake of our full funding
12 levels. And if we are told to fund or staff at a
13 lower level, than that'll require some sort of
14 consultation and guidance that I'm not really
15 familiar with how it's going to work out. It's a
16 new situation.

17 MRS. HAMILTON: The OMB'S going to come
18 out in days right, and then the budget -- God
19 knows

20 (inaudible).

21 SPEAKER: So that's --

22 SPEAKER: (Inaudible)

1 SPEAKER: I think the key thing is
2 really to navigate the FY'18 budget and that'll
3 give us a more of appropriator's a sense of what
4 they want us to achieve in terms of mission
5 function. And then we'll have to see how best to
6 achieve that in light of the administration's
7 (inaudible) stocks on our operations.

8 MS. MORRIS: Pam.

9 MRS. YOICHEM: You mentioned that you
10 have some flexibility in terms of moving personnel
11 around, to hire priority areas. Do you have any
12 flexibility at all in terms of moving within the
13 budget? Say shifting, I don't know, facilities
14 cost to personnel at some level.

15 SPEAKER: No. There are limitations,
16 appropriation law limitations on moving resources
17 across funding lines. We could only do that with
18 congressional approval.

19 MS. MORRIS: Mike.

20 MR. OKONIEWSKI: Paul. (Inaudible) give
21 into like contract hires or it's not a government
22 hire per se. Or third parties doing some of the

1 work on the contract. Or individual or even
2 stakeholder involved in some of this stuff. And
3 may even on a citizen scientist or volunteers,
4 right. So I mean, I don't know it seems a little
5 far fetch. But in desperate times you go to
6 desperate measures. So I'm just curious if
7 there's any thinking outside of the box. I guess,
8 I know you get contractors.

9 SPEAKER: Two things on the contracting
10 front. The terms of the hiring freeze right now,
11 explicitly prohibit us from using contractors to
12 in affect counter the intent of the direction
13 provided in the hiring freeze. So we're not able
14 to replace the parting FTE's with contractors
15 under the terms of what we're currently operating
16 under.

17 More broadly, I'll take your question to
18 be are there more creative business models that we
19 can use to execute some of our mission functions.
20 And that's what we're talking about in the end of
21 the day. And working with you, working others,
22 working with our state partners. Trying to think

1 of different ways we can achieve the type of
2 mission benefits that we want to achieve. With
3 our existing staff complement, with our existing
4 resource levels and with the potential changes
5 that are being proposed.

6 So we are open to all ways of doing
7 business where we could get a mission functions
8 accomplished. At current or lower resource
9 (inaudible).

10 SPEAKER: Just to follow it up
11 (inaudible) are pretty broke right now for doing
12 anything

13 (inaudible) --

14 SPEAKER: Yeah, yeah. We do have relied
15 on increasingly have benefited from a variety of
16 partnership programs. And ways of combining
17 federal and other resources. Erica in her
18 capacity with National Fish and Wildlife
19 Foundation has been particularly critical part of
20 that whole approach to doing business.

21 And I think things like that and their
22 ability to connect multiple cross sectors.

1 Multiple stakeholder communities might be one
2 thing that I think would be helpful in this
3 environment.

4 MS. MORRIS: Jim.

5 SPEAKER: With regard to the (inaudible)
6 lab and there's another lab in Washington that's
7 been very important for aquaculture at
8 Manchester.

9 SPEAKER: Yeah.

10 SPEAKER: And has significantly more
11 facility infrastructure. Has thought been given
12 to combining those operations? Maybe upgrading
13 Manchester and providing a better home for both.

14 SPEAKER: The particular capability that
15 is attractive to us in the Mukilteo is their
16 proximity to very, very stable temperature and
17 ocean chemistry water. Right off -- literally off
18 the dock. We're in a distinctive area where we
19 can pull very clean, very stable seawater. That
20 is extraordinarily helpful for our ocean
21 acidification work.

22 They also have attributes there for the

1 aqua

2 (inaudible) sound research which is
3 just a base of operations. And
4 Manchester wouldn't help us with
5 either of those things. It is a
6 very, very good facility. We got a
7 lot of value out of our Manchester
8 facilities. It's in reasonable
9 shape, although there's a dock
10 there and some pumping systems that
11 (inaudible). But that's not on the
12 order of recap that would require
13 whole buildings and tens of
14 millions of dollars.

15 So yes, the issue that drove us to
16 trying to rebuild at Mukilteo was really the
17 distinctive locational attributes of that
18 facility. It's either there or not. And not
19 would mean not being able to do work that we
20 currently conduct (inaudible).

21 MS. MORRIS: Mike -- I'm sorry Phil.

22 SPEAKER: You sure you don't want a

1 borrow him. Paul, in a private sector if we were
2 facing this dilemma where we had a constraint on
3 our available funding. And we had this potpourri
4 of things that we were involved. Each of which
5 was start for resource. Whether it be human
6 facility or whatever. Wouldn't an option be to
7 simply contract the list of activities you're
8 involved in. And focus on some core areas, the
9 must haves if you will. And not try to do all
10 this stuff.

11 You're never going get the funding for
12 it. You're never going to have the people. Why
13 don't you just contract to a focus on your core
14 areas. I know that's easier said than done. But
15 if you're looking for a real solution going
16 forward, that in fact is it. And if congress
17 wants other things done, they're going to have to
18 provide funding for them.

19 SPEAKER: Yeah. But that's the
20 (inaudible) dynamic that we're in. Congress tells
21 us what we need to do. So right now, for the
22 types appropriations reason that I referenced

1 earlier. Fisheries can't work in any federal
2 agency shutdown function. Unless congress
3 approves of that. And we would need to propose
4 it.

5 So what you going to see in the FY'18
6 budget, is the President's proposals for what to
7 really focus on. And then congress is going to
8 respond to that. If we did have full control of
9 our budget and if we did have a complete authority
10 to move our resources around. We could obtain
11 solutions like that. What we are doing is --
12 we're pretty core missioned focused. It's those
13 two mission functions that pretty much all of our
14 work is directed toward.

15 We do have well thought through plans in
16 each piece of our organization about how we would
17 respond to further contraction. That has that
18 sort of logic embedded in it. The things that
19 only fisheries can do and could not be replaced.
20 And would have extremely high impact if they're
21 not done. Everything falls into that category
22 frankly, but to different degrees.

1 What ultimately is going to determine
2 our ability to do fewer things is congressional
3 direction to do so. So right now, the programs
4 that we have are the ones that were funded to
5 achieve specific things. And we're hard to
6 execute those at this point and time.

7 SPEAKER: I have another comment
8 (inaudible). It seems like historically there
9 were champions in congress or champion in a case
10 of a Ted Stevens. That looked after (inaudible)
11 to make sure that they got the funding they needed
12 to accomplish their goals. At least what he
13 thought their goals were. There isn't seem to be
14 a champion today, am I wrong. There doesn't seem
15 to be someone or somebody that's really looking
16 after (inaudible) to make sure they get what they
17 need.

18 SPEAKER: There (inaudible) truth to
19 that. The other thing to note and it's one of the
20 aspects of our sort of new budgeting environment.
21 Is that the power of the appropriations committee
22 chair is very different that it use to be. So

1 Senator Stevens was able to do things as --

2 SPEAKER: I understand.

3 SPEAKER: Appropriations here that
4 current folks can't do. So a combination of more
5 distributed interest and mission equities and a
6 combination -- that in combination with a
7 different functioning of the appropriations
8 committee chairs. Has put us in a position where
9 we don't have a really clear spokesperson if you
10 will.

11 In either the senate or the house it
12 stands out above others. There's a lot of
13 interest in our mission functions. It's broadly
14 distributed but right now I think congress is
15 responding to it

16 (inaudible).

17 SPEAKER: Just trying to get my hands
18 around this. The key person right now is the
19 chair of the senate subcommittee. Zeph Brice of
20 the Rubio position I don't know who's got it now.
21 Would it be Zeph --

22 SPEAKER: I don't if I will point to any

1 particular place and say there's one key position.

2 SPEAKER: Okay.

3 SPEAKER: It's really the functioning of
4 the bodies and the ability of the committees, the
5 subcommittees. Ultimately the appropriations
6 committees with full backing votes to be able to
7 get political agreement on a complex budget. And
8 there isn't really one location or one person
9 that's really driving our outcomes.

10 MS. MORRIS: Erica and then I have a
11 question.

12 MRS. FELLER: So we seen what the white
13 house has put out in terms of the FY'18 budget.

14 (Inaudible) but do you expect any
15 kind of input or engagement from
16 OMB on '17 on that stuff that's
17 currently in process? Like how --
18 I guess I just don't necessarily
19 see the way they're operating
20 that's necessarily waiting until
21 FY'18 to start influencing budget.
22 But...

