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UNITED STATES OF AMERICA

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DEPARTMENT OF COMMERCE

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NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION

+ + + + +

MARINE FISHERIES ADVISORY COMMITTEE

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Wednesday, May 13, 2009

The Marine Fisheries Advisory Committee met
in the Colton Rooms I and II at the Monterey
Conference Center, One Portola Plaza,
Monterey, California 93940, at 8:29 a.m.,
James W. Balsiger, Vice Chair, presiding.

MEMBERS PRESENT:

- JAMES W. BALSIGER, Vice Chair
- MARK HOLLIDAY, Executive Director
- TOM J. BILLY, Committee Liaison
- RANDY CATES
- BILL DEWEY
- ANTHONY D. DiLERNIA
- PATRICIA DOERR
- EDWIN A. EBISUI, JR.
- ERIKA A. FELLER
- MARTIN FISHER
- ROBERT FLETCHER
- CATHERINE L. FOY
- STEVE JONER
- DOROTHY M. LOWMAN
- HEATHER D. McCARTY
- TOM RAFTICAN
- ERIC C. SCHWAAB
- DAVID H. WALLACE

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3 CONSULTANTS TO MAFAC PRESENT:

4
5 RANDY FISHER
6 JOHN V. O'SHEA
7 LARRY SIMPSON

8
9
10 ALSO PRESENT:

11
12 MATT ATEMSEY
13 TOM BIGFORD
14 STAN DEVERUX
15 WALT DICKHOFF
16 PAUL DOREMUS
17 JESSICA M. DUTTON
18 MIKE ENG
19 CHURCHILL GRIMES
20 TIM HANSEN
21 HEIDI LOVETT
22 SAM RAUCH
23 ALAN RISENHOOVER
24 JOHN STEIN
25 CHARLIE WAHLE

26

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26	Meeting transcript contained in	
27	a separate volume)	

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

2 (8:29 a.m.)

3 MR. BILLY: We'll get started now.

4 First, on behalf of the Committee, I'd like
5 to thank the organizers of the wonderful
6 reception last night. So, Tom, you and your
7 colleagues that put all that together, we
8 very much appreciate it. It was a wonderful
9 venue, great food, and a nice opportunity in
10 a casual setting to talk to other people
11 about matters of the Committee and other
12 matters of interest. So, thank you very
13 much.

14 (Applause.)

15 MR. RAFTICAN: You're very
16 welcome. I was just trying to keep up with
17 Larry. I had been shown up here on New
18 Orleans.

19 MR. SIMPSON: I think that the
20 aquarium was a good idea.

21 MR. RAFTICAN: Yeah, the aquarium
22 was a great idea.

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1 MR. BILLY: Okay. Alright. We
2 have a series of briefings this morning with
3 a common theme. And to set a broad framework
4 for these briefings and our discussions, I'd
5 like to call on Mark Holliday.

6 DR. HOLLIDAY: Thanks, Tom. So
7 yesterday we spent our time looking at
8 seafood safety, health, and quality. And
9 today's theme we're looking at multiple
10 governance, multi-sector use of the ocean,
11 and regional ocean governance to set the
12 stage for some policy discussions by MAFAC
13 about future directions. And so I'll just
14 run down the list of speakers so you'll have
15 this common thread about how we are going to
16 approach the future stewardship of living
17 marine resources, their habitats in the world
18 that we talked about in Vision 2020, the
19 future scenarios that we will be looking at.

20 And so this morning will start
21 with John Stein, who is the Deputy Director
22 of the Northwest Fisheries Science Center,

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1 who will talk to us about one of the big
2 drivers that's on the table today for
3 governance of the science side of ocean
4 acidification.

5 That will be followed by a
6 presentation by Tom Bigford from the NOAA
7 Habitat Conservation Office in Silver Spring.

8 He'll be talking about energy briefing, you
9 know, the more traditional uses of oil and
10 gas and alternative energies, where NOAA is
11 right now and our positioning our role in the
12 future as we look towards greater energy
13 security as a national policy.

14 We'll take a morning break as
15 usual and we'll come back and have a
16 discussion about to governance types of
17 presentations, one on the actual structure
18 and approach to regional ocean governance
19 with collaboration with other entities that
20 have a stake in a long-term policy for
21 governing the oceans. I'll be giving a
22 presentation as part of the work that we've

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1 been doing in the Office of Policy.

2 And then Charlie Wahle is here
3 from the National Ocean Service, and he's
4 going to give us our primer on marine spatial
5 planning, where NOAA would like to go using
6 this particular tool of analysis approach to
7 governance to set the stage for, again, where
8 do we go as a -- you know, policy advice on
9 where we go in the future and how do we
10 approach some of the challenges for resolving
11 the conflicts and integrating the uses and
12 non-uses of the oceans in a governance
13 framework.

14 And that all sort of tees up and
15 segues to the final presentation for the
16 morning, which is Paul Doremus, Deputy of the
17 NOAA Program Planning and Integration Office
18 in Silver Spring. He'll talk to us about
19 what NOAA is doing for the next generation
20 strategic plan, some of the ideas and
21 concerns and the framework of how they are
22 structuring, producing that strategic plan.

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1 And many of the issues that we are raising
2 this morning are either drivers or elements,
3 you know, for consideration in putting
4 together the future direction for NOAA.

5 So altogether we'll have an ample
6 time for discussion after each subject, and
7 we'll be able to talk about some of the
8 questions in more detail this afternoon in
9 these subcommittee meetings where we can get
10 into more depth about some of the detailed
11 questions. So it's sort of queued up for the
12 morning talking about sort of the big picture
13 of drivers and influences on policy and what
14 NOAA should be doing or is already planning
15 to do. And we'll get your feedback as a
16 group over the course of today and tomorrow.

17 MR. BILLY: I have just a couple
18 of questions to help me frame this
19 discussion. Are we talking about the entire
20 Earth in terms of the oceans, or are we
21 focused on the EEZ and the areas where the
22 U.S. has jurisdiction? How broad is this

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1 drop, what is --

2 DR. HOLLIDAY: I think it
3 coincides with what NOAA's role is, and
4 NOAA's role --

5 MR. BILLY: That's the framework?

6 DR. HOLLIDAY: -- goes from the
7 watersheds and our interactions with states
8 inland to the territorial sea where we're in
9 collaborations with coastal states to the
10 EEZ, to our international collaborations or
11 bilaterals, and our role in international
12 organizations for science and stewardship.
13 So it runs parallel to what NOAA's mission
14 is.

15 MR. BILLY: Okay, good.

16 VICE CHAIR BALSIGER: Google
17 Earth.

18 DR. HOLLIDAY: The Earth is our
19 system, right.

20 MR. BILLY: Yeah. Okay.

21 DR. HOLLIDAY: I'm sure Dr.
22 Lubchenco, you know, would say it more

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1 eloquently, but it's the big enchilada.

2 MR. BILLY: Um-hum. Okay. All
3 right, thanks.

4 DR. HOLLIDAY: Thank you.

5 MR. BILLY: All right. John.

6 DR. STEIN: Okay, thank you.

7 MR. BILLY: You have the floor.
8 You're welcome.

9 DR. STEIN: Yes. I'm from the
10 Northwest Fisheries Science Center, but today
11 I'm really wearing the hat of being a member
12 of a steering committee of an ad hoc working
13 group within NOAA, all of NOAA, working on
14 ocean acidification.

15 And so what I want to do today is
16 talk to you some about the science behind
17 ocean acidification, then some of the recent
18 NOAA activities, status of legislation
19 related to ocean acidification, and then
20 touch on some adaptation/mitigation
21 questions. And, to follow-up on Tom's
22 comment, this clearly is a driver that is

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1 global in scale. It's not unique to the
2 U.S., but certain areas may be more sensitive
3 than others.

4 So also I want acknowledge in part
5 of that I was speaking for the group, in
6 essence, and I'm also speaking from a talk
7 prepared a lot by Dr. Dick Feely from Pacific
8 Marine Environmental Lab, part of the Oceanic
9 and Atmospheric Research Office within NOAA.

10 He's been a real leader in the area of the
11 chemistry of carbon in the ocean. So, in a
12 sense, that's what I'm talking about.

13 So ocean acidification has been
14 classified as global warning's evil twin.
15 It's the other consequence. The ocean is
16 important. It does take in CO2, and that's a
17 good thing. And if it didn't, we would be in
18 a very different state than we are now. But
19 there is a consequence of taking up that CO2.

20 Let me get the laser pointer.

21 So this is the Keeling curve, it's
22 called. It's the measurement of CO2 in the

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1 atmosphere and certainly illustrates, again,
2 the great importance of long-time theories in
3 understanding what's going on both within the
4 U.S. and globally.

5 This is the level of CO2 in
6 seawater. The main point is that it's
7 parallel, the slopes are pretty parallel,
8 meaning that the level of CO2 has increased
9 relative to increasing CO2 in the atmosphere,
10 which is -- the IPCC has come out and
11 basically said it's due to anthropogenic
12 sources.

13 The bottom curve is the change in
14 pH measured in the ocean. There is now the
15 Earth System Research Lab, as part of NOAA,
16 which has 66 stations around the globe
17 monitoring these kinds of measurements. And
18 that's the change or the decrease in pH. So,
19 like I said, while it does absorb CO2, and
20 that's a good thing, there is a decrease in
21 pH, which I will talk about how that has
22 negative consequences.

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1 So the average pH of the world's
2 ocean is about 8.2, just some basic
3 chemistry. It's moderately alkaline, and
4 it's buffered by calcium carbonate, another
5 important factor. If we didn't have a lot of
6 calcium carbonate, the ocean would be a lot
7 more acidic. And, as I mentioned, it's
8 correlated with the increase in CO2. There's
9 been a change at about 0.1 pH unit. We've
10 got to remember pH is on a log scale. That's
11 a significant amount, and it's predicted, if
12 everything goes as it has been, but there are
13 white air bombs, that it could decrease by up
14 to a half a unit in pH, which would be
15 dramatic.

16 So this is just to say that we
17 have had an increase in CO2. It is projected
18 by different -- whoops, wrong button -- okay.

19 It is projected to increase further. And,
20 depending on the scenario, it could increase
21 greatly. So we're not out of the woods.

22 So what is ocean acidification?

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1 CO2 has to go somewhere. Okay. This is just
2 basic chemistry. It's called LeChatalier's
3 principle. You put something in equilibrium,
4 you've got two things in equilibrium, you put
5 pressure on one side, it's got to react and
6 go the other way. So if you add CO2 to the
7 atmosphere, it's got to go somewhere.

8 So it goes into the water and
9 forms carbonic acid, weak acid. That
10 dissociates into hydrogen ion, which changes
11 the pH, and bicarbonate. What -- how that
12 dissociates again into -- or reacts with --
13 the hydrogen ion reacts with the carbonates
14 in the system and forms bicarbonate. So the
15 net result is that the level of carbonate
16 decreases. Okay. And I'll get to that
17 point.

18 So this is showing and the figure
19 is showing what has happened to date in that
20 pH has decreased by a unit; carbonate has
21 decreased; and the partial pressure of CO2
22 has increased. And these are the projections

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1 that could occur into the future unless
2 something changes.

3 And, like I said, the pH change
4 would be much more dramatic if we didn't have
5 carbonate. But it's the carbonate ion that
6 controls the saturation state in the ocean
7 which affects the ability of critters with
8 calcium shells, calcium-dependent shells, to
9 form.

10 So this is just to show that we
11 would increase CO2 -- if we stopped and
12 started to have a decrease, we would still
13 see lag in the changes in CO2 in the
14 atmosphere. Okay. And that what this is
15 trying to show is that with depth and with
16 time you could see changes in the ocean. And
17 what this shows is that the ocean is not
18 homogeneous, that you're going to see changes
19 in pH at different levels within the ocean,
20 because it takes a while for that CO2 to
21 equilibrate and work its way down into the
22 ocean.

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1 So we could see a change in the
2 level of carbonate in the system, and unless
3 things change, about a 30- percent to 50-
4 percent decrease in the carbonate, which
5 would be not good.

6 So you would have a 30-percent
7 increase in acidity, which would correspond
8 to a decrease of carbonate ion of about 16
9 percent. And these could have serious
10 impacts. What this is trying to show here is
11 that the types of critters and organisms that
12 can be affected are commercially of some
13 significant value to this country and
14 globally, as well. And so that is the
15 concern, is one of the concerns.

16 So I talked about saturation
17 depths. And aragonite and calcite are just
18 two different forms of calcium carbonate.
19 Calcium carbonate forms different structures.

20 And shell-forming animals and other things
21 are dependent on either aragonite or calcite.

22 And what this shows is depth, this

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1 is depth, and it shows the aragonite
2 saturations on this, where there is a high
3 level of carbonate in the water. And the
4 blue shows that it doesn't go very deep. The
5 red shows that it's fairly cheap, in other
6 words, a lot of the water column within the
7 ocean is saturated with calcium carbonate.
8 This is a good thing; this is an important
9 thing for forming shells. In certain places
10 it's not so deep. And in the southern ocean
11 it's not so deep.