1 right away and we're going to have the opportunity
2 to discuss at greater length in our next session
3 is aquaculture. It's a strategic priority of
4 ours. I don't anticipate in this environment
5 having a lot more resources. So how can we
6 advance and build domestic production capacity
7 with our existing assets. So that's one question
8 right there.

9 And I spent, Michael spent others spend
10 a lot of time and have been in recent months,
11 including the corporation of a bunch of folks.
12 Including some members of the committee here
13 trying to build conversations with industry.
14 About how do we advance with our existing
15 capabilities. How to advance that agenda broadly
16 construed. Programmatically that's a big one. I
17 did think things like our core business functions
18 we could talk to you about how we are trying to
19 maximize productivity.

20 What things like DSA consultations but
21 it's good for everybody to be aware of where those
22 strings come in. Some of the issues that Randy

1 brought up are things that we will ultimately need
2 to discuss. We've got to start looking at
3 capacity constraints. Where they show up and how
4 to possibly manage them more effectively.

5 I don't have -- the list could be long.
6 But those are areas where both in terms of
7 strategic need. We have insufficient supply of
8 seafood for current demand. Not to mention future
9 demand. How can we continue our sustainable
10 seafood mission? With maintaining the level of
11 excellence, the data support for sustainable
12 harvest of our wild capture fisheries and
13 compliment that with aquaculture. To have a
14 broader responsiveness to the nations demand for
15 sustainable safe, healthy seafood. That's one
16 kind of strategic priority.

17 But I think there's going to be a lot of
18 operational constraints. And possibly discussions
19 with the committee if we would benefit from in
20 terms of revenue sharing models. Other types of
21 business models getting diverse lower cost
22 scientific

1 (inaudible) community based,
2 community science. Whatever the
3 case may be.

4 We got start really stretching our minds
5 around how to draw in with minimal resources. The
6 scientific inputs and the kind of underlying data
7 that we need to be able to conduct our mission.
8 One of the other areas that I know is a topic of
9 conversation here, that is one of those core
10 organizational efficiency issues is in the area of
11 data management. We do collect an extraordinary
12 and very diverse volume of information.

13 And I'm convinced with the right type of
14 investment, that we could probably take a much
15 more efficient -- and that's a staff time issue.
16 And what you might broadly call a data (inaudible)
17 integration and (inaudible). So that's one area
18 where we're looking to improve government
19 (inaudible).

20 MS. MORRIS: Mike.

21 MR. OKONIEWSKI: May be rhetorical with
22 the administration or the secretary of commerce is

1 focused on, you know, using our seafood to feed
2 U.S has an offset through importers. You know, as
3 the West Coast I think we can double where the
4 ground fish production. It's certainly worth even
5 coming to 50 percent of the ACL or may be 60
6 percent of the ACL. With their aggregated
7 (inaudible) so there's huge potential here.

8 But there's a lot of -- the environment
9 for the

10 (inaudible) is the hurdle. And we
11 been fighting that for some time.
12 And some of these cuts are actually
13 going infringe on our ability to
14 impede our ability and go get some
15 of these regulations removed.
16 There's still from a farmer in
17 management platform. Before
18 private (inaudible) program.

19 So these are the kind of things that I
20 think we can double our economic output. I think
21 we could just make it a sustainable economic
22 fishery. And still be well under any kind of

1 sustainability concerns. But that's where what
2 you're doing and attempting to do and get funding
3 for is important to

4 (inaudible) like I said that's
5 somewhat rhetorical. But it is a
6 continuing frustration for some of
7 us.

8 SPEAKER: Well thank you for that and I
9 would add to the list of ideas for ways in which
10 committee input on how we operate with existing
11 resources would be (inaudible).

12 MS. MORRIS: I think we're probably
13 suppose to have our breaks now. But I want to say
14 something before we do. We'll be coming back at
15 10:35 from the break -- 15-minute break. You know
16 we have this period this afternoon between 3:30
17 and 5 for an

18 (inaudible) subcommittee meeting.
19 I'm going to suggest that anybody
20 who's interested in coming up with
21 a strategy or a statement for MAFAC
22 to develop a comment letter about

1 the constrained staffing.

2 And (inaudible) with food agency. That
3 we can get to work on the -- I'm not sure we can
4 pull together a comment letter that we could adopt
5 at this meeting. But at least we could come up
6 with a strategy looking at the timing for when we
7 might be able to get something like that
8 articulated.

9 So if you are interested in that or have
10 a particular comment that you think should be
11 included in that please talk to me before 2:30.
12 Thank you time for a break.

13 (Recess)

14 MS. MORRIS: I guess Jennifer doesn't
15 need to introduce Michael because he is a frequent
16 visit to us here MAFAC, so welcome back Michael.

17 MR. RUBINO: Thank you very much for
18 having me on the agenda this morning. First of
19 all, I want to thank all of you for the work and
20 the advice and the ideas you've provided to me and
21 the aquaculture program over the years.
22 Especially in the work of the task force in the

1 past couple of years was invaluable on working
2 through a mock permit for federal waters as well
3 as the advice and comments on the strategic plan
4 we did a year or year and a half ago.

5 Today, I was going to do two things.
6 One, update you on what we've been doing during
7 the past year to implement this strategic plan and
8 the particular steps in it. And then second,
9 where do we go from here. And some of the
10 discussions that Paul and others have been having
11 over the past couple of months in terms of given
12 our limited time, resources in terms of what we
13 can all do. What can we focus on in the next
14 couple of years to really jumpstart marine
15 aquaculture production in a way that makes sense
16 and compliments our wild fisheries.

17 So that doesn't leave me a lot of time
18 to tell you about what else is going on in marine
19 aquaculture. But a couple of years ago, I started
20 seeing bumper stickers like these, particularly
21 here on the East Coast. For those of you who live
22 here in coastal communities you know that but

1 maybe in other parts of the country you don't.
2 There is a real cultural change going on in
3 coastal communities on the East Coast from Maine
4 down to the Carolinas. A lot of face going into
5 oyster, clam, muscle, seaweed and even fish
6 farming. Like the Portsmouth, New Hampshire
7 fisherman's co-op among others. This idea of it
8 is a range of technology to produce seafood all
9 working out of the same working waterfronts has
10 really taken hold.

11 On the West Coast, I think the thing
12 that has changed is some of our large seafood
13 companies, Pacific, Icicle, Malcook Trident are
14 major owners of U.S. aquaculture facilities.
15 Salmon, steelhead, oysters, abalone. So, they
16 work and the past couple of days talking with us
17 about their infrastructure's here in the United
18 States, yes they're importing a lot of seafood
19 from abroad. Alaska process salmon. Their
20 markets are here and China is eating our lunch as
21 you've heard and so what can we do to keep some of
22 that infrastructure going.

1 I couldn't resist taking this picture at
2 the NOAA fish fry last year. But here you've got
3 a Cape Cod group manning a boat together with
4 commercial aquaculture, commercial fishing and
5 restoration aquaculture altogether. So again,
6 that spectrum of technology is not just to produce
7 seafood but also to restore habitat and species.

8 Our strategic plan had four elements to
9 it. During the past year, the Sea Grant program
10 also has done a strategic plan and the aquaculture
11 program within the National Orson service and
12 their science center has also done a plan. So
13 those are the three parts of NOAA's aquaculture
14 program. We work closely together, the directors
15 of those three groups, we meet quarterly to
16 coordinate what we're doing. So, I'll go through
17 each one of those very briefly.

18 On regulatory efficiency, it will be
19 divided between federal waters and state waters. I
20 think a number of you are well aware of the Gulf
21 Rule. It has consolidated a permit process we now
22 in the Gulf of Mexico. It is ready to go. No one

1 has applied for a permit, in part, because there
2 is an outstanding lawsuit but a lot of work has
3 gone in to as streamlined as we can get at this
4 point of a permit process. And several other
5 regions are looking at, Western Pacific Council,
6 the New England-Mid Atlantic Council during 2017,
7 are exploring what to do about federal waters.
8 Off California, we've been providing some
9 assistance to a company called Rosecan Fisheries,
10 a joint venture between Hubs and Coota Del Mar, an
11 investment fund. There they're proposing not to
12 grow a fairly managed species so they need CORE
13 and EPA permits to do consultations with the
14 fishery service. But we have been helping them
15 through the permit process. It has taken a while,
16 the Navy changed its mind on the site because they
17 wanted double the fleet coming out of San Diego,
18 so that has slowed down the process of that,
19 having to do a regional analysis and siting
20 alternatives. So that's the kind of science
21 information we've been providing to the other
22 agencies.

1 In state waters, it is largely
2 shellfish. Chipping away at programmatic
3 approaches, bay wide management approaches,
4 working with a Core of Engineers on a national
5 level and in certain key districts. Washington
6 State and California it has been (inaudible),
7 Ventura, San Diego are all trying to do
8 programmatic approaches to permitting of
9 shellfish. Some issues have come up on the East
10 Coast like in Maryland working with the Core.
11 Some work on Neppen farming in coastal waters
12 particularly in the State of Washington where our
13 scientists have provided advice to the state
14 agencies. They're redoing their Neppen citing
15 guidelines which haven't been touched in 20 years,
16 30 years of something. So, I'm trying to bring
17 the latest scientific advice to that guidance at
18 the state government level.