12 So these, particularly in the
13 North Pacific, southern ocean, Indian Ocean,
14 they are particularly susceptible to ocean
15 acidification, but no place is immune.

16 So, anyway, -- yeah, ask questions
17 as I go along, I think is the best way to do
18 it, if there are any.

19 MR. SIMPSON: Do you have no data,
20 John, back in the Gulf of Mexico, --

21 DR. STEIN: No data?

22 MR. SIMPSON: -- white, what is

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1 white?

2 DR. STEIN: Oh, white is -- oh,
3 that's a really good point. Yeah, there is
4 some missing -- there are some missing areas
5 where this figure shows --

6 MR. SIMPSON: Okay.

7 DR. STEIN: I don't think it's
8 that we have no data missing for this type of
9 model.

10 MR. SIMPSON: Right.

11 MR. RANDY FISHER: That's because
12 it's already a mess.

13 DR. STEIN: Yeah, it's already
14 done in.

15 So we can calculate the pH at
16 which calcium carbonate, you know,
17 precipitates or dissolves, and that's called
18 the saturation state. I'll get to that point
19 and we're closer. And that's generally
20 closer to dissolution with increasing depth.

21 In other words, the calcium carbonate starts
22 to dissolve as you go deeper.

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1 And, as I just mentioned, the
2 saturation depth is much shallower in the
3 North Pacific versus Atlantic. And because
4 the ocean mixes slowly, half of the
5 anthropogenic carbon dioxide is stored in the
6 upper ten percent of the ocean.

7 In other words, we're not at
8 equilibrium. And if you remember the slide
9 previously, if we even stop CO2 now there
10 will be a lag in response because the ocean
11 is not equilibrium. It's still in the
12 process, still in the process of getting
13 warmer. It's still in the process of dealing
14 with this increased CO2 that's in the
15 atmosphere.

16 So back to this equation. It's
17 always good for a chemist to be able to just
18 show how chemistry can actually have a big
19 effect. CO2, we're increasing that. So
20 we're pushing it this way. So we're
21 increasing the amount of carbon --
22 bicarbonate and decreasing the amount of

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1 carbonate. Okay.

2 And over in the sense of
3 geological scales, the amount of calcium in
4 the ocean is pretty much constant. So the
5 level of carbonate drives this equation which
6 drives whether it's saturated, it's at
7 equilibrium, or it starts to dissolve. Okay.

8 So, in other words, you decrease
9 carbonate, you go from a state of
10 precipitation where calcium carbonate can
11 form to a point where it's in equilibrium to
12 a point where it's basically, if you're a
13 critter with a calcium carbonate shell, you
14 start to dissolve.

15 So this is just some data to show
16 that there is data out there, and we have
17 some data. So this is the increase in
18 bicarbonate. Bicarbonate increases in this
19 direction, but we're going to look this way.

20 Here is the increase in the pressure of CO₂
21 in the ocean, but not of CO₂ that's dissolved
22 into seawater.

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1 As you can see, you see a linear
2 decrease in calcification rate. In other
3 words, how fast or at what rate calcium
4 carbonate is laid down as to form shelves.
5 And this is for coral, in particular. And
6 you can see that at some point you do, you
7 actually go to zero, and you have no
8 calcification, no ability to calcify.

9 Therefore, the corals would be
10 bare. They might still be alive, but then
11 they're probably good food for somebody else.

12 They have no shells, so that's what, in a
13 sense, this shows.

14 Natural processes do affect ocean
15 acidification. And here on the West Coast,
16 as many of the West Coast people are aware,
17 we're very much -- the California current is
18 a system driven by upwelling.

19 Key upwelling is critical for
20 productivity of the system, critical for a
21 number of species, but it also brings up --
22 remember, the saturation depth changes. In

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1 other words, deeper water is not as
2 saturated. So upwelling brings up water that
3 can be corrosive. In other words, it can
4 bring up water that has lower pH and can
5 dissolve shells or lead to calcium carbonate
6 dissolving. Okay.

7 Also, as you remember I said that
8 we're not at equilibrium, so this upwelled
9 water is relatively old water. So right now
10 the water that came ashore in the last couple
11 of years is 50 years old. That means -- and
12 since CO2 is still decreasing into the
13 future, then we would have more corrosive
14 water that could reach the surface. That's
15 what this is to show.

16 So the models -- so one of the
17 reasons why ocean acidification has not --
18 has only more recently gained further
19 attention -- it's not that it hasn't been out
20 there for a while, but the models predicted
21 that these corrosive waters, and I mean
22 corrosive because in a sense they're like --

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1 I shouldn't say it this way -- but I mean
2 it's the battery-acid effect. I mean they're
3 a lower pH. They dissolve things.

4 You know the trick when you were a
5 kid, putting vinegar in with sodium
6 bicarbonate, whoosh. That's too dramatic for
7 what this is, but I mean that's the same
8 principle. That's the same reaction.

9 The models predicted that ocean
10 acidification would not be an issue for about
11 50 more years. So the focus had been, well,
12 if it's not an issue for 50 years, then we
13 should focus on global warming or the
14 temperature change more than ocean
15 acidification. But -- and this is, you know,
16 somewhat tongue-in-cheek, but somewhat true,
17 too. I mean all models are wrong; some are
18 useful.

19 And so that's why you don't defend
20 on all the models. You go out and verify.
21 You go out and do field studies. You conduct
22 lab studies, to both test your model and then

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1 improve it.

2 So what Dick Feely and colleagues
3 did from Canada and Mexico was conduct a
4 cruise up and down, from Canada all the way
5 to Mexico, and run transects, you know, along
6 this way. And basically what this says is
7 this is aragonite saturation arising -- in
8 other words, where does it go to one, and
9 then lower. In other words, where does it
10 become corrosive. So what --

11 MS. FOY: So it's -- later.

12 DR. STEIN: Yeah, I know.

13 MS. FOY: John, I lost just a
14 second there.

15 DR. STEIN: I know. That's okay.
16 Good. Thank you for stopping --

17 MS. FOY: That one in there where
18 you have --

19 DR. STEIN: It's a zone.

20 MS. FOY: Zone -- or either --
21 okay. Where you're getting shell- --

22 DR. STEIN: Right, right. It's a

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1 -- and it's not so much a line as it is a
2 zone.

3 MS. FOY: Right, right. So you've
4 got a --

5 DR. STEIN: Right.

6 MS. FOY: Yeah.

7 DR. STEIN: But, right. That --
8 that --

9 MS. FOY: But whatever it is falls
10 through that zone, it has to --

11 DR. STEIN: Yeah, we'll get --
12 we'll get to that, right.

13 MS. FOY: Gotcha.

14 DR. STEIN: So as the CO2 mixes
15 and it gets into that zone -- and then what
16 I'll talk about in a moment is that as -- so
17 you have a balloon in the upper water column.
18 That starts to decay, --

19 MS. FOY: Right.

20 DR. STEIN: -- drops into the
21 lower water column out of the floating zone
22 and starts to decay. So it's called re-

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1 mineralization. So the CO2 that was fixed
2 and turned into -- inside the phytoplankton
3 become and get returned back into CO2. So
4 CO2 then gets into this zone, you know, and
5 further deeper. Some of it stays fixed, goes
6 to the deep ocean, and gets sequestered. So
7 that's one of the positive aspects of the
8 ocean relative to -- but it's one of the
9 concerns that there is one -- there are
10 proposals out there to do something called
11 ocean fertilization, which has its own issues
12 to be looked at and dealt with.

13 So the point is, is that with
14 upwelling there's shoaling, or this stuff is
15 bringing -- this stuff is being brought
16 closer to the surface. And with strong
17 upwelling these waters come onto the shelf
18 and can even come right onto the surface and
19 right close to shore, highly corrosive
20 waters, affecting benthic organisms,
21 juveniles, larvae, et cetera.

22 So this was what was supposed to

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1 happen 50 years from now. In two
2 observations we've shown that it happens now.
3 So corrosive waters are reaching the coast.
4 And, remember, these are older waters so
5 these corrosive waters will get more acidic
6 as the ocean tends to try to get to
7 equilibrium.

8 MR. CATES: I have a question.

9 DR. STEIN: Yes, sir.

10 MR. CATES: How do we know this
11 hasn't been occurring for a long, long time?

12 DR. STEIN: In what sense do you
13 ask that question?

14 MR. CATES: Well, we hear
15 fishermen, you know, back in the '20s and
16 '30s, all of a sudden they had a fishery and
17 then in a couple years it just wasn't there.

18 There's no real --

19 DR. STEIN: Right.

20 MR. CATES: -- explanation. It
21 happened, I guess, to the sardine fishery.

22 DR. STEIN: Right. Oh, yeah. No,

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1 go ahead.

2 MR. CATES: Could this be what was
3 occurring, this case particularly?

4 DR. STEIN: Well, yeah. The ocean
5 is dynamic. Clearly in upwelling areas it's
6 highly dynamic. As the PDO, the Pacific
7 Decadal Oscillation shifts the strength and
8 amount of upwelling can change dramatically.

9 So at certain -- so at one level, you're
10 right. I mean these corrosive waters, you
11 know, in a poor upwelling year will not come
12 ashore. So they will not have as big an
13 impact certain years than other years. But -

14 -

15 MR. CATES: Is there any way --

16 DR. STEIN: Yeah, go ahead.

17 MR. CATES: -- to look back in
18 time to find out --

19 DR. STEIN: Yes.

20 MR. CATES: -- whether this has
21 been occurring?

22 DR. STEIN: Yes. There have been

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1 -- and I don't understand this as well. I
2 haven't had a chance to really delve into it.
3 But there are -- there have been about six
4 episodes on geologic time scales of
5 significant ocean acidification events that
6 have been linked to some of the major
7 extinctions on Earth and we see dramatic
8 declines. I mean major, major changes. I
9 mean it's highly correlated.

10 And at the same time, then, you
11 know, the system pops back. You open up a
12 lot of space and you get a lot of high
13 diversity afterwards, but you've got to live
14 through the downswing, but -- so there is
15 correlation between this type of an event and
16 things in the past.

17 MR. SIMPSON: John, what kind of
18 cycle? I mean this has happened five, six,
19 seven times --

20 DR. STEIN: Um-hum.

21 MR. SIMPSON: -- in the dataset
22 that you're looking at, obviously you're

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1 talking decadal at least, right?

2 MS. FOY: I think he's talking --

3 DR. STEIN: There are -- I want to
4 address -- yeah, there are these long -- we
5 got to think about these long-time factors
6 that happened on earth. It's not a static
7 system. A lot of things have changed.

8 MS. FOY: Right.

9 DR. STEIN: What is happening now
10 -- so there are those types of events -- and
11 then what's happening now is the rate at
12 which it's happening. We're having these
13 changes, current rates that we've never seen,
14 not even close. So these rates of change are
15 much, much, much, much faster.

16 MR. SIMPSON: Are we measuring
17 better or are we really --

18 DR. STEIN: No. No, it's clear,
19 because we have changed the atmosphere
20 significantly, dramatically, and rapidly by
21 the increase. I mean, I go back to -- I'll
22 go back to the first slide. I mean it's

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1 irrefutable that the level of CO2 has
2 increased and increased dramatically. And
3 the chemistry is -- it's not a theory. It's
4 got to go somewhere.

5 Bob.

6 MR. FLETCHER: Have you done
7 measurements coast-wide and offshore to see
8 the distribution of these corrosive deep
9 waters?

10 DR. STEIN: Right. Bob, that's
11 what all this is right here. And we'll go to
12 the next slide.

13 MR. FLETCHER: Okay.

14 DR. STEIN: And that shows you the
15 actual transects of this study that was
16 published in *Science*. And we have -- and
17 there are buoys, one right off here, and at
18 different sites, to take measurements
19 continuously. But you need to then go out
20 and do these surveys. I mean that was sort
21 of my point, is that the model predicted one
22 thing, these surveys have actually shown

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1 something else.

2 MR. FLETCHER: They're also
3 measuring.

4 DR. STEIN: Yes. Oh, yes,
5 definitely. It's a depth, it's a total CTD
6 cast with -- and significant high-quality
7 measurements of then alkalinity, CO2, and
8 then calculation of pH. So any further
9 questions about this one?

10 MR. JONER: John?

11 DR. STEIN: Steve.

12 MR. JONER: These buoy readings,
13 is that averaged over a period of five years,
14 five months, --

15 DR. STEIN: No, some of them --
16 no, this -- some of these buoys --

17 MR. JONER: -- or are they just a
18 snapshot?

19 DR. STEIN: Well, no. The buoys
20 have not been in for a long time yet. Okay.

21 So I mean that's part of what -- it doesn't
22 matter which one I look at either -- that's

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1 part of what is needed, is systematic
2 sampling and then a systematic array of buoys
3 kept for a while in there so we can really
4 have high-quality data over time.

5 MR. JONER: And how does the
6 amount of upwelling affect this over a period
7 of, you know, a decade so if we had -- well,
8 for example, we had that event in 2005 --

9 DR. STEIN: Right. It wouldn't
10 have been the --

11 MR. JONER: -- where there was no
12 upwelling in --

13 DR. STEIN: Right. The corrosive
14 waters would not have come ashore at that
15 time. You're right. No, absolutely. But
16 the other factor is that -- we had deepwater
17 corals, right?

18 MR. JONER: Um-hum.

19 DR. STEIN: We have shallow -- and
20 so this horizon is shoaling that's coming up.

21 So are deepwater corals are going to be
22 impacted by corrosive waters, which is going

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1 to be more independent of the PDO. But
2 certainly the upwelling and what effect on
3 the coastal and shallow waters is driven by
4 levels of upwelling. There's no doubt about
5 that.

6 MS. FOY: John, --

7 DR. STEIN: But as this keeps
8 shoaling, it keeps rising, then it's going to
9 happen more often.

10 MR. JONER: Right.

11 DR. STEIN: Okay.

12 MS. FOY: John, are we expecting
13 there to be any that will occur with it?

14 DR. STEIN: Okay. So that's -- I
15 was going to -- there is an interaction
16 there, --

17 MS. FOY: Yeah.

18 DR. STEIN: -- like I talked to
19 you before. So you have an anoxic event.
20 Okay. So you have a bloom, --

21 MS. FOY: Um-hum.

22 DR. STEIN: -- stuff drops to the

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1 bottom and starts to decompose, --

2 MS. FOY: Right.

3 DR. STEIN: -- produces a hypoxia
4 by that decomposition because it's using up
5 oxygen and reforming CO2.

6 MS. FOY: Right.

7 DR. STEIN: So it's actually an
8 interaction.

9 MS. FOY: Now --

10 DR. STEIN: So actually in Hood
11 Canal we think that that's in part what's
12 going on. We've observed some of the lowest
13 pH levels measured on Earth in Hood Canal,
14 Washington, because of interaction probably
15 between hypoxia and then these kinds of
16 waters being brought in deep and dropped into
17 the Canal.

18 MS. FOY: Now it's been a long
19 time since I've had organic chemistry, but if
20 I'm correct, you have to have anoxic
21 conditions to form methane, right?

22 DR. STEIN: Yeah.

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1 MS. FOY: So now we're talking
2 about methylating mercury? So --

3 DR. STEIN: Yes. Anoxia --
4 hypoxia is really -- changes the
5 biogeochemistry of mercury directly.

6 MS. FOY: So we are talking about
7 across the food chain?

8 DR. STEIN: These are some of the
9 things that we don't know, is these
10 interactions on these. So how does
11 temperature and pH change, interact. We
12 think there is an interactive effect that
13 actually enhances the effect of increased pH,
14 another good-news story.

15 So what are some of the concerns?

16 Clearly, I hope I made the case about these
17 kinds of critters, reduced calcification. In
18 other words, shells do not form as well.
19 Okay.

20 MS. FOY: And this is way up at
21 the top of the food chain?

22 DR. STEIN: Yes.

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1 MS. FOY: Feeder, that --

2 DR. STEIN: Right. Unless you --
3 right.

4 MS. FOY: -- or that's the forage.

5 DR. STEIN: Right, right. I don't
6 have a picture of a -- well, there is kind of
7 a copepod up there. Yeah, if you have -- for
8 example, on the West Coast if there was a
9 significant effect that led to a dramatic
10 effect on copepods, we'd be in serious
11 trouble for a lot of things.

12 Reduced calcification rates have
13 clearly been shown and a concern. pH changes
14 -- as Cathy mentioned -- a number of things,
15 but it really affects speciation of trace
16 elements, which are also important, well,
17 from a methylmercury perspective as well as
18 from --

19 MS. FOY: Selenium?

20 DR. STEIN: -- key physiological -
21 - yeah. These are the needs of certain
22 critters -- could have shifts in nutrient

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1 composition, too.

2 You're going to have winners and
3 losers. Phytoplankton diversity could
4 change. What that actually means we don't
5 have strong evidence for it.

6 Juveniles as in -- I mean you
7 could think of this as a toxicology question
8 as well. So similar to certain other
9 chemicals that are toxic to critters, many
10 juveniles and larvae are often more
11 sensitive. And some of the initial studies
12 are showing that juveniles and larvae are
13 also more sensitive to decreases in -- or
14 ocean acidification. Okay.

15 Reduced tolerance. In other
16 words, here is another stress on top of other
17 stress. Changes in fitness and survival,
18 that's the 'winners and losers' type of idea.

19 There will be differences. And I have some
20 data to show you about that.

21 Changes in species biogeography.

22 In other words, where will species be able to

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1 adapt and live? Changes to biogeochemical
2 cycles that Cathy just alluded to, changes in
3 food webs. That's the ultimate -- that's one
4 of the ultimate consequences that is of most
5 concern, and what might they be. We don't
6 know that yet.

7 Changes to the ecosystem and the
8 services provided, but the uncertainties are
9 great and there's a lot more work that needs
10 to be done. But the phenomenon is real. So
11 a little bit added on to that slide. Animals
12 with carbonate shells that form from calcite,
13 aragonite, those that live in shallow water -

14 -

15 MR. FLETCHER: John?

16 DR. STEIN: Yes. Certainly, Bob.

17 MR. FLETCHER: Will this lead to
18 changes in distribution because the animals
19 are realizing what they're --

20 DR. STEIN: Yeah.

21 MR. FLETCHER: -- and move to get
22 away from that?

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1 DR. STEIN: Well, they're either -
2 - either they're moving or in a certain area,
3 you know, they get extirpated in one area,
4 and then they're surviving somewhere else.

5 MR. FLETCHER: The reason I ask
6 that is that we've had this really strange
7 movement of Humboldt squid --

8 DR. STEIN: Um-hum.

9 MR. FLETCHER: -- in areas that
10 they hadn't been seen for 50 or more years.
11 I guess a lot of people have raised questions
12 about why that's happened, but nobody has a
13 great answer. I'm wondering whether this
14 could --

15 DR. STEIN: Well, I -- yeah, I
16 doubt if ocean acidification would be the
17 cause of this. But pH does affect, for
18 example, the ability of certain -- the homing
19 sense, homing abilities of certain animals.
20 In other words, changes in pH can affect
21 their ability to navigate, probably.

22 I'll allude to pteropods --

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1 they're cute little things; they swim like
2 this -- they're important food items, but
3 they have aragonite shells and they're pretty
4 sensitive to pH changes, carbonate changes,
5 and they're important food items. Clearly
6 crustaceans, crabs, lobster, shrimp, oysters
7 -- oysters are not crustaceans, sorry --
8 could be affected. We don't know to what
9 extent.

10 Corals clearly have been, as I
11 showed earlier. And because the saturation
12 horizon is not very deep, deepwater corals in
13 the North Pacific are at risk. And then the
14 whole interactions within the food web are
15 causing fin fishes to be affected because
16 their food is affected. And I've got a
17 little bit to show you.

18 So just -- then cut a little bit
19 -- okay. We are serious about this. People
20 are trying to develop systems to do the
21 really more elaborate experiments to
22 understand really environmentally-relevant

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1 changes in CO2, what's going on. So we're
2 trying to look from phytoplankton up in the
3 National Marine Fisheries Service.

4 And there are studies that show
5 that from a phytoplankton perspective there's
6 actually an increase, because it's like what
7 you've heard about terrestrial systems. If
8 you add CO2 to the atmosphere will that
9 increase plant growth. Well, phytoplankton
10 are plants of the sea, so to speak. So
11 phytoplankton does respond to increased CO2.

12 But do some respond more than others?
13 Changes in species dominance, those changes -
14 - that could have cascading effects on the
15 food web, that's why we're trying to build
16 ecosystem models to understand, well, if you
17 affect the species, how might it translate?
18 Then you need to go back to the field and
19 make the measurements to see if that's
20 actually occurring.

21 And then there's going to be an
22 interaction between temperature and CO2. And

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1 what does that mean? So, for example, here -
2 - which we haven't done this experiment yet,
3 but we have looked at data and harmful algal
4 blooms, as temperature increases their window
5 of opportunity, if you will, increases. In
6 other words, you have a greater opportunity
7 to have a harmful algal bloom at higher
8 temperatures because more of the season --
9 there is a larger season for those blooms to
10 occur.

11 If you then are decreasing the pH,
12 which increases phytoplankton growth, the
13 interaction between temperature and increased
14 -- or decreased pH could even further
15 magnify. So you get what is called a
16 synergistic effect. We don't know. And
17 these are the type of experiments that we
18 need to do and do well.

19 So that's actually a set of work
20 that's being done at the Northeast Fisheries
21 Science Center. So we're working in a
22 collaborative way among Science Centers

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1 within the Fisheries Service, so we're
2 working on in a collaborative way among
3 Science Centers within the Fisheries Service
4 to look at this issue. We think that's the
5 best way to approach it.

6 So this highlights some of the
7 work we're doing also in the National Marine
8 Fisheries Service. And it highlights what I
9 just talked about, that you need field
10 studies. So what does the ocean look like?
11 What is pH? And this is not -- some of you
12 who have never taken laboratory chemistry
13 courses -- this is not about taking a pH
14 meter and sticking it in seawater. That is
15 not accurate enough.

16 You have to do much different
17 types of measurements to calculate these
18 kinds of pH changes, because it's critical
19 that you have highly-accurate information
20 from the context of knowing what is changing
21 over time or not and how is it changing, you
22 know, across the region. So you need

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1 information about that. We need to
2 standardize and build exposure systems that
3 allow us to compare information across
4 different laboratories so that we can feed
5 models with better data.

6 We need to know basic things about
7 what the crustaceans and bivalves in a
8 region, what they're made of, what their
9 shells look like, to know sensitivity. And
10 then we need to develop these food-web
11 models, because it's not obvious. I don't
12 think it's obvious about how the effects
13 could cascade through the system.

14 So then you build your model, test
15 it. It says something. Come back. Do your
16 lab, your field experiments, redo those, have
17 that also influence your laboratory
18 experiments because you're going to find
19 certain things that are most sensitive in
20 these models. You need to verify and improve
21 that information. So that kind of cycle is
22 really important.

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1 So the idea that -- how does it
2 affect food webs? So this is the idea, that
3 coccolithophores are the food for copepods;
4 copepods are food for -- this example is
5 salmon. There's other examples. Pteropods -
6 - these little things, they swim -- are also
7 major food sources for juvenile salmon and
8 particularly pink salmon.

9 So some modeling efforts were
10 done. This just shows where different
11 species are found and dependent on the North
12 Pacific Ocean. This shows you the food web -
13 - or the diet -- sorry -- not the food web,
14 the diet of pink salmon. And what this box
15 shows you is that ocean acidification is a
16 minor or potentially a more major impact in
17 certain ways than temperature.

18 So a lot has been focused on
19 temperature. An increase in temperature
20 might lead to a three-percent drop in mature
21 salmon bodyweight, a physiological effect,
22 for example. Okay. This is from the

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1 bioenergetic model.

2 The change in diet or prey from
3 the effects of ocean acidification on
4 pteropods would lead to a ten-percent
5 decrease in pteropod production, would lead
6 to a 20-percent drop in mature salmon body
7 weight. In other words, ocean acidification
8 is at least equal to or potentially more of
9 an issue with respect to certain species --
10 than the pink salmon in this regard than is
11 increased temperature, because you are what
12 you eat. It's that simple.

13 So here is an example I think
14 someone brought up. So here is some more
15 recent research, that ecosystem change --
16 well, I mean -- I think, Bob, you're bringing
17 it up and others, what happens if this water
18 comes to shore -- and Steve brought it up as
19 well -- this is awfully close to your place,
20 Steve.

21 MR. JONER: Yes. I don't eat
22 mussels. I swore off acid.

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1 (Laughter.)

2 DR. STEIN: Yeah, these are out
3 there.

4 MS. LOWMAN: Yeah.

5 DR. STEIN: So what this shows is
6 that there has been a change. So the
7 increase in CO2 into the ocean is changing
8 the chemistry of the ocean. The PDO and
9 other factors that change how those waters
10 within the ocean reach the shore and can
11 affect the shoreline.

12 And what this shows is that there
13 has been a change, winners and losers. At
14 higher pH you have shelled, a lot of shelled
15 species. I mean this is not the model.
16 These are measurements at a site off Tatoosh
17 Island off the Washington coast.

18 You get a change to fleshy algae
19 and barnacles. In other words, other species
20 -- when species go away; others take over.
21 And it is recently published in the
22 Proceedings of the National Academy.

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1 And I think I talked about this.
2 I won't spend a lot of time on it. But
3 basically this is just showing what Cathy
4 brought up, is that you have CO2, you get
5 blooms. It's a normal cycle. It drops.
6 Some of it gets re-mineralized. In other
7 words, the organic molecules, you know, react
8 and get oxidized, get turned into CO2 again.
9 So that's the interaction between hypoxia.
10 So you get some release then of CO2 at depth.