19 We continue to refine these tools for
20 rules to make sure that we're fulfilling our
21 conservation and stewardship mandates as we manage
22 aquaculture. Of note, this past year there was a

1 report that we collaborated with the National
2 Ocean Service on looking at whale and turtle
3 entanglement issues with muscle firing off New
4 England which will help. A couple of small
5 operations applied for permits and it took them a
6 year, two years to go through the permit process
7 in part because we hadn't proactively done the
8 work on what were the endangered species
9 questions.

10 So, we had to pull together a whole
11 group of people, experts in the region and have a
12 workshop, look through the literature, assess
13 that. Have our protected resources folks go out
14 and visit muscle farms, look at muscle gear,
15 understand the sector, so I think we're in much
16 better shape now for the third and fourth permits
17 that come in. This is the kind of proactive work
18 we'd like to do more of but we're often
19 constrained in terms of staff and budget and being
20 able to do that.

21 On the restoration side, the agency
22 continues to work on white abalone which is one of

1 the species in the spotlight. There has been a
2 longstanding program in Alaska looking at King
3 crab restoration both with funding from the
4 fishery service through our competitor grants
5 programs and through the Sea Grant program. So,
6 these are the Kodiak consumer labs.

7 We continue to manage the aquaculture
8 parts of the various competitive branch programs.
9 More on that in a minute. Our labs, some of them
10 have become very creative in times of limited
11 budget of working with partners to leverage money
12 from private sector and foundations through
13 cooperative agreements of one sort or another.
14 For example, the new shellfish research hatchery,
15 the Manchester lab, NOAA funds built the facility
16 but all the operating money is coming through the
17 Peugeot Sound restoration funds under a proper
18 agreement. That NGO has pulled together money
19 from foundations, the State and private sector
20 companies. And actually, they have their staff
21 working at the lab to do that work on restoration
22 and abalone work. The Milford lab in Connecticut

1 has done similar things with algae starters and
2 probiotics for algae hatcheries.

3 So, two examples of the power of working
4 collaboratively with grants and the ability of
5 grants to leverage other sources of funds as well
6 as real results. These are, it takes a
7 combination of grants and quite a number of years
8 to achieve some of those results. But one of the
9 ones we're really proud of this year is the Food
10 and Drug Administration approved the use of an
11 amino acid called tourine in aquaculture feeds
12 this year. Okay, so what. Well tourine is the
13 thing that goes into Red Bull. But it also allows
14 fish to digest plant based feeds much better. It
15 took several years of collaboration with USDA,
16 with the soy bean associations, with several
17 universities. But they sat down three or four
18 years ago with FDA and said, okay what kind of
19 studies do we need to go through to get this
20 approved. So, we mapped that all out, figured out
21 how to fund it between milligrants, USDA grants,
22 Soy Bean Association grants. I think the work got

1 done in record time to allow FDA to approve that.

2 That's important because we have a
3 limited amount of fishmeal and fish oil on the
4 market that comes from forage fish. So, if that
5 aquaculture is to grow it needs to have
6 alternative sources of feeds. Plant based feeds
7 is one of those alternatives. Fishmeal and fish
8 oil is kind of a perfect food. If you're using
9 all these other things like plant based feeds,
10 insects, algae and yeast and so on, you've got to
11 put the Rubik's cube back together again. This
12 kind of work allows us to do that. This is a real
13 success story and it has helped to break the
14 dependence of the growth of aquaculture on forage
15 fish for feed. That is a huge development in
16 global aquaculture.

17 Second example was several years of
18 grants through Sea Grant, through the Small
19 Business Innovation Research as well as SK Fund
20 Macroalgae or sea weed work. The two key sea weed
21 companies in Maine, for example, growing kelp and
22 other things, both received phase one and phase

1 two SBIR grants to get their companies off the
2 ground. There must be now probably a dozen
3 fledgling companies in Maine and another dozen in
4 Connecticut through Maryland all looking at sea
5 weed. Many of them shellfish farmers who want to
6 do sea weed as an alternative crop. This has
7 generated a whole new industry and it also,
8 through some work that I did and Mike Rust, our
9 science advisor did, we convinced the Department
10 of Energy along with others to issue \$25 million
11 request for proposals a couple of months ago on
12 sea weed farming. Eventually, they want sea weed
13 for bio energy but to get there they're willing to
14 fund sea weed for food and sea weed for feed as a
15 way to learn about growing sea weed. As a
16 companion to that, the Department of Energy has
17 funded James Morris of the Guilford lab who does a
18 lot of our special planning work to look at if we
19 have sea weed farms and lots of them, where are we
20 going to put them and to do all that special
21 planning work. The same thing you run in with
22 putting muscle farms or fish farms in state or

1 federal waters. So that will help to build our
2 special planning capability which we can apply to
3 other species beyond sea weed. So those are two
4 recent success stories.

5 We continue to do a fair amount of
6 public outreach work. We continually work on
7 shellfish initiatives. Harlon maybe has talked to
8 you about round table we had in the Gulf with a
9 wide spectrum of groups to think about how do we
10 jump start aquaculture there. Working with groups
11 like the nature conservancy and others to include
12 their expertise and how do we go about aquaculture
13 forward.

14 This past year, we did a formal peer
15 review of the science portfolio of aquaculture
16 done at the fishery service in the NOS labs. That
17 final report should be out sometime in the next
18 month or two. It is a typical peer review process
19 the way other parts of the agency's science
20 portfolio have gone through. So that will help us
21 to focus our science work on key priorities in
22 future years with advice from a spectrum of

1 scientists from around the country that
2 participate in it.

3 One of the things we may do this coming,
4 depending upon the new administration as an X
5 prize type of competition. It has been designed
6 with USDA and a group of stakeholders, not just
7 from aquaculture but companies that work in
8 branding, seafood nutrition, doctors, chefs and
9 others on how do we move the needle of the
10 perception of aquaculture. How do we get to

11 pounds per person in the year 2025? How
12 do we double our seafood consumption. Some of
13 that is convincing people that eating U.S.
14 produced aquaculture is a good thing. So, it is
15 one of those things that if you sat a whole bunch
16 of industry people around a table and designed a
17 prize for a technology award, none of them could
18 agree because there are so many kinds of
19 technologies to give an award to. But they could
20 all agree on the need to increase consumption and
21 to deal with these public perception questions in
22 aquaculture.

1 three elements. How can we be more efficient
2 about our regulatory process and collapse the
3 number of steps without compromising our
4 stewardship missions and without compromising
5 healthy oceans. I gave you a quite a number of
6 examples things we've been chipping away at in
7 recent years.

8 The second one is, is there a way to
9 work collaboratively on some kind of public
10 private partnership to jump start production or to
11 expand production for certain key species and
12 certain regions. Where we know within two years,
13 four years, six years we could make a real
14 difference in production.

15 And then third, the longer term work on
16 science that collectively we would do and NOAA
17 would do with USDA on genetics, genomics, feeds,
18 aquatic health management, larval nutrition,
19 restoration of species, these programs that take 8
20 to 10 years of work to do. Sort of our basic
21 science capacity across our federal government and
22 across our universities.

1 So, a word on each one of those. I
2 think I talked about the regulatory efficiency
3 kind of work already. We would very much like
4 your ideas on what to focus on in the next couple
5 of years in terms of partnerships. For example,
6 why are we importing so many mussels from Prince
7 Edward Island. Can't we grow mussels off New
8 England on a much larger scale. And if so, where
9 would we put that. We've got wind farms that have
10 gone out there, can't we do it with mussel
11 farming. We've got fisherman who are ready. I
12 know the owner of one of the largest restaurant
13 chains in the country would like to invest in the
14 mussel farm. So is there a way to get together and
15 figure this out.

16 Fish farming in the Gulf of Mexico. The
17 meeting when Harlon and others convened last
18 November to being a discussion with commercial
19 fisherman and recreational fisherman. As Carl
20 would have said, local fish has lost its place at
21 the table. How do we bring that back. How can
22 commercial fishing work with aquaculture. I think

1 the restaurants, the supermarkets, they want
2 local, they don't really care if it comes from a
3 hook, from a net, from a tank or a pond, ideally
4 it is going to come from all four of those things.
5 How do we do that. How do we do all of the oyster
6 restoration work in the Gulf. What about this
7 project off Southern California. Can we get that
8 going and I know that there are several other
9 companies who want to be first to be second. If
10 at first one can get out there and demonstrate
11 that you can get through the permit process and
12 actually secure a location.

13 Financing is not a constraint. Are
14 there additional rooms for fin fish farming in
15 state waters. Whether it be in the Peugeot Sound
16 or this example of a small scale integrated
17 multitrophic aquaculture project in Portsmouth
18 Harbor where the fisherman are growing steelhead
19 mussels and algae in combination. There are
20 several groups in Main who want to replicate that
21 this coming year. We've been talking about
22 locating that off of New York. The fishermen in

1 Portsmouth, New Hampshire want to expand their
2 projects. There are some folks in the Gulf that
3 would like to entertain this idea. So, going
4 further offshore doesn't necessarily have to be a
5 \$50 million project either. What about seaweed
6 farming in Alaska? Great place to do seaweed
7 farming. Some of the folks from Maine are already
8 advising folks in Alaska. It is cold in both
9 places. Kelp grows well in cold weather.

10 These are just some of the examples, I
11 think, where we could, with a little bit of work
12 and a political and social will and social license
13 increase production within four years. But you
14 may have other ideas and we would like to bounce
15 off those existing ideas on you to get a reality
16 check. I'm not sure we really have time to talk
17 about the long term work but I think many of you
18 are aware of some of these long term things. We
19 have very good working relationships with our
20 partners at USDA.

21 Going back to those three points, I've
22 sat down with my counterparts at USDA over the

1 past three or four months trying to hammer out
2 what each one of us should be doing so we're not
3 tripping over each other and we're using public
4 funds wisely. So, we're trying to get ready.

5 I just wanted to end with a picture of
6 my colleague Gary Wikfors at the Milford lab in
7 Connecticut. Gary is one of our most cited
8 scientists in charge of his research papers. He
9 and his team also manage an incredible public
10 resource. It is an algae collection, a micro
11 algae collection. It is maintained for the
12 public. Gary and colleagues give away algae
13 starters for free to all the hatcheries around the
14 country that want it. In return, they have to
15 tell Gary what is going on with different starters
16 and how it is working or not working. And he'll
17 come and troubleshoot. He has also trained
18 several generations worth of hatchery technicians
19 around the country. Not just shellfish hatchery
20 but the algae part of that hatchery work.

21 How do we monetize that? There is no
22 budget line in our budget for that. But this is,

1 okay private sector could do that but then a lot
2 of that would become proprietary. It would no
3 longer be a publicly available resource. These
4 are some of the dilemmas that we're facing and
5 some of the choices that we're going to have to
6 make going forward that we'd like to get your
7 advice on.

8 So, let me stop there, I think there is
9 lots of time for questions and discussion.

10 MR. PEARCE: Michael just gave you the
11 tip of the iceberg as far as I'm concerned. There
12 is so much more going on when we started since our
13 last November meeting. I'll go through the forum
14 as quick as I can. We started with a round table
15 in November after our last meeting but we had
16 pretty much everyone at the table that we needed
17 to talk to about aquaculture and we're focusing on
18 the Gulf right now. We had the five Gulf state
19 representatives there. Dave was there, we had Mr.
20 Brain was there, Dr. Brain was there, we had
21 speakers like Kent, speakers like Sebastian Bell,
22 speakers like Neil Sims and Mr. Anderson out of

1 Florida marketing. We have an excellent program
2 put together. We had Cargill there that was
3 interested in putting a farm in the Gulf to listen
4 to what we had to do. We had Nevpen manufacturers
5 there, we had money lenders there, we had aqua
6 culturists there and I know I'm missing people.
7 We had 30 to 35 people there. I came out really,
8 really well. We'll be doing more of these into
9 the future after we get a few more things done.
10 It helped us focus on aquaculture in the Gulf and
11 figure out all those pieces of the puzzle in the
12 same room and see how we can make this work in the
13 Gulf of Mexico.

14 As you know, there is a lawsuit out
15 there that a lot of the commercial industries
16 signed on to. We got the commercial industry to
17 sign off of it as well. We backed that off at
18 least on the commercial side. Stakeholder
19 engagement is very important. Talking with
20 (inaudible) I want them a part of the process and
21 they're fine right now of aquaculture and put some
22 improvements to them. On the harvesting component

1 side, we basically have told them that the ship is
2 sailing, they need to be a part of the solution.
3 Get in with us and let's make this work for
4 everybody and make it happen. The Lieutenant
5 Governor in Louisiana is hook, line and sinker
6 involved in aquaculture now. I'm going to be
7 having one on one's with the harvesting control
8 men in Louisiana with my Lieutenant Governor going
9 over the strengths of aquaculture with the
10 individual fishing groups in my state.

11 We're also going to be having a trip to
12 Maine to see Sebastian Belle aquaculture program
13 with industry people, with my Lieutenant Governor
14 and stakeholders to go up and just really envision
15 what it is all about. Sebastian Bell has offered
16 to get a meeting with their government with my
17 Lieutenant Governor so he can understand what
18 aquaculture has done for the state of Maine so we
19 can move that on. Again, a lot of this is
20 focusing on the Gulf. We're going to be working
21 Sea Grant, I think, in Louisiana to try and get
22 one of these grants to address the impediments to

1 aquaculture opportunities so we can work on that
2 to try to help with some of the funding problems
3 that we've got within NOAA. We're working on a
4 national coalition as well that we can pull
5 together with problems not just in Gulf but the
6 discussions we need to have on all aquaculture in
7 this country. Hopefully with an audience with
8 (inaudible) and Michael's help to make them aware
9 of what we need to have happen in this country and
10 develop aquaculture in this country.

11 We have identified the need for
12 outreach. It is clear that all we focused on was
13 the negatives, never the positives on aquaculture
14 so we need to accentuate the positives,
15 particularly to the consumers in the country, to
16 the restaurateurs in the country and focus on the
17 good and not the bad that has been focused in the
18 past. In a lot of cases we have met the enemy and
19 it is always us because we try to beat up on
20 import which is the wrong way to go. You beat up
21 on aquaculture you beat up on imports. So, we have
22 to ensure people that this country is going to do

1 their job the right way, that aquaculture is a
2 good thing. So, we've got to work on that as
3 well. I'm sure I'm missing some things that I
4 need to talk about that I want to mention to you.

5 Basically, all I really wanted to get
6 across is that things are moving and there is an
7 excitement in the air. People are finally
8 interested in the development of aquaculture in
9 general, in the Gulf in particular. And we will
10 be very busy in the next six months trying to get
11 more interest and more aggression in moving
12 towards aquaculture. I probably missed half of
13 what we're going to do, Michael, but I think that
14 gives you a little idea of where we are and what
15 we're doing.

16 MR. RHEAULT: Two quick things to add to
17 that wonderful update. Thanks Michael, for
18 bringing us all together. It was recently
19 (inaudible) by nature conservative saying
20 aquaculture is going to save the world. That is
21 kind of partnership with the NGO's that will help
22 us move forward. I am very much embracing that.

1 I was going to lean towards shellfish but I think
2 that there is an appetite there for fin fish as
3 well. Our group, East Coast and Pacific Coast
4 Shellfish Federation just spent a week in D.C. We
5 met with congressman and staff who have expressed
6 an interest in national aquaculture legislation
7 which would -- a large section of industry that
8 believes that working through the fishery
9 management plan as described in the Gulf is
10 transeo permanent but not in the least with
11 perhaps a flawed approach. What we really need is
12 a vehicle to allow somebody to grant a lease which
13 is a property right which is a more permanent and
14 important factor to allow people to actually
15 invest in this industry offshore.

16 These are all very exciting developments
17 and certainly having Secretary Ross mention the
18 deficit in aquaculture specifically in his first
19 couple of weeks is extremely encouraging. Hoping
20 that all of the proposed

21 (inaudible) telling us that never
22 mind with the President's budget

1 don't get much traction with the
2 appropriators in D.C. Many of them
3 were quick to remind us that they
4 write the budget and they President
5 can offer advice but they hold the
6 purse strings, so that was
7 reassuring. That's all I have.

8 MS. BRANDON: Thank you Michael, for
9 presenting to us enjoyable aquaculture updates at
10 these meetings. I have just a comment and then
11 two questions for you. My comment is that in
12 Alaska it seems like algae farming is becoming
13 more and more prominent. And just in the past
14 months my rotary club in Juneau has had two
15 presentations on it.

16 One presentation was from a private
17 company that is doing a seeding project with three
18 different Alaska fishermen, two that are in Kodiak
19 and one, I think in Ketchikan. These are salmon
20 fishermen and in the winter they're working on
21 this planting and seeding of seaweed with this
22 private company. This sounds like this is really

1 progressing well and it sounds like interesting
2 research.

3 And then the other presentation to my
4 rotatory club was from two young entrepreneurs who
5 are making salsa and pickled seaweed of different
6 flavors. Curry was a flavor and I bought some at
7 the holiday farmers market last year from them.
8 They are really interested in expanding that
9 market. It was exciting to meet with all of those
10 folks and hear about their businesses.