11 I can speak to some of this. And
12 certainly Bill has been very engaged in this
13 issue. It's that there has been failure of
14 larval oyster recruitments in recent years in
15 the Pacific Northwest, both in the field and
16 at hatcheries that supply a vast majority of
17 the industry with juveniles for their
18 sustenance, if you will.

19 One thought was that vibrio
20 tubiashii, a pathogen, was a factor, but
21 there were certain things that weren't
22 aligning with that question, so people

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1 started to think about other things and
2 started looking at data that perhaps low pH
3 waters were a factor as well.

4 And in the last couple of years,
5 not this year, the impact on them has been
6 near complete failure in ability to raise
7 juvenile oysters, and it appeared to be
8 related to water quality. So are larval
9 oysters, in a sense, a canary in a coal mine
10 for near-shore ocean acidification, as well
11 as having the point that ocean acidification
12 could be having a significant impact already
13 on commercial industries.

14 So, again, a point that it was
15 both in the wild as well as at the
16 hatcheries. They're taking actions now to
17 try to figure this out. We're trying to
18 help, others are trying to help to figure out
19 why it is going on, what is going on, and
20 what should be done.

21 And this is just to show, from one
22 of Bill's sites, measurements of pH at that

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1 site. And, one, it also is to emphasize
2 these kinds of data, these kinds of
3 monitoring data, are important to have. And
4 you can see these dramatic excursions, if you
5 will, to low pH. And so the question is --
6 well, I mean nobody's asked this yet, but I
7 suppose it's out there. So, hold it. If you
8 see this kind of data, this hasn't just
9 started in the last five years. Okay.

10 You get excursions of pH in the
11 coastal areas for a variety of reasons, and
12 so why should we be concerned? I mean,
13 haven't species adapted to this? The point
14 is, is that, yeah, they have adapted to some
15 pH changes. They've had to. But the length
16 of the excursion, the depth of the excursion,
17 and how long it lasts is lasting longer.
18 Have they adapted? Are they able to adapt to
19 that increased stress? That we don't know.
20 And certainly in other situations we would
21 say that they likely aren't able to, have not
22 adapted. So that's another kind of

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1 experiment that needs to be done that hasn't
2 been done is, in a sense, doing exposures
3 with this kind of regime. Sudden swings,
4 change of how long they're at different pHs.
5 And that could have a dramatic effect.

6 Steve.

7 MR. JONER: Just before the slide
8 I was going to ask: What is the effect of
9 runoff? To me this is the --

10 DR. STEIN: Sure. Yeah. No,
11 there is -- there is --

12 MR. JONER: -- this is Washington
13 weather here.

14 DR. STEIN: You're right. Winters
15 are bad. And discharge from freshwater
16 systems also affects the growth. So, again,
17 you've got another interaction between that.
18 So --

19 MR. DEWEY: This is relative to
20 that.

21 DR. STEIN: Yeah, go ahead, Bill.

22 MR. DEWEY: Steve -- there's

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1 actually a published study out on the East
2 Coast of the United States where you have
3 more acidic runoff from the river water.
4 Feely's work is more closely to ocean
5 acidification.

6 DR. STEIN: Right.

7 MR. DEWEY: This project on the
8 East Coast actually looked at the estuarine
9 acidification and saw some very dramatic
10 effects associated with the acid rain and
11 runoff in the estuaries.

12 I might, maybe while I have the
13 floor just elaborate --

14 DR. STEIN: Sure, absolutely.

15 MR. DEWEY: -- a little bit. I
16 mean this is obviously a huge issue for our
17 industry. As you saw in the earlier slides,
18 the Northwest Pacific Ocean is one of the
19 areas being most dramatically affected. And
20 it has had a dire consequence on our
21 industry. And whether it is ocean
22 acidification or this vibrio tubiashii, we're

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1 still trying to sort that out.

2 But we've essentially had seed
3 failures in the industry for four years
4 running now. And there's a pretty good
5 segment of our industry that relies -- in
6 Wilipah Bay, one of our major producing
7 areas, the Pacific oyster is naturalized out
8 there. And so a lot of the growers depend on
9 catching seed from the wild as opposed to
10 hatchery-produced seed.

11 And those natural sets have
12 totally failed for the last four years. So
13 those growers are just about out of oysters
14 and out of business. And then one of the
15 main hatcheries in Netarts Bay, Oregon
16 produces about 80 percent of the larvae for
17 the West Coast. Their production was off 80
18 percent last year and that's been comparable
19 the years prior. Last year was probably the
20 worst.

21 This year they're having some
22 success on at Netarts, but it's been

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1 intermittent. Our hatchery -- this picture
2 is -- you know, we've been plagued, as well.

3 Our oyster production has been off 50 to 60
4 percent. This year we're having a little
5 better luck. Something's changed in the
6 ocean conditions this year. We're having
7 some better luck.

8 But I know the Whiskey Creek folks
9 this year, you know, they're tracking
10 upwelling and pH a lot more closely than they
11 have in the past. And as soon as they get an
12 upwelling event, they're seeing the pH drop
13 to as low as 7.5 and all the oyster larvae in
14 the hatchery crashes.

15 And they've been able to adjust
16 the pH. I mean logically in a closed system
17 in a hatchery you'd think you could play
18 around and change the pH, which they can.
19 And that seems to be effective for producing
20 mussel and clams seed. But for oyster seed
21 there is something still different in the
22 ocean chemistry, and the oyster seed still

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1 fails. And that's, you know, that's a big
2 segment of our industry. Those other species
3 are smaller segments of our industries. So
4 we appreciate NOAA's help.

5 We've got -- we met with Steve
6 Murawski and obviously John and the folks at
7 the Mountlake Lab. And they're trying to
8 help as they can. And we've got a number of
9 other scientists on the West Coast engaged on
10 the problem, but -- Dick Feely was the
11 keynote speaker at our Shellfish Growers
12 Conference last fall. I missed his talk. I
13 walked in just after it, and it was like
14 someone had dropped a bomb. You know, I mean
15 there were some very sad, long faces in the
16 room. He was not painting a very good
17 picture for our industry at all.

18 MS. FOY: John, if you don't mind

19 --

20 DR. STEIN: Yes.

21 MS. FOY: -- if I direct a
22 question to Bill?

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1 Are you seeing any reduced fitness
2 indicators in the adults, is there reduced --

3 MR. DEWEY: That's a good
4 question.

5 MS. FOY: -- reproductive
6 potential or --

7 MR. DEWEY: So, as I think John
8 pointed out earlier, some of the larval
9 stages are probably more vulnerable. And the
10 reason for that is bivalve mollusks use two
11 different forms of calcium carbonate. As
12 juveniles they use aragonite and as adults
13 they use calcite. And the calcite is less
14 prone to erosion from the acid waters than
15 the aragonite. The aragonite is most
16 susceptible, so the larval stages are where
17 we're seeing the effects.

18 DR. STEIN: And so I think Bill --
19 Jim.

20 VICE CHAIR BALSIGER: I'm sorry, I
21 missed a little bit of this. But early in
22 your presentation, one of the few places I've

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1 seen where you have dollar values, and you
2 attributed this to the shellfish industry.
3 But, of course, as you pointed out, once all
4 of the shelly-type animals are gone, that's
5 just the start of it --

6 DR. STEIN: Exactly. No, exactly.

7 VICE CHAIR BALSIGER: -- so that
8 that number that you have attached to this
9 industry, as devastating as it could be for
10 people like Bill, that's just the start of
11 it, so --

12 DR. STEIN: It's the canary --

13 MR. DEWEY: Very literally, you
14 know, the canary in the coal-mine scenario is
15 true. I mean we're the first industry being
16 directly -- potentially directly affected by
17 it. But there's no question, when you take
18 out the base of the food chain, it's going to
19 change all the fisheries up and down the
20 coast and throughout the ocean eventually.

21 DR. STEIN: So -- and that's why -
22 - so Bill brought out, I mean it's a good

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1 example. I mean, you know, just in the three
2 species he talked about he's seen very
3 different responses. And so the question is
4 why. And we've done experiments really that
5 are just to look at what Bill alluded to,
6 well, does aragonite dissolve, does calcite
7 dissolve.

8 But calcium transport and calcium
9 is highly important, very important in
10 homeostasis in cells. And if you affect some
11 of those critical pathways by changes in pH
12 then, for example, there's people starting to
13 think about, well, what about calcium as
14 important for completing the reproductive
15 cycle of very, very small copepod larvae.

16 So if you altered that, as Jim
17 said, and stopped copepod production, that
18 would not have a good effect. So, actually,
19 is this the tip of the iceberg. This -- I'm
20 not saying that this decline is due to ocean
21 acidification. What I'm trying to say here
22 is that it's now -- we have to consider, I

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1 think, -- the weight of evidence suggests
2 that we must consider ocean acidification as
3 a potential contributing factor, at a
4 minimum, in some of these declines that we've
5 contributed to other things.

6 And I said, as Bill mentioned, I
7 mean some of the lowest levels that Dick
8 Feely has ever measured on pH have been found
9 in Hood Canal. And the author of this,
10 Randy's from the Point No Point Treaty
11 Council that, you know, degraded
12 environmental conditions. Well, we don't
13 know exactly what that means, but the point
14 is, I think, ocean acidification changes pH.

15 It has to start to be factored in and looked
16 at as a potential causative factor.

17 So, to wrap up some of this
18 uplifting science, is that there is -- much
19 of our present knowledge stems from what we
20 call abrupt perturbation experiments. You
21 know, I mean it's -- it reminds me of
22 toxicology 25 years ago, aquatic toxicology

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1 25 years ago. We were kind of ham-handed
2 using big hammers. We're not too fine yet.
3 We need to do some more sophisticated
4 experiments.

5 We've done single species and
6 strains. We've done it under short terms and
7 with often grade stream pH changes. That
8 gives you range-finding information, but it
9 doesn't give you good information to build
10 good models, for example.

11 We need to know more about
12 responses of genetically-diverse populations,
13 both different species as well as different
14 strains of species. That could give us
15 information about who could be the winners,
16 who could survive better.

17 Synergistic effects and effects
18 with other stress factors, the idea of
19 interaction between temperature and changes
20 in pH with, for example, toxic phytoplankton.

21 Adaptation, physiological and
22 micro-evolutionary. I mean we can't -- what

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1 rate could certain species adapt to this, or
2 not.

3 The issues on species replacement
4 and then community ecosystem responses. And
5 then are there any feedbacks that could
6 exacerbate climate change.

7 So to wrap this up, our imprint on
8 the ocean I think is clear. I mean the IPCC
9 report is about as definitive statements that
10 you can get that it has happened. We're
11 warmer; we're more acidic. We're probably
12 less diverse.

13 Since the beginning of the
14 industrial age, just to summarize, the pH has
15 declined one pH unit; carbonate ion about 16
16 percent; and the saturation of aragonite and
17 calcite states about a 16-percent decline.
18 And that is very clearly, very likely due to
19 uptake of anthropogenic CO2 by the ocean and
20 that by the end of the century it could be as
21 much as .4 pH unit.

22 So possible responses at the

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1 ecosystem level are speculative and it could
2 affect marine food webs, commercial
3 shellfish, as we just talked about, but we
4 need more research on impact and
5 vulnerabilities to really understand it.

6 And I really can't stress more
7 that we need an observational network to look
8 at this. And it's under consideration.
9 We're planning it, certainly for the West
10 Coast, modeling studies that are expanded to
11 the coastal regions, and then more
12 sophisticated physiological research to
13 understand mitigation and adaptation as well
14 and that the estuaries need to be included as
15 well.

16 So what are we trying to do? I
17 mean this is important. We at an ad-hoc
18 level, not by, you know, Jim or others having
19 to say: You guys need to get together.
20 Well, we've gotten together across NOAA and
21 have started to work, to coordinate what
22 we're doing, first, to learn who is doing

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1 what. And then we're developing a national
2 plan that will have regional chapters for how
3 we will address ocean acidification. And the
4 Gulf, even though it was wise on the other
5 side, Larry, it's definitely included.

6 MR. SIMPSON: Good.

7 DR. STEIN: So we want to
8 characterize the threats, develop a
9 monitoring capacity, develop and improve
10 forecasting capabilities, develop adaptive
11 management tools to the extent that we can
12 and with an ecosystem context. And this,
13 just -- I won't go through them, but we're
14 looking at a number of things to repeat this
15 type of event so we will really know globally
16 what was happening to carbon in the oceans,
17 where it's going, technology to improve both
18 measurements and the ability to do the
19 research, remote-sensing applications to the
20 extent we can. And then the modeling and
21 environmental research.

22 So -- yeah, go ahead. Steve.

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1 MR. JONER: Oh, go ahead.

2 DR. STEIN: Okay. Do you want me
3 to stay here, or just keep going?

4 MR. JONER: Well, I don't know
5 when to jump in here. Go ahead and finish.

6 DR. STEIN: Okay. Finish -- then
7 you're going to whack at -- okay. Okay.

8 So the status of legislation --
9 so, anyway -- so we're hoping to have a
10 workshop, another workshop -- we had a
11 workshop a year, year and half ago we had a
12 workshop in March of our group. People are
13 writing chapters now. We hope to have
14 something done in July-ish, have another
15 workshop and have that available.