11 My questions are about seaweed. I found
12 on one of your sites you had sablefish, I think it
13 was a RND bullet point. So, my first question is
14 can you describe the status of sablefish farming
15 and then also what that looks like. Because they
16 live quite deeply in the wild, maybe 600 deep or
17 more. So are these pens that might be pens that
18 are tethered to the bottom or what does that look
19 like. And then my second question is, even though
20 Sea Grant is in the office of Atmospheric
21 Research, if that program is eliminated how would
22 that impact the aquaculture program. Because it

1 seems like many of the things are the type things
2 that are happening through Sea Grant and their
3 staff and their funding. So those are my two
4 questions, sablefish and Sea Grant.

5 MR. RUBINO: Okay let me see a couple of
6 things about sablefish and then Jim might want to
7 add a few things too because he is as or more
8 familiar with it than I am. Sablefish has been
9 worked on in Canada, a company called Sable fin,
10 as well as at the Manchester lab for some time.
11 The Manchester lab used sablefish, you know,
12 they've done salmon work for years and they added
13 sablefish a number of years ago as sort of an
14 indicator species to do quite a number of things.
15 Like history analysis, potential stock enhancement
16 work, larval nutrition, feed trials as well as
17 learning how to grow sablefish, both at the
18 hatchery phase and the grow out phase. There has
19 been collaboration with their counterparts a
20 little bit although some of their work is
21 proprietary.

22 The other thing they've used sablefish

1 on is to learn how to do single sex sterile
2 animals. So, it sablefish ready for prime time in
3 terms of culture, almost. Jim might have an
4 opinion on that as well.

5 In terms of the hatchery technology, I
6 understand on a scale of one to ten in terms of
7 difficulty, one being easy, ten being hard, it is
8 probably an eight or a nine.

9 MS. MORRIS: Or an eleven.

10 MR. RUBINO: It is a little bit like
11 halibut technology for hatcheries. So not a lot
12 of people in the world know how do this yet on the
13 hatchery side. On the grow out side, I think it
14 is a little more promising. One of the things
15 that we've had proposal this year for our internal
16 grant competition from the Manchester group, is to
17 look at the market economics of sablefish. But
18 while sablefish is a fishery that a lot of it
19 exported it is a relatively small fishery. I
20 think the number of people looking at sablefish
21 farming think it is going to go into the sushi
22 market in the United States, so a completely

1 separate market because it doesn't have worms, in
2 terms of the sushi market. But we'd like some
3 economists to do a market analysis of that and
4 also look at are there ways to co-market wild and
5 farming sablefish.

6 In terms of farming technology, it can
7 be grown in a net pen, it can be grown in a tank.
8 So, net pen trials at Manchester, there are some
9 ideas of doing net pen trials at Peugeot Sound
10 with various partners. There is a company in
11 Texas that is growing them indoors. We sent some
12 finger links down there to do trials. A number of
13 years ago, finger links were sent to Alaska and
14 they grew in tanks so it works in tanks as well.
15 It is still in the early days. Jim, did you have
16 anything to add on that?

17 MR. PARSONS: Yeah I just, it was
18 interesting how the whole sablefish culture idea
19 came up and started in D.C. when juveniles would
20 make their way into the net pens of salmon farms.
21 They lived there quite well and grew quite fat and
22 happy on the salmon pellets. So, the idea

1 brilliant idea was then well let's go catch some
2 juveniles and stick them in pens and that
3 obviously wasn't a sustainable way to do it. So,
4 the effort really started in D.C. to learn
5 techniques for larval culture and early rearing.

6 We did a small project over in Hawaii of
7 tank grown sablefish using deep cold sea water off
8 Hawaii and pumping it on shore. And the chefs
9 love it because they have never been presented
10 with a fresh sablefish product that was capable of
11 being sashimi grade for various reasons. Lack of
12 capital, that project didn't go forward. But it
13 has got great potential as a culture and the
14 problem and still the bottleneck is going to
15 producing enough juveniles in a hatchery in order
16 to be able to supply the large number of pens.

17 MR. RUBINO: So it could be an
18 investment opportunity for commercial fishermen
19 too.

20 MR. PARSONS: Absolutely.

21 MR. RUBINO: So I think it is going to
22 be, in some ways, a social experiment for the

1 Pacific Northwest when it takes off. Is this
2 going to be another salmon where the technology
3 just goes to other countries and we don't do it
4 here or are we going to somehow figure out how to
5 use this knowledge to the benefit of our
6 communities.

7 MS. MORRIS: Raimundo.

8 MR. RUBINO: The Sea Grant section. Sea
9 Grant this year is a \$9 million program. It also
10 funds Sea Grant extension agents around the
11 country. So, I think not having that would be a
12 significant gap in our program to say the least.

13 MR. ESPINEZA: Thank you. Really great
14 to see your presentation. From the point of view
15 of the U.S. (inaudible) I think that's an
16 opportunity for further partnerships. Since we
17 were looking for last year in November, we
18 participated through funding from the U.S. Embassy
19 in Havana and the fishery exchange in Cuba. And
20 we learned that Norway is investing quite heavily
21 and is creating a center for training for
22 aquaculture for the Caribbean in Cuba. Of course,

1 that seems very interesting to us.

2 We also saw Norway is continuing to
3 invest in the Caribbean trying to train folks on
4 several other aquaculture techniques. Of course,
5 Puerto Rico, we were invited to participate.
6 However, these are funds that were not eligible to
7 submit and comply for. I think there's a great
8 potential to further expand the efforts from your
9 office. I think the U.S. Caribbean poses a
10 different species of course. I think it is really
11 appropriate to continue expanding.

12 I know the funding, you mentioned the
13 \$25 million. There's several folks interested in
14 doing some of the algae growth, I was told and
15 understand will be submitting to that for Puerto
16 Rico. That is something we greatly support.
17 We'll losing a lot, through our economic crisis, a
18 lot of the fishermen are some of the folks that
19 are seeing opportunities to leave the companies
20 from Mississippi are taking advantage. They see
21 that the Puerto Rican fishermen are highly
22 trained, bilingual and able to move legally and

1 quite easily to work in the States. We have a
2 small work force right now, I think it is about
3 600 commercial fishermen.

4 That's important, I think, to really
5 learn. I think I want to continue to follow up
6 with Harlon because I think some of those lessons
7 learned of what aquaculture has done for the state
8 up in Maine and that you want to do the exchange
9 between the Governor and Lieutenant Governor. I
10 think we would greatly benefit from some of that
11 information as well. The U.S. Caribbean being a
12 lot of the impediments for aquaculture that we've
13 seen has been permitting both from the state side
14 as well as the federal side. I think, really
15 showing how this could be an economic opportunity
16 as well as supporting the wild catch as well, is
17 something that is really important. We're a small
18 area, we're not one of those power houses in
19 fisheries like most of the regions are, but I do
20 think we also could be one of the ones that could
21 benefit economically at least in scale much more
22 than most places. Again, it would really help the

1 sector quite a bit.

2 I really appreciate that and so again,
3 that's one of the things that we have on our
4 agenda can in the U.S. Caribbean to speak with
5 both U.S. V.I and Puerto Rican Governors to see
6 how we can facilitate research permits for
7 aquaculture efforts. We really would like to
8 continue collaborating with you guys or being
9 collaborating further with you.

10 MS. MORRIS: Peter, did you want this
11 one?

12 MR. RUBINO: I'd be happy to talk to you
13 further about that. I spent the first 10 years of
14 my career working in and out of the Caribbean and
15 many of the islands. I'm well aware of the
16 constraints and the potential.

17 MS. MORRIS: Peter.

18 MR. SHELLEY: Yes, I just wanted to make
19 an observation sort of in Bob's comment territory.
20 Which is at least, from the perspective of New
21 England, I think trying to accomplish your
22 aquaculture strategy, offshore anyway, by going

1 through the council system, is a dead end. I
2 think you really need to think carefully about
3 that relationship. Not to diminish the council's
4 importance in citing, but to have that be the only
5 portal through which a project can go, I think
6 will end up with no projects.

7 The question I have is how much of your
8 funding is coming from SK? This is related to
9 Paul's discussion earlier about there is a lot of
10 attention focused on statute driven mandates that
11 the agency has and funding them as priorities.
12 I'm curious, do you all have a statutory mandate
13 of any sort, at least, proportional to your
14 strategy or is there a mismatch there between the
15 strategy and your statutorily driven funding.

16 MR. RUBINO: Two questions. One was
17 about budget, the other one was about statutes.
18 The budget question, there's about \$20 million
19 going to aquaculture within NOAA and different
20 land offices. At the fishery service, the
21 aquaculture budget is \$6.3 million. Additionally,
22 there is another \$4 million at science centers

1 from other budget lines that support aquaculture
2 science. There is about \$1 million at the
3 National Ocean Service on the science side or \$11
4 million. And then there's the \$9 million at Sea
5 Grant. Any SK or SBIR money that goes into
6 aquaculture is over and above that. There has
7 been one to two million dollars a year when SK
8 competitions are held, maybe two to three
9 competitions are held.

10 In terms of statutes, there is the
11 Aquaculture Act of 1980 which has been
12 reauthorized in every farm bill which basically
13 says thou shalt develop aquaculture through the
14 USDA, NOAA and Department of Interior Fish and
15 Wildlife Service. It doesn't have a regulatory
16 hammer. No one is suing us over not doing it.
17 And then through the Fish and Wildlife
18 Coordination Act through the various other acts,
19 Sea Grant, the acts allow us to do others and then
20 through Magnusson.

21 MS. MORRIS: So those are the
22 authorities that you - -

1 MR. RUBINO: Right. We also have
2 authorities on the other side in the sense of the
3 Agency is heavily involved in reviewing
4 aquaculture projects in terms of endangered
5 species, essential fish habitat and mammals.
6 Providing a science, we're part of the problem as
7 an Agency unless we can move reviews officially
8 and with proper science. So, we're trying to be
9 part of the solution on that one.

10 MS. MORRIS: Julie.

11 MS. BONNEY: So, I'm looking at the
12 letter from Jim Parsons. There was a letter from
13 the National Aquaculture Association and they kind
14 of have a mixed message in this. They're asking
15 for a main fact to do an overview biannually. So,
16 basically at each one of our meetings. So, I
17 noticed that in your presentation some of your
18 presentations are kind of responsive to what they
19 were asking for in terms of building partnerships,
20 arguing (inaudible). There were five blocks.

21 But then it said permitting part, we
22 kind of skipped. One of them was creating a

1 standardized process for short term aquaculture
2 RNB I guess is what I would call it. Or even the
3 permitting process because if people are going to
4 invest dollars they have to have certainty in
5 terms of their investment. I guess, from their
6 concern, how do you build certainty in the
7 permitting process for one, the stop short term
8 startup and then the longer term whether it is
9 leasing or permits or whatever. I think Michael,
10 you invested how many millions of dollars trying
11 to get a permit in California and you still don't
12 have one. So, it is just problematic and from
13 aquaculture, how do we fix that problem.

14 MR. RUBINO: That's a good question. As
15 I said earlier, there is a difference between
16 state waters and federal waters in terms of the
17 agencies involved. In state waters, not only do
18 you have federal permits from the Core of
19 Engineers, EPA if you are a fish farm,
20 consultations with the fishery service and fish
21 (inaudible). But you've got state permits, local
22 permits, town permits sometimes, it can get very

1 complicated very fast. The project in Northern
2 California with Pacific Seafood for their oyster
3 farm they want to expand has got multiple layers
4 of state and federal permits to negotiate.

5 So, we've been trying to provide our
6 perspective in terms of endangered species,
7 essential fish habitat, as well as the science to
8 look at some bay wide management approaches to
9 permitting Northern California. But there are
10 state agencies, the California Coastal Commission
11 and many others who may have other ideas about how
12 to do that. So, that's the challenge at the State
13 level.

14 But we have been trying to work
15 programmatically where we can with the Core of
16 Engineers, both at the national level and certain
17 Core districts where it makes sense. I think
18 we've had quite a bit of discussion about federal
19 waters in terms of trying to come up with an
20 official permit process. Some success but still a
21 lot of work needed to be done.

22 Paul, I don't know if you want to say

1 anything about going forward. They are looking at
2 some opportunities. The new administration is
3 quite interested in regulatory efficiency in
4 general. So, what can we do working
5 collaboratively with agencies through
6 administrative directive, executive orders. If
7 there is interest in legislation, so those are all
8 things we could get ready for depending upon the
9 appetite of the new administration.

10 MR. DOREMUS: That's a good summary of
11 the circumstances.

12 MR. RUBINO: We certainly have our wish
13 list.

14 MS. MORRIS: Mike.

15 MR. OKONIEWSKI: What you're saying, I'm
16 just guessing we've got somewhere between \$7,000
17 and 10,000 per acre invested in just I believe,
18 open fees to attempt to get through this process.
19 That probably understates it, 265 acres. But that
20 aside, yesterday Michael, I think I heard a
21 comment that some of the new feeds that are coming
22 out and this was kind of a surprise to me. That

1 they are not producing the flavors the people are
2 used to getting in the fish. At least I think I
3 heard that. But is that anything that you've run
4 across, I mean these substitute proteins that
5 they're using are changing the flavor, profiling
6 fish?

7 MR. RUBINO: Certainly you are what you
8 eat and that is true for fish as well. I know
9 having been a shrimp farmer earlier in my career,
10 it can certainly effect the taste of shrimp by not
11 only what the feed is but what kind of growing
12 environment there is. So, fish can taste quite
13 different if they're grown in the ocean, a pond or
14 a tank. In fact, growing fish in ponds and tanks
15 often have off flavor issues. I'm not a feed
16 expert but I can imagine that you could change the
17 taste of fish with feed.

18 The other concern is if we go away from
19 fishmeal, especially fish oil, you may have fewer
20 of the omega 3 fatty acids and other nutritional
21 benefits and more of the omega 6's. That is a
22 concern that has been raised by some. Eventually,

1 these are things that USDA is working on in their
2 feeds program. I think NOAA would like to work on
3 additional marine ingredients and feeds like how
4 do you put algae in the feed. It is the base of
5 the food chain in terms of the omegas anyway.

6 MS. MORRIS: Using algae as a --

7 MR. RUBINO: Rather than a feed
8 ingredient.

9 MS. MORRIS: Rather than say, soy based
10 or something like that.

11 MR. RUBINO: Soy or fish oil, yeah
12 exactly.

13 MR. PARSONS: Yes primarily on the
14 (inaudible) side that enhances the flavor
15 (inaudible).

16 MS. MORRIS: Ted.

17 MR. AMES: Yeah this (inaudible)
18 permitting of that services especially as soon as
19 you get inside of the three mile limit. Maine has
20 a peculiar structure where you do have, for
21 example, clam being managed by a community and
22 lobster zones that involve several communities and

1 so on. And I wonder if it wouldn't be, and in
2 Maine, which is characterized by smaller fishing
3 communities, commercial fishermen look at
4 aquaculture as a competing industry for access to
5 variance. What if the approach was to be modified
6 so that aquaculture was being addressed by a
7 community of fishermen, be it the clam industry to
8 include such things as kelp growing, et cetera or
9 other compatible industries. And evolve it to a
10 more individualized use.

11 But I can see, for example, that clam is
12 on the Stonington Deer Isle area working
13 collaboratively with aquaculture interests to a,
14 the cause of their own mess, but they're own mess
15 but they're already doing that because they have a
16 conservation department to their participation in
17 the fishery. But the addition of these other
18 aquaculture activities to be very compatible and
19 if you're dealing with a community of fisherman
20 who already have permit rights to a fishery, it
21 would be seemingly a lot easier and can confront a
22 lot less resistance if you were doing it on a

1 community basis. Just an idea.

2 MR. RUBINO: You know Maine much better
3 than I do, obviously. I thought you were already
4 doing that in Maine.

5 MR. AMES: Well, we are but it is not
6 being extended to groups officially. You can
7 connect all kinds of pieces together. Clams used
8 to have terrible problems with green card creation
9 of clams. The solution for that to a great extent
10 is growing with a farm (inaudible). I could see
11 if you have a group of people who were interested
12 in participating, off of the sudden instead of
13 just having one person trying to put in a kelp
14 farm or an oyster farm, et cetera, you would have
15 people who have access rights to catch flounder,
16 clammers, kelpers, et cetera, all in the same
17 community working collaboratively to get something
18 accomplished.

19 MR. RUBINO: The current Sea Grant, a
20 request for a proposal in aquaculture is looking
21 for precisely those kinds of projects to help
22 break through these social license issues in

1 aquaculture and to build community coalitions that
2 would support projects. So maybe there is an
3 opportunity there to actually put some of what
4 you're suggesting into practice.

5 MR. AMES: Well it could but it creates
6 problems along with it. For example, if you want
7 to introduce a predator into the system that would
8 reduce the creation of juvenile clams, would a
9 flounder have other predators and we're very good
10 at it.

11 MS. MORRIS: So Ted, is it okay to move
12 on?

13 MR. AMES: Pardon?

14 MS. MORRIS: Is it okay to move on to
15 another comment?

16 MR. AMES: Yes.

17 MS. MORRIS: Thank you. Pam.

18 MS. YOCHER: I just wanted to reiterate
19 the power of the public private partnership and
20 really thank NOAA Fisheries for all of your
21 efforts in the last few years. Our organization
22 is a not for profit science organization where we

1 partnered on trying to produce this offshore farm.
2 We've also been involved with NOAA and USDA and
3 others for a number of years on trying to advance
4 the industry through some of the grant funded
5 research on feeds and things like that. So, I
6 just reiterate that the loss of Sea Grant would
7 really be devastating.