16 One reason we're working hard is
17 that the status of the legislation as part of
18 a huge bill, the Omnibus Public Land
19 Management Act, and there is section -- part
20 two: NOAA Underseas Research Program Act of
21 2009, subtitled D is the Federal Ocean
22 Acidification Research and Monitoring Act,

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1 which was passed and signed in March. So
2 it's to establish an interagency committee to
3 develop a research and monitoring plan. So
4 we're trying to get a leg up on that part and
5 to establish an ocean acidification program
6 within NOAA.

7 So the purpose of that Act, the
8 FOARAM Act, develop- -- as summarized here --
9 development and coordination of a
10 comprehensive interagency plan -- the other
11 name agency in the Act is the National
12 Science Foundation -- to monitor and conduct
13 research on the process and consequences of
14 ocean acidification, establish an interagency
15 program, establish an ocean acidification
16 program in NOAA. I think that makes sense.
17 NOAA is pushing to have a national climate
18 service. As I said, ocean acidification,
19 global warming -- and the warming are, you
20 know, the twins in climate change.

21 And then assessment and
22 consideration of region and national

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1 ecosystem impacts are a part of this Act,
2 which certainly makes sense. And then
3 research adaptation strategies and techniques
4 to effectively conserve marine ecosystems as
5 we try to cope with this.

6 So in the Act is authorized at
7 eight million in 2009 for NOAA up to 20
8 million in 2012. For NSF is authorized at
9 six million in 2009, working its way to
10 15,000,000 x 2012. I think that there would
11 be some money in 2010. I think Sam showed
12 some of that. And we'll see.

13 So where do we go with the policy
14 perspective on this? Adaptation, I think
15 there certainly clearly two aspects that have
16 always been talked about with climate change:
17 Adaptation and mitigation.

18 Adaptation, what I'm trying to say
19 here is that you need the framework for
20 someone, as we talked about yesterday,
21 someone such as NOAA, to be the authoritative
22 voice about what is actually happening or

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1 not. So you need the observation network.
2 You need state-of-the-art ecosystem models.
3 You can start to think about spatial hazard
4 assessment, the other side of marine spatial
5 planning. In other words, some places are
6 more sensitive than others. Where are they?
7 What do we know about them? How do we
8 characterize them? And then the
9 infrastructure to be that authoritative
10 decision support entity, and I think NOAA is
11 the place for that, but then I'm biased.

12 Mitigation, global phenomenon.
13 You know, you can jump to the bottom. We
14 have to probably change the way we do
15 business. But is it feasible, perhaps, if
16 there's a key site that is just critical to
17 certain species for, let's say, spawning,
18 could you actually buffer that site, in other
19 words, add limestone?

20 MR. DEWEY: Like we did in lakes.

21 DR. STEIN: Like we did in lakes,
22 yeah, acid rain. Like we did in lakes.

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1 Hatchery agriculture facilities,
2 informed siting. Are there better places to
3 site certain facilities that would reduce the
4 impact of ocean acidification, as in an
5 upwelling area where the corrosive waters are
6 going to vary.

7 MR. DEWEY: Specific to that one,
8 John?

9 DR. STEIN: Yes.

10 MR. DEWEY: For the West Coast
11 there's only -- there's maybe three main
12 hatcheries that supply the whole West Coast
13 industry.

14 DR. STEIN: Right.

15 MR. DEWEY: These are multi-
16 million dollar facilities that are what they
17 are.

18 DR. STEIN: I know.

19 MR. DEWEY: And it's not practical
20 to consider --

21 DR. STEIN: Moving?

22 MR. DEWEY: -- relocation, you

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1 know. Some of the options we're considering,
2 obviously, are your semi-closed system. So
3 there are things you can do controlling your
4 water chemistry --

5 DR. STEIN: Right.

6 MR. DEWEY: -- and actually trying
7 to move us, from a technology standpoint one,
8 of the things we're looking at doing is going
9 to totally enclosed re-circulating
10 hatcheries.

11 DR. STEIN: Right.

12 MR. DEWEY: I mean they've done
13 that in other aquaculture. There's no reason
14 we can't get there with shellfish. We just
15 don't have the technology.

16 DR. STEIN: It's a good point.

17 And that's a good --

18 MR. DEWEY: We're optimistic, from
19 a science standpoint, that we may be able to
20 get there from a hatchery standpoint if we
21 can get through that aragonite formation in a
22 closed system and get them out.

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1 DR. STEIN: Right.

2 MR. DEWEY: You know, we'll have
3 some time to still survive before it gets so
4 bad that the adult shells are ruined as well,
5 but for the industry that depends on natural
6 sets in the wild, they're kind of dealing --
7 and for them it's adapting them to use
8 hatchery seed, which is also certainly an
9 option.

10 DR. STEIN: And that's a good
11 point. I should have probably put that on
12 here. The technology and technology
13 development is a key to mitigation. Similar,
14 I mean, you could buffer, you know, critical
15 shellfish beds.

16 I mean, it's -- Martin.

17 MR. MARTIN FISHER: Is there
18 anything that you can -- you said the
19 addition of limestone to the water table
20 creates the effect that you want?

21 DR. STEIN: Well, it increases the
22 buffering capacity.

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1 MR. MARTIN FISHER: So could you
2 not -- I mean I know this is really
3 simplistic and nonscientific, but couldn't
4 you take the idea of like smokestack
5 scrubbers --

6 DR. STEIN: That's -- that's the
7 reduced --

8 MR. MARTIN FISHER: -- and do that
9 in the ocean or in --

10 DR. STEIN: Oh.

11 MR. MARTIN FISHER: -- or at least
12 in the estuaries? I mean couldn't you like
13 implant --

14 DR. STEIN: I don't think so.

15 MR. MARTIN FISHER: -- like --

16 DR. STEIN: I can't see that one.

17 That one, no.

18 MR. MARTIN FISHER: No?

19 DR. STEIN: No, you'd have to -- I
20 think it has -- that has to come to the -- I
21 think I just the reduced emissions. I think
22 that's reducing the level in the atmosphere.

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1 MR. MARTIN FISHER: So you
2 couldn't take limestone --

3 DR. STEIN: No. The only way you
4 reduce it is by the limestone, by increasing
5 the buffering capacity.

6 MS. FOY: But my understanding,
7 John, is that the deepwater is the problem
8 and very old water, like you say, 50 years.

9 DR. STEIN: Well, we have a --

10 MS. FOY: So we have a problem
11 that is going to crop up, --

12 DR. STEIN: Yes. Yes, exactly.

13 MS. FOY: -- even if we reduce
14 emissions now, for the next 50 years --

15 DR. STEIN: You're right. Even if
16 we start right now --

17 MS. FOY: -- we've got problems?

18 DR. STEIN: -- if we stopped
19 everything right now, just -- there is this
20 lag; we are not at equilibrium. So it's --
21 there's this -- you put this pressure, and
22 it's responding, and it's not like in a

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1 beaker, it's not like this. It doesn't,
2 swish, mix quickly.

3 MR. MARTIN FISHER: So what if you
4 were to introduce the limestone, add strata,
5 couldn't you -- like in the container ships -
6 -

7 DR. STEIN: These are the things -
8 - these are the things that need to be worked
9 on, Martin, and thought through and modeled
10 and evaluated as to whether or not they are
11 ecologically and economically feasible.

12 MR. SIMPSON: John, I'll tell you
13 one thing. We have put tons of limestone in
14 the Gulf --

15 DR. STEIN: Yeah, I heard you.

16 MR. SIMPSON: -- for
17 rehabilitation. I think you ought to check
18 and see if there is any data you could learn
19 about that.

20 DR. STEIN: I know, I -- there's -
21 - right.

22 MR. SIMPSON: Crushed limestone

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1 has just going back in there by the barge.

2 MR. BILLY: John, I have a
3 question for you.

4 DR. STEIN: Do I have to have an
5 answer.

6 MR. BILLY: I want to pick three
7 different situations. One is New England
8 groundfish. And while I recognize there are
9 many factors that contributed to the current
10 status of the stocks, but let's just say New
11 England groundfish, the Chesapeake Bay and
12 the situation with regard to oysters, and the
13 Gulf of Mexico and the problems with hypoxia
14 at certain times of the year in the area, has
15 there been or is there now research underway
16 in NOAA or other government or state agencies
17 of looking at the role of ocean acidification
18 in those situations and trying to determine
19 whether acidification played any significant
20 role in what we currently have to deal with
21 --

22 DR. STEIN: I think in those three

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1 I would say no. I think in any real direct -
2 - I think probably people are now, and in
3 certain places, starting to think about --
4 just like I tried to indicate with the crab
5 slide is that now it's -- we really have to
6 put it on -- explicitly put it on the list
7 and think about it in certain situations.

8 In certain places it's not going
9 to be an issue. In the North Atlantic the
10 saturation depth is very, very deep. It may
11 not be as big a question. But, again, --

12 MR. BILLY: Should there be that
13 kind of a retrospective examination using --

14 DR. STEIN: Well, there --

15 MR. BILLY: -- existing data to
16 better understand --

17 DR. STEIN: For those kinds of
18 specific questions? Certainly retrospective
19 studies are always good, absolutely. They
20 can teach you a lot.

21 In those three examples you gave,
22 I'm not sure ocean acidification would rise

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1 to the top as a major factor, because there's
2 others that are clearly driving.

3 MR. BILLY: Fair, fair enough.

4 But that would be good to know.

5 DR. STEIN: Right. I mean the
6 other side of it, I guess, is that if you
7 look at something like ocean acidification,
8 global warming, those two little level types
9 of stress that are global, that we all can't
10 control as individual countries, but there
11 are other stresses to systems, to ecosystems
12 that we have more control over, perhaps we
13 need to redouble our efforts to reduce their
14 impacts because we have these other kinds of
15 stresses that are putting stress on our
16 valued resources. That's how, I think, some
17 of us are starting to look at it.

18 MR. BILLY: Beyond the money that
19 was talked about for 2010, is there -- is
20 this what the planning effort is about, you -
21 -

22 DR. STEIN: Well, that's -- I mean

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1 we certainly hope that that will help
2 influence that. I mean -- and we've got
3 indications, I think, right, that -- yes,
4 we're trying to indicate that and trying to
5 indicate what is a true -- I mean there have
6 been interagency groups and the Ocean Carbon
7 Board -- I think I did that right -- that
8 it's about a \$50-million program for the U.S.
9 to have a network of buoys monitoring and
10 research to understand this at a national
11 level. That's the estimate.

12 So part of the planning is to try
13 to put real meat on that bone, have a global
14 view of it, and then look at the regional
15 aspects and what is needed in each region of
16 the U.S. based on sort of a larger Marine
17 ecosystem structure.

18 MR. BILLY: Heather.

19 MS. McCARTY: One of the things
20 that we're looking at in Alaska is the effect
21 of ocean acidification on crabs, particularly
22 blue and red king crabs.

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1 DR. STEIN: Mike Zigler. Right.

2 MS. McCARTY: I have -- one of my
3 clients is a crab processor, and we're
4 involved in a relatively large study that is
5 testing the effects, the physiological
6 effects of -- I think that's a big piece of
7 the puzzle, not just the monitoring --

8 DR. STEIN: No, exactly. No, no.

9 MS. McCARTY: -- to what's
10 happening in the water, but how are those
11 individual changes --

12 DR. STEIN: Point -- right.

13 MS. McCARTY: -- affect individual
14 species and at what stage.

15 DR. STEIN: Right.

16 MS. McCARTY: So we're testing
17 crab larvae in the NMFS Lab --

18 DR. STEIN: Right.

19 MS. McCARTY: -- in Kodiak.

20 DR. STEIN: Right. So that's --

21 MS. McCARTY: It's quite a big
22 deal.

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1 DR. STEIN: Right. So we're
2 working -- that's why this group, like Mike
3 Zigler, ourselves, Beth -- I just forgot her
4 last name -- from Northeast. We're trying to
5 coordinate our studies, so that the results
6 we have on those kinds of experiments are
7 very comparable, very compatible. So it's
8 been a good group.

9 MR. BILLY: I guess we better move
10 on.

11 DR. STEIN: Yes. Steve, do you
12 want get this?

13 MR. JONER: Could we just wrap up
14 with -- I'd like to see us sometime develop a
15 statement, a real strong statement of what
16 really needs to be done here. And, you know,
17 I'm thinking of the sanctuaries, for example,
18 and the fact that this article that was done
19 on the mussels in Tatoosh Island, you know,
20 it was right in the sanctuary. And this is
21 really something the sanctuaries should focus
22 on, really do some intensive research into a

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1 lot of these, a lot of these current issues,
2 such as acidification. And instead so much
3 of the focus is on, oh, well, there's
4 problems in the ocean. It's got to be the
5 fault of the fisheries, so let's start
6 restricting fisheries.

7 And, you know, bless your heart,
8 Tom, last night for that dinner, but I read
9 some things there that I don't think we're
10 totally accurate. And blaming the fishery
11 for the collapse of the sardines in 1947 --
12 and Jim's older than me, I was born right
13 after the collapse, so I think it's his
14 fault, but --

15 (Laughter.)