8 The thing that is great to me, I'm a
9 veterinarian so I come from an ag background and
10 to see the switch towards really supporting the
11 industry, this emphasis on farmed product as food
12 and the sorts of things from the federal
13 government to support that industry that you see
14 in terrestrial farming is really wonderful. That
15 includes some of this technology transfer, even
16 some of the marketing issues.

17 This question came up about the taste of
18 the fish, for example. We did a study a few years
19 ago, and again, part of that has been through some
20 of this technology transfer grant funding, where
21 we looked at striped seabass raised in various
22 conditions and with various diets. And then

1 worked with chefs to evaluate blind testing to
2 evaluate the quality of the flesh in terms of how
3 they prepared the fish and then also the
4 palatability and the market acceptance and all
5 those kinds of things.

6 So, you need that kind of, I think,
7 scientific evidence to back or to counter claims
8 that are maybe impressions by people that it
9 tastes funny or is funny. If it does taste funny
10 then we need to address that but getting that
11 information out there and that's where this
12 relationship with seen as a farmed product that
13 deserves this type of investment is so important.
14 So, thank you very much.

15 MS. MORRIS: Thank you. Great
16 conversation, great presentation. Are we ready to
17 move on to the next agenda item. Erica's report
18 on working group resilience task five.

19 MS. FELLER: Yes and I will be brief.
20 So, task five, just generally where we are is as a
21 group, we are continuing to work on kind of
22 processing and analyzing the data that we got back

1 from this survey. What we've done at this point,
2 I mean there is a limited number of questions that
3 we can ask this data set. What I think we're
4 basically going to aim for is, you guys remember
5 what I showed you back in November, kind of those
6 broad trends that we were seeing. I think that is
7 sort of the top line, but then we want to try and
8 break it down by the different sectors,
9 recreational fishing, commercial fishing,
10 aquaculture, those types of groups, and see if
11 there are other priority needs or challenges that
12 those groups see that may not necessarily pop to
13 the top if you only look at the aggregated data.
14 So, we're working right now and we've divided this
15 up among our working group to have everybody go
16 through different sectors and figure out what the
17 story is.

18 There are some anomalies. There are
19 some groups that have particular needs that are
20 different when you look at everybody as a whole
21 which is kind of interesting. We've also broken
22 the data down by region so we'll be able to see

1 what the difference is between what people care
2 about and what kind of information they use in,
3 say the western Pacific versus New England.

4 We're also starting to frame up the
5 report and our recommendations. We've cooked up a
6 structure for the report. Basically, the topics
7 we want to cover is, are who are audiences that
8 have a need for environmental change related
9 information, how do they plan to use it and what
10 types of decisions and activities do we understand
11 that they'll use information for. What kinds of
12 analysis and formats do they find useful. And
13 then our recommendations will probably fall in
14 that same structure related to what should the
15 objectives of communication efforts be. What
16 kinds of audiences and what are they doing that
17 they might need information. What are you trying
18 to help them do. And then, how do you reach them,
19 how do you engage these different types of
20 audiences if that makes sense.

21 During the conversation yesterday, I
22 think folks agree to this general structure to

1 that sort of structure for the recommendations.
2 We've got a few ideas and I think we have a lot of
3 stuff within the scope of our survey data and all
4 that kind of stuff that will help us figure those
5 things out. But there were also a few things that
6 came up that sort of pushed the boundaries a
7 little bit. So, we'll probably also have some
8 recommendations in terms of where should
9 communications efforts maybe grow a little bit in
10 the future. Think about different audiences then
11 those we really kind of targeted through this
12 survey.

13 So those were things like the topic of
14 the financial sector. People who might be making
15 investments in coastal communities or businesses,
16 may have a need for different types of products
17 and services and information about environmental
18 change to influence their decision making. They
19 may be affected by uncertainty. So that may be an
20 audience that you want to think about. We don't
21 really know anything about them right now, so we
22 would identify those.

1 We also had a couple from NIMPS in the
2 room which was really helpful. We asked them,
3 what do you guys look for and one of the things
4 they brought up was it would be really great to
5 get some recommendations about how we measure the
6 effectiveness of our communications efforts. How
7 do we know that we're actually reaching people and
8 they're doing what we expect with this
9 information. How might we modify efforts in the
10 future if we're not doing it right.

11 They brought up things like the data
12 portals like the Northeast Regional Ocean
13 Partnership and MARCO have really rich information
14 that could be really valuable to people. And one
15 of the things that Ray brought up in the
16 discussion, and just kind of surprised me, is just
17 the effect that the survey had in the Caribbean.
18 By listing out all of these different information
19 sources that NOAA provides, it sort of prompted
20 some people to go look at these things and realize
21 that there was information there that could help
22 them do different things. And is sort of sparked,

1 just by doing the survey, just by summarizing that
2 information and putting it in front of people,
3 really kind of sparked people to do things they
4 might not have done otherwise.

5 So, I think that there is something here
6 about thinking about how NOAA gets this stuff out.
7 Maybe aims, how do you put information in a place
8 where people can maybe use it for what I think of
9 is like off label purposes. Maybe a little bit
10 different than what that particular channel was
11 designed to do that could be useful in a lot of
12 different ways.

13 And then one of the other things that
14 came up that we have to figure out how to deal
15 with, I would welcome thoughts about this. The
16 idea that environmental change occurs within the
17 context of a lot of other factors that affect
18 community resilience. It is kind of like the
19 Irish potato famine problem, right? As long as
20 potatoes are doing well, everybody is fine. And
21 as soon as potatoes die, as soon as you have a
22 blight, suddenly the community just collapses and

1 terrible things happen.

2 It is the same thing. If you have a
3 fishing community that is heavily dependent on
4 really just a single species that is vulnerable to
5 climate change they may be fine until something
6 bad happens. So, providing information on
7 environmental change is important but I think it
8 is also important for us to be mindful of those
9 kinds of contextual issues for communities and how
10 do you sort of provide this kind of stuff in the
11 context of maybe other tools and ideas to help
12 communities beef up their resilience and diversify
13 and all that kind of stuff. That's all I've got.
14 Any questions?

15 MR. PEARCE: Just a quick comment. Some
16 of our aquaculture (inaudible) some of the money
17 lender individuals discussed that it would be nice
18 for them to understand if there were going to be
19 any environmental problems down the road, wherever
20 their sites would be. What could they expect,
21 what might be happening before they invest in a
22 particular area or spot. They'd love to have some

1 knowledge about what is the environmental problems
2 there and might be five years from now, what are
3 you expecting. That came up yesterday in a
4 discussion. So, it is important that some of that
5 information gets out to the people that want to
6 invest in aquaculture in shore, offshore or
7 whatever. So, I think it is very important that
8 we get that out to the money lenders like we
9 talked about and know what is going on.

10 MS. MORRIS: Terri.

11 MS. BEIHENAN: I want to thank you for
12 all your work. Communications overlaps pretty
13 much in all of the various tasks so it is really
14 hard to put it into a little box. To your point
15 about how it could be used by a community, I think
16 the task for that issue overlaps with how to work
17 with the communities to prepare planning for when
18 the potatoes all die or whatever. I think that
19 how to communicate it to the public as well as the
20 fishing communities is also important. I think we
21 have a lot of technological advances on how to put
22 information out there that might lead to a bigger

1 audience. There is an awful lot of products and a
2 way, maybe a point to get, and people can drill
3 down further if they want or if they only need
4 this information. I think trying to pull it
5 together similar to a fish watch type of scenario
6 but with a focus on resilience seem to be things
7 that people were talking to me about.

8 MS. MORRIS: Mike.

9 MR. OKONIEWSKI: It was good discussion
10 all around. I think one thing for me is having
11 led a number of fishing communities in Alaska,
12 Oregon, Washington and Canada for a while, these
13 communities are pretty independent based minded in
14 many respects. They do things a lot differently
15 than a lot of communities. If you're a fishing
16 community I think it is still a self-determinate
17 process of how you're going to be resilient. You
18 can lead a horse to water. If the help is
19 extended or out there which is the intent, but
20 there is information that they can make their
21 decisions by better informed decision making
22 process.

1 I don't think the intent is to go in
2 there and tell people how to do stuff but it is
3 real easy, sometimes, to misinterpret when a
4 government person arrives at your doorstep and
5 says, you've got to be prepared for climate change
6 or something like that. It is an interactive
7 process and the interfacing is a little sensitive
8 sometimes. That's the point I'd like to make.
9 These people have been pretty independent for a
10 long time, for many generations and in some ways
11 they're a little bit retro in their thinking. So,
12 I think you have to be mindful of the
13 sensitivities there or it may be misinterpreted.

14 MS. MORRIS: Paul, could you comment on
15 whether coastal resiliency and climate science
16 appear to be targets for reduced resources in the
17 presidential budget?