16 MR. JONER: I was born in an
17 anchovy regime. You know, that wasn't the
18 fishery that did it. They disappeared coast-
19 wide. Areas --

20 DR. STEIN: Oh, yeah, North
21 Pacific wide.

22 MR. JONER: Yeah. And then seeing

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1 the slide about the pink salmon, for years
2 I've been hearing the fishery is selecting
3 the larger pinks, and the pinks are getting
4 smaller because of the fisheries. I never
5 quite figured that one out, because the gill
6 nets use a specific size. And it wasn't
7 showing up in other species, so maybe there's
8 the reason why. We have 50-year-old water at
9 the bottom of the ocean. This has been going
10 on long enough to influence it.

11 We need to get the focus off the
12 fishery and onto what's happening to the
13 resource. And, you know, this is the place
14 to really start the message, I think.

15 MR. BILLY: Steve, this afternoon
16 at 3:45 the Ecosystem -- and perhaps adding
17 the word "Climate" -- Subcommittee will have
18 the opportunity to pick up on your idea and
19 perhaps draft for the Committee, full
20 Committee, some language along the lines you
21 suggested, so you might want to be thinking
22 about that and help in that regard.

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1 DR. STEIN: So just one, Steve.
2 Members of the Sanctuary are involved in our
3 Waistcoat closed writing team so that we get
4 everybody involved. So this is really trying
5 to make it a NOAA effort, not a...

6 MR. BILLY: Okay. We're going to
7 move on now. Our next speaker is Tom
8 Bigford, who is going to focus on another
9 component of this multi-sector ocean use of
10 governance, and that is the role energy
11 plays. Tom.

12 MR. BIGFORD: Thank you, Tom.
13 Hopefully this won't be nearly as depressing.

14 (Laughter.)

15 MR. BIGFORD: I don't know if it
16 will be uplifting, but maybe some part of it
17 will be encouraging. Certainly NOAA has got
18 a good story to tell, because we've been so
19 engaged in it. And there will be no organic
20 chemistry in any of these slides. I assure
21 you of that. I vowed that I would never
22 touch it after I got out of college, so I'm

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1 not going to expose you to it.

2 But a brief overview. My overall
3 intent here is to familiarize you with some
4 of the traditional energy issues that NOAA
5 has been facing, that all of you have been
6 facing in your personal lives, and then talk
7 a lot more about the renewable energy issues,
8 especially ocean renewables and connect all
9 of that to NOAA's mandate.

10 Included in here are some things
11 that aren't really energy but get lumped into
12 it, like the transportation of liquefied
13 natural gas in the ocean. It's not an energy
14 issue at all, other than that an energy
15 product is the cargo. So it gets thrown into
16 this pile, and I'll talk about it a little
17 bit.

18 But I won't explain NOAA's
19 mandate, how NOAA gets involved through these
20 various efforts. NOAA knows an awful lot
21 about the Earth, and this is a big Earth-type
22 of challenge, because a lot of these

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1 materials come in. And systems are coming to
2 the United States from other countries.

3 But NOAA's got products and
4 services. We got many statutory authorities
5 and mandates, most of which relate to our
6 regulatory authority. But other agencies
7 recognize that; the industry has recognized
8 that. And one of the big, rewarding aspects
9 of this and the only other area where I can
10 say we've got a similar-type of relationship,
11 but not quite as Bill does, the way we worked
12 together on shellfish aquaculture a decade
13 ago in developing a code of practice, a code
14 of conduct for the shellfish growers.

15 In this arena the industry is also
16 coming to us -- they have to come to us
17 because they know so little. Most of the
18 people who are -- thank you, John (microphone
19 moved closer) -- most of the people who are
20 behind ocean renewables, especially, but also
21 some of the traditional energy users, they
22 are engineers and they are designing systems,

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1 but they don't know anything at all about
2 what most of you practice in. They're not
3 familiar with the fishing industry; they're
4 not familiar with fish. They're not familiar
5 with the places that the fish live.

6 So they propose to put their
7 gizmos in places like National Marine
8 Sanctuaries, and they don't have a clue.
9 They propose to put them at the mouths of
10 major rivers where the Agency and society
11 have invested billions in salmon recovery,
12 for instance, and they don't even think of
13 salmon. They are looking at water. Water is
14 their commodity and sometimes wind, but
15 that's about it.

16 So just to give you a little bit
17 of background here, the National Marine
18 Fisheries Service has been very engaged in
19 this for about three years. We saw this on
20 the horizon, redirected about 50 percent of
21 the effort in the division that I'm in, which
22 focuses on habitat protection. We had been

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1 working on other issues, like dredging in
2 ports and harbors, ocean acoustics, wetland
3 loss. And we shifted our focus quite a bit
4 towards mostly ocean renewables, but also
5 traditional energy, too.

6 The timing has worked out very
7 well because the new administrator,
8 Lubchenco, has shown an interest in this.
9 She's already been briefed. The NOAA Ocean
10 Council, which is upper-level NOAA folks from
11 across all the line offices, they're very
12 engaged. We've briefed them several times.
13 There is an NOAA energy team that the
14 National Marine Fisheries Service co-chairs,
15 and a National Marine Fisheries Service team
16 that we do chair, and a website that's posted
17 on the bottom of every one of these slides
18 that includes a lot of information.

19 We're talking with people around
20 the country, across NOAA, and across federal
21 agencies because that's the only way to move
22 forward on this. So this really does fit

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1 Mark's definition of subjects that are cross-
2 sectored and involve future ocean uses.

3 MAFAC can get involved for a lot
4 of different reasons here. And some of them
5 are listed on the slide. The key is the
6 connection to fisheries. Clearly there are
7 economic and ecological implications mostly
8 associated with displacement as a new
9 industry is basically moving into the ocean
10 starting at the coast, but moving offshore.

11 There is an awful lot of talk of
12 facilities -- and I say, "facility," in a
13 different sense. It could be hundreds of
14 individual piston-type systems or ocean-
15 energy collection devices in a field that
16 might take up tens or hundreds of square
17 miles. It could be a grid; it could be an
18 arc; it could be various shapes that have an
19 effect on things like access to the area,
20 navigation through, the ability to fish near.

21 They all would be tethered to the bottom
22 somehow.

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1 Obviously the Department of
2 Defense will have a few things to say about
3 this, but they usually come in very late and
4 just say no, not there; move. But there is
5 an opportunity for a lot of you to share your
6 advice far sooner than we'll hear from the
7 submarine drivers. And I say, "we," in a
8 huge sense. NOAA is trying to provide
9 spatial advice on where to be and not to be,
10 mostly based on where the fish are and where
11 the habitat is, but there's a lot of other
12 activities, too.

13 Certainly there are habitat
14 implications from both individual facilities
15 and larger. There are cumulative impacts.
16 And in the protected species arena, some of
17 these devices are probably the worst thing
18 that you could possibly see if you happen to
19 be something like a right whale where there
20 are underwater propellers that capture energy
21 from currents, for instance, off the coast of
22 Florida and in other places, pinch points

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1 where a lot of species migrate.

2 Now you've seen -- in your
3 materials there was a map, and I know you
4 can't see it from here, but look at the map
5 and see where these sites are and realize
6 that there are hundreds of sites, some of
7 which have already been granted issues or
8 permits -- licenses or permits; others are in
9 the works. But there's an awful lot of
10 activity in areas that are near where a lot
11 of you are interested.

12 NOAA's statutory responsibilities
13 are huge. I'm not going to go through this.

14 But some of them require us to basically
15 consult with other agencies. Sometimes it's
16 a far stronger role than others, like the
17 Endangered Species Act and the National
18 Marine Sanctuaries Act. Sometimes we provide
19 -- we have strict guidance on what can
20 happen, and sometimes we're just providing
21 advice, but the key is that this is taking up
22 an awful lot of time. All of these mandates

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1 are requiring that we work with the other
2 agencies and the industries to try to get our
3 hands around this early, rather than late.

4 I've been working in the Habitat
5 Program for 33 years, and this was -- I think
6 this was the first time we had a chance to
7 get involved with an industry beforehand.
8 Usually we're sanctuaries behind the curve,
9 like coastal development. That was dictated
10 by where people started to settle from
11 colonial times.

12 But here the industry was coming
13 to us and the other agencies were coming to
14 us asking where, and when, and how, and with
15 really no plans at all in paper. So we had a
16 chance to talk with them and move them away
17 from places or towards places that may or may
18 not be a little bit better, but at least we
19 were around the table. It was very
20 refreshing and very rare.

21 The only other arena where we
22 might have a chance to do that is offshore

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1 aquaculture, which is evolving at about the
2 same time. There are an awful lot of lessons
3 here, I think, that apply in offshore
4 aquaculture with the information. A lot of
5 the same information, the same as spatial
6 products will help.

7 So getting into the energy issues.

8 Traditional energy, you can see them listed
9 there. Oil and gas is moving into frontier
10 areas. They're moving into deeper areas.
11 LNG, which really isn't energy, but it's
12 being -- it's being floated in tankers to
13 various places around the country where new
14 offshore facilities and, in some cases,
15 onshore facilities are being built.

16 Hydropower, getting up into
17 rivers. This is not just in the ocean.
18 There is huge opportunity to influence
19 habitat and fisheries sources through getting
20 involved in hydropower where NOAA has a very
21 strong mandate. If we make recommendations
22 for fish passage at a hydropower facility,

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1 FERC has got to accept those recommendations
2 or the license isn't issued. It's as strong
3 as the Endangered Species Act. The Agency
4 doesn't use it as often as we should, because
5 we don't have the science to support the
6 passage recommendations. We've got best-
7 available science, and sometimes that's not
8 enough to bolster our opportunities to use
9 it.

10 Nuclear power is starting to make
11 a resurgence. I'm not sure what's going to
12 happen there, but at least there's talk about
13 new coastal nuclear power plants, which we
14 haven't heard in decades.

15 Alternative uses -- this is where
16 a lot of the new action is. Offshore wind,
17 it's mostly near-shore right now. There's
18 not the engineering to tether the systems or
19 get the energy connected to the grid. So
20 it's mostly near-shore, but they're thinking
21 offshore.

22 Hydrokinetic, this is big, too.

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1 It's ocean current, tidal wave. An in-stream
2 is anywhere where the water is moving, which
3 could be in the discharge pipe of a nuclear
4 power plant, of any power plant; or a sewage
5 treatment plant, or anyplace else that the
6 pinch point and the water is moving fast.

7 NOAA has a mandate on OTEC. Not
8 much has happened there for the last couple
9 of decades, but in the island communities
10 where there's really deep, cold water right
11 near shore, there's the temperature
12 differential of at least 40 degrees that
13 makes that reasonable. So there is talk
14 about OTEC in some places. And NOAA's got
15 the mandate there. We actually have a
16 mandate to regulate that.

17 Just to give you an idea of some
18 of these -- the traditional sources, it's the
19 same things that NOAA has been coping with
20 since 1970, when we were created. Very
21 strong role in the hydropower in the lower
22 right. A very important role in LNG, because

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1 each LNG facility can use tens of millions up
2 to several-billion gallons of water every day
3 as they cool -- as they warm, for an example
4 -- sorry -- but as they warm the liquefied
5 natural gas into a gas so that it can be put
6 into the pipelines to get around the country.

7 And power plants, offshore facilities, just
8 an awful lot of activity associated with
9 traditional.

10 With alternative, some of the
11 impacts are a little bit different. It
12 really hinges on what's being proposed. You
13 will not see too many photos of these things,
14 because not too many of them exist. There's
15 an awful lot of artists' renderings, and some
16 of them you have to get a real good idea on
17 scale to understand what the impacts might
18 be. Some of these blades are ten meters or
19 so across. Sometimes you'll see wind-power
20 blades being transported on the highways.
21 I've seen them quite a few times. It's
22 incredible. They've got to be 75 yards long,

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1 and that's one blade, which means it's about
2 -- it's not quite half. It's a little less
3 than half of the diameter of what the total
4 impact would be. There are -- I'll get to
5 something in a little while to put some of
6 that in perspective.

7 The spatial footprint is real
8 important. It is not one buoy out there,
9 like you saw in some of John's work where
10 they're gathering information. These are a
11 series of buoys that are in the same array,
12 in the same place, and it could be hundreds
13 of them. And they could be relatively
14 nearby, so nearby that you probably can't
15 transit between them.

16 A lot of uncertainties, we don't
17 know very much about this. Very shallow
18 capitalization. There's not much money
19 behind this yet. The energy portfolio work
20 that's being discussed by the administration
21 and by the states has got the industry
22 thinking a little bit more expansively than

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1 they were, but still without the infusion of
2 capital the industries are moving -- are
3 maturing rather slowly.

4 So some of them are full speed
5 ahead and really promoting their industry,
6 but there are a lot of people who are being
7 rather cautious. And I'll mention this in a
8 little while, too. It really needs to
9 adaptive management being a requirement of
10 everything we do. We don't know very much.
11 And, again, when I say "We," we're all
12 working together so much on this I slip into
13 that. It's not "We NOAA"; it's, "We about a
14 dozen agencies, most of the states, a whole
15 bunch of industries a whole bunch of
16 individual entrepreneurs" all working
17 together.

18 Just one slide on each of these
19 sectors just to give you an idea. You can't
20 really get the perspective there, but each of
21 those stanchions is at least 300 feet high.
22 It is at least 50 -- well, speaking in

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1 meters, it's at least a hundred, 120 meters
2 above the water line, probably 50 to 70
3 meters in diameter in arrays depending on the
4 wind. In Europe they tend to build them in
5 arcs, like the middle. Most of the proposals
6 that we've seen in the United States are
7 grids like on the right that would go on left
8 and right and going farther over the horizon.

9 There might be hundreds of them in one
10 place. And that one place would be one
11 license. It's not a license for each one.

12 So NOAA has been consulting with
13 the agencies on this. It's with the Federal
14 Energy Regulatory Commission if it's in state
15 waters. It's with the Minerals Management
16 Service if it's in federal waters, offshore,
17 out in the EEZ.

18 Hydrokinetic, Pelamis, this
19 floating gizmo -- actually it's been tested
20 off the West Coast here. Pelamis is the
21 scientific name of the sea snake, and that's
22 exactly what it looks like. It floats at the

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1 surface with pistons and as it articulates,
2 it generates energy from waves. The gizmos
3 on the far right generate energy from
4 currents. There are others here that
5 generate energy from tides that would be at
6 the mouths of rivers, but just lots of
7 different types of systems being tested and,
8 in a few places, being actually built and put
9 out in the ocean as pilots. None of these
10 are working at a commercial scale in the
11 United States yet.

12 OTEC is -- how do I explain
13 something that needs a temperature
14 differential? There are very few places near
15 the United States mainland where this would
16 even be considered, but in island
17 archipelagoes is under serious consideration.

18 And actually there's one of them built off
19 Hawaii.

20 The Defense Department proposes
21 these things often so that they are not
22 dependent at the remote island facilities on

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1 the local vagaries of energy. They'd rather
2 generate their own rather than be dependent
3 on getting oil through -- well, they get
4 their oil tankers hijacked. They'd rather
5 use OTEC then have to worry about pirates.

6 MR. DEWEY: So, Tom, that OTEC
7 facility in Hawaii, you know, we're located -
8 - we have an operation located in the
9 effluent from that. My understanding is
10 they've taken the power generation out of it.

11 It wasn't particularly effective from that
12 standpoint, but everybody that got located in
13 the effluent has been affected. So they
14 maintain the pumping system for all of the
15 tenants there, but I believe the power
16 generation has been taken out.

17 MR. BIGFORD: Yeah, I didn't know
18 about that. It's not really a commercial
19 venture. They're calling it a pilot so that
20 they don't have to go through the regulatory
21 process of getting a license. So there are
22 several like that that are being tested

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1 around the world. But I think that's the
2 only one in U.S. waters.

3 MR. CATES: Tom?

4 MR. BIGFORD: Yes.

5 MR. CATES: I know something about
6 that. OTEC, you're correct that the energy
7 part has been pulled out for over 20 years
8 now. And it was turned into an aquaculture
9 facility basically. And now its claim to
10 fame is reverse osmosis for bottled water for
11 Japan.

12 But there is another facility
13 that's moving forward off of the coast of
14 Hawaii. General Dynamics and some other
15 companies, they're going through the
16 permitting process. But the big free driver
17 -- I mean that's off-the-shelf technology.
18 The big driver is the price of oil. When the
19 oil is high, OTEC makes sense. When it comes
20 back to where it is now, it goes away.

21 MR. BIGFORD: Right. Yeah, there
22 was a lot of movement the last year or so to

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1 get a tax credit and to get minimum
2 requirements in each state for renewable
3 portfolios so that the two of those would
4 help to compete and even mollify the
5 differences in oil prices. But it all gets
6 added together, and it all affects how
7 quickly these industries are going to evolve.

8 All that we know is that there are
9 hundreds and hundreds of people proposing to
10 do things that have never been done before in
11 the ocean, and coastal, and riverine waters.

12 And they've never been built before; they've
13 never been tested before. And what the
14 effects might be, we don't know. But there
15 is that uncertainty of the time for how
16 quickly it's going to unfold. And we sense
17 now that it's going to unfold faster than it
18 was a couple of years ago, but still it might
19 be years away before it happens.

20 A couple grabs here from our
21 website just so you can look at that at your
22 leisure. This is a website that's maintained

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1 by my division on behalf of all the National
2 Marine Fisheries Service interests. You can
3 see the other tabs that we have up there,
4 too, in case you're interested in
5 aquaculture, or corals, or essential fish
6 habitat.

7 But you'll see one on hydropower
8 just to the left of renewables. That's
9 because we've been doing that for 30 years
10 already. So there's a lot on roles and
11 responsibilities. You can get a lot of
12 information on the kinds of comments that we
13 have provided on different types of projects
14 in response to formal requests for NOAA
15 input. Also in response to opportunities to
16 contribute to policy development. It's all
17 posted on the website. Background on each of
18 the technologies that we're talking about.
19 Here's the map that I mentioned. You'll see
20 that there is -- everything that's in yellow
21 is an issued preliminary permit by FERC.

22 FERC is of the mindset that they

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1 want to get into a project and get out
2 quickly. So if someone gives them an
3 application, they will issue the permit
4 contingent on the applicant finishing their
5 ESA consultations, their essential fish
6 habitat consultations, safety laws, whatever
7 they might have to do. So FERC puts the
8 pressure on the agencies.

9 So rather than working the way
10 every other mandate has worked for the last
11 decades, FERC reverses this. They get in and
12 out quickly and we end up having to do
13 consultations with private sectors, which is
14 not the way our laws have been written. So
15 it makes everything here backwards and very
16 contentious, but it's what FERC likes to do,
17 because then they can say they did it, they
18 did their part very quickly, lightning speed.

19 And they do.

20 There's a lot to be seen on here,
21 but basically there are projects around the
22 country offshore just about every state. And

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1 this number increases regularly. An awful
2 lot of in-streams current-type work that you
3 see on the Mississippi, but also some of that
4 in Alaska and up in the Great Lakes, too.

5 MR. CATES: How old is that data?

6 MR. BIGFORD: How old?

7 MR. CATES: Yeah.

8 MR. BIGFORD: Oh, less than a
9 month. Information accurate as of May 4th,
10 less than --

11 MR. CATES: I just noticed.
12 There's nothing in Hawaii that I'm very aware
13 of, unless I'm reading this wrong. We have
14 several wind farms; we have several ocean
15 projects.

16 MR. BIGFORD: Wind on the water?

17 MR. CATES: No. I --

18 MR. BIGFORD: This is not wind on
19 land.

20 MR. CATES: Okay.

21 MR. BIGFORD: Wind on land would
22 be a lot more.

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1 MR. CATES: I got you.

2 MR. BIGFORD: And NOAA is very
3 interested in that, but I'm not talking about
4 that now, sir.

5 MR. CATES: It threw me off with
6 all the yellow on there.

7 MR. BIGFORD: That's in the river.
8 Yeah. Sorry about that.

9 On the back of the map that's --
10 maybe that's the second page. And the way
11 it's posted on the website there are contacts
12 in National Fisheries Service Headquarters
13 and also in each region. So if you're
14 looking for someone to talk to about whatever
15 projects might be in your area -- and Randy
16 has it if it's up-to-date -- there are
17 contacts throughout the country for you to
18 talk with.

19 One of the keys here is prompted
20 by just the fact that we don't know very much
21 about this, is that all of these sectors,
22 especially hydrokinetics because that doesn't

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1 really exist on land unlike wind, this is
2 being pursued in a step-wise fashion.

3 After FERC issues its permit
4 often, because FERC issues a permit, there is
5 a pilot phase where the industry is putting
6 in a couple of whatever it is they're talking
7 about, whether it's tidal or wave. This is
8 an ocean OPT. I'm trying a blank now on what
9 that was. But that's off Oregon. And it's
10 generating from waves.

11 So instead of using that sea snake
12 at the surface, which would be terrible if
13 you were a whale, or a fishing vessel, or
14 other types of things that are transiting,
15 those sea snakes things are perpendicular to
16 the coast. So if you were traveling coast-
17 wide that would be an absolutely terrible
18 form of an engineered device for other
19 compatible uses.

20 This is a little bit better
21 because this is a point system that's
22 tethered to the bottom rather than a long

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1 snake. And the snakes would be repeated,
2 too.

3 MR. CATES: How would you come to
4 that conclusion, that the snake thing would
5 be...?

6 MR. BIGFORD: Because if you are
7 transiting you'd hit it. You would -- if you
8 were at the surface, you would hit.

9 MR. CATES: Well, for vessels --

10 MR. BIGFORD: For vessels, for
11 whales --

12 MR. CATES: A whale wouldn't hit
13 that thing.

14 DR. STEIN: Well, they hit lobster
15 lines.

16 MR. BIGFORD: Maybe I'm not
17 thinking like a whale, but --

18 MR. CATES: But the picture you
19 had was pretty substantial size.

20 MR. BIGFORD: Yeah.

21 MR. CATES: And I'm just speaking
22 from personal experience, because we have big

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1 cages in the ocean all over the world --

2 MR. BIGFORD: Right.

3 MR. CATES: -- with never an issue
4 ever with a whale hitting it. I mean they
5 are smarter than some of us give credit to
6 them.

7 MR. BIGFORD: Well, they are
8 smarter than I am then, because I just
9 assumed that that would be one of the issues.
10 Transit was the big concern that we would
11 have.

12 But, anyway, the industry is
13 moving towards this. Maybe it's cost; maybe
14 it's concerns for other impacts, but the
15 industry, other than Pelamis, seems to be
16 moving more towards point piston systems like
17 this.

18 But we don't know very much about
19 what the impacts would be, everything from
20 ecological to aesthetics. So the object in
21 pilot projects is to put several out, monitor
22 a lot, try to redesign the prototypes to

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1 minimize impacts, and try to do everything
2 you can to ensure safe passage of the fish in
3 the ocean, which is something we've been
4 working on in rivers and on land for decades,
5 which is why we've got sort of in quotes on
6 the last bullet there. "Fish passage" is
7 something we've been doing in the hydropower
8 arena for a long time. The Department of
9 Commerce has had a mandate since the early
10 1900s. But this moves it out into the ocean
11 where we don't know very much.

12 When we move to the commercial
13 scale, it will be much larger and hopefully
14 we'll be building off whatever we learned
15 during the pilot phase so that when we get to
16 multiple arrays, larger systems, and
17 ecosystem-level impacts, perhaps with
18 cumulative impacts with existing activities,
19 we'll know a lot more and be able to adapt
20 over time and manage it even better.

21 Another thing here which is coming
22 out of the really open approach towards this,

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1 which is what dozens of agencies, most of the
2 states, a lot of industry sectors, a lot of
3 individual financiers is everything about
4 this being pursued in an independent way so
5 that I don't design research and someone else
6 snipes at my design, or I don't gather
7 information and someone else wonders whether
8 I analyzed the data correctly. Everything is
9 being pursued in sort of an independent
10 interdisciplinary cooperative approach so
11 that nobody can snipe at anything about any -
12 - no one can snipe at any one about anything.
13 And that's still evolving. But right now it
14 seems to be going very well.

15 There are an awful lot of
16 challenges, of course. The biggest things
17 are just the fact that these things have not
18 been built, or deployed, or operated yet.
19 Some of these systems: Wind power in Europe
20 and a few of the hydrokinetic systems in Asia
21 to exist, but not on the scale that's being
22 proposed in the United States. So there's an

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1 awful lot of opportunity to learn from
2 elsewhere. But really we've got to work
3 together to learn in the United States.

4 One thing that we could look
5 towards is developing a framework sector-by
6 sector. I'm holding up one that was done for
7 wind power, offshore wind. NOAA was very
8 involved in doing this about five years ago
9 with General Electric and the Department of
10 Energy and about 50 other people who spent
11 three or four days together three or four
12 times over the course of a year to identify
13 our concerns and work together.

14 Something like this framework, for
15 other sectors, would be very good. It gets
16 everything on the table and commits everyone
17 to working together again so that no one can
18 say they were left out. Fifty or so people
19 were in the room; hundreds of people were
20 invited. So there was ample opportunity for
21 everyone to get engaged. And, as I said,
22 that doesn't happen too often when it comes

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1 to anything related to ocean environments.

2 Lots of opportunities here. As I
3 said, it's rare that we all work together,
4 but in this case we are. These are new
5 sectors. NOAA's got a lot of reasons to be
6 around the table. We know a lot about the
7 ocean. We can predict it. We've got
8 products and services. We've got all these
9 mandates. And we have some connections to
10 industry, such as fishing and shipping, that
11 some of the other agencies do not.