18 MR. DOREMUS: I don't have any
19 information other than what is publically
20 released. There is a focus on reduction to grant
21 programs and we don't know much detail at this
22 point.

1 MS. MORRIS: Terri.

2 MS. BEINENAN: I guess to question more
3 to Paul is on one of your slides I saw that there
4 was across the board minus under the Senate.
5 Understanding of the Senates markup and in the
6 house markup, under that category, appeared to be
7 negatives all the way around, regardless.

8 MR. DOREMUS: Yes at the bottom of one
9 chart, that was actually a move of resources that
10 were in fisheries budget over to the National
11 Ocean Service. So, if it looked like a negative
12 it was taken out of our budget but it was put in
13 NOS. I'm guessing that that's a recent vintage
14 grant program that is now housed as a NOAA wide
15 grant program under the National Ocean Service and
16 how that fares we'll have to see.

17 MS. BEINENAN: Okay. I should have
18 asked it when the slide was up.

19 MR. DOREMUS: Yeah, I'm sorry. It shows
20 up as a negative in our budget but it shows up as
21 a positive in NOS's budget.

22 MS. MORRIS: So, Erika, just remind of

1 us of the nuts and bolts of the survey and how
2 many responses you had with the range of responses
3 for geographically and cross country.

4 MS. FELLER: Sure. I've had this
5 spreadsheet up on my computer screen almost all
6 day and I just closed it. We got 820 responses.
7 We got a pretty good distribution of responses all
8 across the country, actually.

9 MS. LOVETT: So actually those
10 responses, Erika, cannot be attributed to people
11 saying they are actually in a spot. The way the
12 question was worded is, are you interested in
13 information from geographical area. So sometimes
14 people responded with multiple answers.

15 MS. FELLER: The choice we made in
16 designing the survey to get that distribution was
17 there are some people who were interested in every
18 place, like me. I live in D.C. but I care about
19 fisheries everywhere. My job has a broad scope.
20 I could put down that I live in the Mid-Atlantic
21 but that wouldn't really truly represent the scope
22 of what I'm interested in.

1 So, the way we chose to do the regional
2 breakdowns was to give people the option to select
3 multiple regions. There wasn't just a national or
4 a particular region that you chose. It comes with
5 some sacrifices in terms of really understanding
6 where people are and is this person actually a
7 community leader in Ilwaco, Washington or are they
8 sitting in an office in Arlington, Virginia and
9 they're really focused on the Gulf of Mexico.
10 We're not going to be able to know that so I think
11 we just kind of have to except that we passed up
12 on that opportunity.

13 Like I said, we got 820 responses. My
14 favorite statistic in here is the one where we
15 asked people how concerned are you about the
16 impacts of environmental change on fisheries,
17 aquaculture and coastal communities. We had 67
18 percent of our respondents said that they are
19 extremely concerned. It knocks up to about 80
20 percent if you include people who said that they
21 were also moderately concerned. There are a lot
22 of people out there that are looking at

1 environmental change and thinking this is
2 something they need to do something about.

3 We asked them questions about the
4 information on the effects of environmental change
5 that they would find useful for their sector.
6 This is kind of like, you want to sort of
7 understand. If you're in aquaculture, for
8 instance, because I went through the aquaculture
9 data earlier, is a little bit more concerned about
10 ocean acidification than perhaps, the broader
11 population if that makes sense. So, that kind of
12 thing we're seeing.

13 We asked people about different sources
14 of information that they might use including NOAA
15 websites, NOAA email newsletters, other kind of
16 third party produced types of things and what do
17 they use, what are they like. There is some
18 variation also in that.

19 We asked people about what kinds of
20 experts they trust and one of the things that we
21 see in that is, actually, I think NOAA has got a
22 huge opportunity here. Scientists across the

1 board are the most trusted messengers with
2 information about environmental change. That goes
3 for university, federal and state agency
4 scientists. You might be happy to know that NOAA
5 and its manger came in number four.

6 We also learned that you probably ought
7 not to use social media to reach a lot of these
8 audiences because they don't like it. We asked
9 people what kinds of information formats they want
10 to use. Things like graphs, field trips, expert
11 presentations, written materials, that type of
12 thing.

13 We also asked people questions about how
14 they plan to use the information for personal,
15 business, research, education, those types of
16 things which is useless because it is evenly
17 distributed when you look at it nationally. But
18 when you look at different sectors you start to
19 see different groups using information in
20 different ways. It seems to start to move a part
21 a little bit.

22 MS. MORRIS: The final question is what

1 are the next steps that you think task group five
2 might be interested in setting as a goal to
3 complete by mid-summer.

4 MS. FELLER: I'm having a little trouble
5 looking past the one thing we have to do which is,
6 I think, to finish this first phase report. Which
7 is, writing up the results of the survey and an
8 initial set of recommendations.

9 MS. MORRIS: And the aim for completing
10 that would be?

11 MS. FELLER: I'd like to get it done by
12 about June would be my sincere hope to at least
13 have a draft that we can circulate. We're kind of
14 cranking on the data right now and we've got an
15 outline so it is possible. Judging by how long it
16 took us to -- once we started writing the
17 transition memo, that didn't take very long. I'm
18 hoping this will go the same way.

19 MS. MORRIS: Great. Any other questions
20 about

21 (inaudible) dominated some of the
22 Q&A time here.

1 MR. ESPINOZO: I have one. I'm
2 following up on the comment you mentioned about
3 the conversation that happened in the Caribbean
4 that was very positive of how the users found out
5 about services in the survey. I think part of the
6 actions of that should incorporate it into it.
7 The plan eventually is to continue to that type of
8 outreach just to survey, to continue that type of
9 outreach to folks. That's something that many of
10 them, pretty quickly like about a month after they
11 answered the survey, they're like so what's the
12 plan. So, they're really interested in knowing
13 how that information was.

14 Again, just the survey, which was asking
15 them questions, it wasn't the intention to provide
16 information, was used in that way. So, I think
17 it's not direct engagement that is really useful.
18 Again, it went to a lot of people so I think that
19 the right engagement to continue to providing that
20 should continue.

21 MS. FELLER: Yeah. One of the things I
22 liked about that story is I think it is sort of a

1 confirmation thing. I think communications is
2 always a two way street and that is sort of the MO
3 behind taking the approach of doing the survey
4 before we got into developing the recommendations.
5 You can't figures out where people are at and what
6 they need and what they want unless you ask them.
7 So, if I have anything to say about, which I kind
8 of do, I think that there will be a theme in here
9 about maintaining that two way open door
10 communication of checking in with people. And
11 what do you need and is this working and using
12 that to constant refine and update communication
13 strategies I think over time will probably somehow
14 figure its way in there.

15 MS. MORRIS: Okay, next on the agenda is
16 the public comment period. We need to be here
17 listening at noon when the public comment period
18 begins is that correct?

19 MS. MORRIS: Yes.

20 MS. MORRIS: Is there anybody here in
21 person who'd like to make a public comment at this
22 time? So, I'm afraid if we all get up and walk

1 around and coffee and stuff we won't be back
2 sitting down listening in another five minutes.
3 So, how do we prevent -- just try to be back and
4 be quiet at noon. Sometimes, nobody calls in and
5 in that case we'll have an early release.

6 This is what is ahead of us for the
7 afternoon. In this room, presenting task six will
8 start at 1:45. Harlon leads that group. At the
9 same time, resilience test four will meet upstairs
10 in the Chesapeake room on the third floor. Some
11 of you were in that room yesterday, again at 1:45.
12 And then at 3:30 the Commerce sub-committee will
13 meet here in this room and anyone who wants to
14 work on this nascent idea for comment letter
15 budget and budget constraints and staffing
16 constraints will meet upstairs in Chesapeake. Got
17 it? So, go up, have a good lunch, do good work,
18 have good conversations during lunch and be back
19 at 1:45.

20 (Whereupon, at 12:03 p.m., the
21 PROCEEDINGS were adjourned.)

22 * * * * *

1 CERTIFICATE OF NOTARY PUBLIC

2 COMMONWEALTH OF VIRGINIA

3 I, Carleton J. Anderson, III, notary
4 public in and for the Commonwealth of Virginia, do
5 hereby certify that the forgoing PROCEEDING was
6 duly recorded and thereafter reduced to print under
7 my direction; that the witnesses were sworn to tell
8 the truth under penalty of perjury; that said
9 transcript is a true record of the testimony given
10 by witnesses; that I am neither counsel for,
11 related to, nor employed by any of the parties to
12 the action in which this proceeding was called;
13 and, furthermore, that I am not a relative or
14 employee of any attorney or counsel employed by the
15 parties hereto, nor financially or otherwise
16 interested in the outcome of this action.

17

18 (Signature and Seal on File)

19 Notary Public, in and for the Commonwealth of
20 Virginia

21 My Commission Expires: November 30, 2016

22 Notary Public Number 351998