12 So it's a rare opportunity to try
13 to minimize damage from the very beginning.
14 And that's always what we're trying to do.
15 Our goal is avoid anything that we can that's
16 unavoidable; mitigate whatever is left; and
17 then negotiate after that to try to get to a
18 point where whatever the project is
19 individually and cumulative with other
20 activities has got an impact, a footprint
21 that's acceptable. And it's -- you never get
22 everything stopped. That's not our job, to

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1 stop sectors. Our job is to negotiate on
2 behalf of the habitat of living marine
3 resources.

4 And then here with these new
5 sectors we spend an awful lot of time trying
6 to convert all of that information into new
7 regulatory processes. Further, the Federal
8 Energy Regulatory Commission, and MMS just
9 signed an MOU that they've been negotiating
10 for nearly four years because they were
11 looking to expand traditional mandates into
12 the oceans, and their mandates overlapped.
13 And that's the kind of thing that's
14 happening.

15 A lot of these laws were passed
16 and these empty sectors developed without us
17 being prepared for them, they were so new.
18 It's like shellfish aquaculture -- or, excuse
19 me -- aquaculture offshore. There's not a
20 clear regime for it, so we need something.
21 And that's true with an awful lot of these
22 energy sectors, too.

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1 Hence, there is a lot a work going
2 on right now by each of the agencies and
3 between the agencies, legislation being
4 proposed, just an awful lot of work trying to
5 resolve the uncertainty, the differences,
6 adding consistency. There is a lot of talk,
7 especially in the ocean, in the deep ocean,
8 the EEZ, about compatible uses.

9 As a matter of fact, the law, the
10 Energy Policy Act of 2005 talked about
11 offshore energy and alternative uses. And
12 one of the primary alternative uses for the
13 aquaculture, which generated most of the
14 comments that MMS got. I believe they are
15 moving away from considering aquaculture in
16 their rulemaking because it was complicating
17 the rulemaking so much. So they simplified
18 their job by focusing on energy, but it left,
19 again, the opportunity to talk about other
20 offshore uses of these same facilities or of
21 other areas.

22 And there are a lot of

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1 opportunities for compatible uses of the
2 facilities or the spaces in between, or maybe
3 MMS would want to get into leasing areas
4 offshore for something totally different.
5 And people are talking about the same range
6 of things that they are with existing
7 offshore platforms: Hospitals, penal
8 colonies, waterfront condos. Whatever you
9 want to think of, people have got various
10 things in mind. But we've been mostly
11 looking at those that would have an impact on
12 the ocean.

13 Lots of things to consider here.
14 Whether you're with NOAA or MAFAC, clearly
15 the two-stage pilot process is a focus here
16 as you move from pilot to commercial scale.
17 Without information coming to us from a
18 robust science program, which doesn't exist
19 anywhere, the best way for us to get
20 information is through experimenting with
21 pilots. It's not the best thing to do
22 because the private sector's business plan

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1 includes a lot of unknowns, and it also could
2 mean that we put something in a place that's
3 not the best place to put it.

4 So we're trying to identify
5 sensitive areas and keep the pilots out of
6 there, but still go forward with pilot
7 projects with everyone realizing and very
8 strict language saying if something bad
9 happens, it needs to be pulled out
10 immediately. If nothing bad happens then it
11 can stay there and perhaps grow into a
12 commercial-scale operation. But we need very
13 clear bounds on thresholds' performance.

14 The access issue I think is very
15 important to the fishing industry and, of
16 course, defense, and the whole maritime
17 transportation sector.

18 At times there have been moratoria
19 on new licenses, mostly because everyone gets
20 overloaded or there's a regulatory pinch on
21 how licenses, or permits, or leases are being
22 issued. Right now there's no slowdown on

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1 this, but at times in the past with LNG and
2 with FERC's activities that the regulatory
3 agencies decided to put a moratoria on new
4 applications.

5 Trying to develop monitoring
6 protocols is one example of what we are
7 trying to do so that there is consistency
8 across applicants. There's no reason for us
9 to spend a lot of time developing a
10 monitoring protocol for every project. We
11 can work together and have the same
12 monitoring protocol, which eases the cost and
13 would standardize information so that it can
14 contribute to our scientific knowledge. And
15 because we know so little, adaptive
16 management is always part of this.

17 MAFAC, there's a lot of
18 opportunities here for MAFAC. Competing uses
19 with fishing is one of them. Marine spatial
20 planning comes up a lot. This sector, just
21 like every other sector, probably would love
22 to have its own place to be able to do things

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1 without worries about others. They would
2 like to have that predictability. They would
3 like to be able to focus on the dynamics
4 there so they could design their engineering
5 -- they could engineer their systems to me
6 whatever depth or distance is involved.

7 There are a lot of opportunities
8 to get involved because a lot of these
9 activities are regulatory or are the subject
10 of regulatory reviews. So there are public
11 hearings on individual projects. There are
12 requests for briefings and comments on
13 proposed regulations and policies. There's
14 just an awful lot going on from a lot of
15 agencies.

16 But if you're interested, visit
17 the website for -- or get in touch with me
18 someone from the National Marine Fisheries
19 Service Office of Habitat Conservation. And
20 we can connect you to whatever might be
21 happening in your area.

22 Because of the National Marine

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1 Fisheries Service Energy Working Group we
2 have and the materials that are on the
3 website, we have a real good idea what's
4 happening around the country at any point in
5 time. We might not be in the office that I
6 am in, in Silver Spring, might not be engaged
7 in that. But if you want to know what's
8 happening in your area with a project, or
9 something else, we can find out real easily.

10 And there's my information.

11 Not too depressing, unless
12 everything here goes wrong, and we're trying
13 to avoid that.

14 MR. BILLY: Thank you. A couple
15 people raised their hands.

16 Martin.

17 MR. MARTIN FISHER: Thanks, Tom.
18 After John's presentation I wanted to find
19 some Jonestown Kool-Aid, but I feel a lot
20 better now. Thank you.

21 My question relates to
22 electromagnetic footprints. And have there

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1 been any studies done to see what impact the
2 introduction of what will be a new EM
3 footprint that's going to be on the marine
4 habitat?

5 MR. BIGFORD: Yeah, that's a good
6 question. It's one of the areas that we've
7 been asking a lot of questions about. When
8 there are individual transmission lines
9 crossing, like Long Island Sound, the Hudson
10 River, going between islands, we often raised
11 that question because EM can reduce
12 migrations of benthic animals. For instance,
13 lobsters may or may not migrate across
14 something like that that's giving a pulse.

15 MR. MARTIN FISHER: Right.

16 MR. BIGFORD: So if you have a
17 huge grid that's connected by wires, each one
18 of them would be connected to the others in a
19 grid that would then go ashore, there's a lot
20 of concern about that. It's one of the many
21 questions that we've been asking that we
22 don't really have good answers on. And it

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1 would have to be tested -- it's a little
2 scary -- it would have to be tested in a
3 small pilot, which would not have the same
4 effect. If you connect two, is not the
5 effect in area or intensity of connecting
6 hundreds.

7 MR. MARTIN FISHER: Well, it's not
8 just benthic animals that are going to be
9 affected. It is whales, sharks, you know,
10 predatory fish, everything feeds of the EM.

11 MR. BIGFORD: Yeah. And that gets
12 into the issue that gets discussed more,
13 which is acoustics. There are huge impacts
14 with installing a lot of these systems. Most
15 of these are pounded into the bottom. And
16 the noise is enough -- I heard one talk by
17 somebody who worked with the wind power
18 industry saying that the stanchions that are
19 hammered into the ground, the noise to pile-
20 drive one of those in was loud enough to kill
21 a dolphin within ten kilometers. That's what
22 the industry said.

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1 Now maybe they've -- they've got
2 bubbled -- yeah, six miles, ten kilometers.
3 That was a guy from the UK. It couldn't be
4 too different here. But if they have bubble
5 curtains, and avoidance techniques, and
6 overflights, and things like that that are
7 used with right whales and turtles around
8 platforms, maybe they can do better now.
9 That was about five years ago that I heard
10 that comment. But there's a lot of concern
11 about acoustics and EM.

12 MR. MARTIN FISHER: Well, have
13 there been studies done on EM?

14 MR. BIGFORD: Not that I've seen
15 associated with this. Most of it is
16 associated with other types of pipelines and
17 transmission, fiber-optic cables, things --
18 cables and pipelines crossing smaller areas,
19 not as far offshore, so different species,
20 different habitats, different sizes, one line
21 as opposed to a big grid. So I haven't seen
22 it.

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1 MR. CATES: Hey, Tom, --

2 MR. BIGFORD: Yes.

3 MR. CATES: -- can I comment real
4 quick?

5 MR. BILLY: Okay. Next we have
6 Larry.

7 MR. SIMPSON: Tom, I would
8 encourage you. Two slides back you were
9 contemplating some difficulties associated
10 with location and monitoring, and so forth.
11 And I would just encourage you to look at
12 that Gulf of Mexico aquaculture FMP.

13 MR. BIGFORD: Right.

14 MR. SIMPSON: We spent years and
15 we talked about all of those things. And not
16 necessarily would it be something you could
17 cut and paste, but you can certainly look at
18 some of the considerations that we had about
19 limitations, and monitoring, et cetera,
20 licensing, that might be useful as a
21 template.

22 MR. BILLY: Tony.

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1 MR. DiLERNIA: Thank you.

2 Tom, as you may or may not know,
3 I've been intimately involved with some of
4 these projects in the New York Harbor. I see
5 that you have a number of circles here in New
6 York Harbor. I know the Verdant Power
7 Project in the East River.

8 MR. BIGFORD: That was the green
9 one. They got their license.

10 MR. DiLERNIA: Yeah. They've got
11 a pilot operating right now in there. I
12 understand their intent is to expand the
13 pilot into a full-blown. Could you comment
14 on the status of that application and whether
15 it is right now?

16 MR. BIGFORD: I can't quite figure
17 it out. I think that they've stopped work.

18 MR. DiLERNIA: Yes, okay.

19 MR. BIGFORD: So I don't -- I
20 think they have their license, but I don't
21 think they're pursuing. They're selling
22 their power to a supermarket on Roosevelt

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1 Island --

2 MR. DiLERNIA: Yeah, I guess the -

3 -

4 MR. BIGFORD: -- and the United
5 Nations. That's their --

6 MR. DiLERNIA: Well, -- yeah, the
7 UN site was my suggested ultimate site when I
8 -- early on in -- I've been involved with the
9 project probably for about five years. My
10 objection to the project was that your
11 location is within the east channel of the
12 East River probably about 250 yards wide,
13 max. And that's the primary route all
14 striped bass take coming out of -- post-
15 spawning striped bass coming out of the
16 Hudson River to go to Long Island Sound. So
17 I was very concerned with them creating these
18 "bass-o-matic" spinning blades that these
19 fish had to pass through to get to the Sound.

20 MR. BIGFORD: Yes. For those of
21 you who watch "Saturday Night Live" that has
22 been the comparison. We have a graphic in

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1 our office of exactly what that would look
2 like. We have a very creative GIS person who
3 created a bass-o-matic of a striped bass
4 going through Verdant. It is a narrow area.

5 It's a pinch point of all the water that
6 comes out the western Long Island Sound, and
7 it's a current, which is how, yes, I would
8 describe it or tidal, but a lot of blades
9 wide open.

10 MR. DiLERNIA: Yeah. I have 40
11 years' experience fishing in the area. And
12 the location of this particular project was a
13 direct hit on probably one of the most
14 productive striped bass spots, and I mean a
15 direct hit. I was happy if they would just
16 move it a hundred yards. And they wouldn't
17 even do that.

18 MR. BIGFORD: Yeah. Well, I'm
19 glad you're involved.

20 MR. DiLERNIA: But it seems to be
21 that the requirements for their energy seems
22 to coincide with the requirements that

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1 striped bass and predators of that type need
2 to feed. In other words, it would be a pinch
3 point with the tide. The current
4 accelerates, many fish become disoriented.
5 And that pinch point also is where the
6 current accelerates. That ground is now
7 lost. It's been claimed. There are buoys
8 there, and there are the old propellers that
9 are 15, 20 feet wide spinning. And if
10 anybody tries to violate the buoy area, try
11 to drift there, you know, you're not going to
12 get a fishing line through there. So that's
13 lost to fishing completely.

14 Is there a policy -- I mean that's
15 -- it's -- they just basically -- FERC seemed
16 to move the things very quickly. And so I
17 guess my first question is: Is there a
18 policy regarding the loss of a traditional
19 fishing ground to this -- in this application
20 for alternative energy?

21 And, again, we recommended that
22 they move back to the United Nations site

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1 because we knew there were no fish there and
2 the current velocity was about the same, but
3 they said, "No." We asked them to move it a
4 hundred yards; they said, "No."

5 Is there a policy now regarding
6 what happens with the loss of a traditional
7 fishing ground versus this application for
8 this permit?

9 MR. BIGFORD: Well, it's no
10 different than any other proposed facility
11 around the country. Each one generates
12 public review, and comments are given to
13 FERC. And they weigh them in making a
14 decision. They do not accept everyone's
15 comments. They can't, because they're
16 weighing them. And very often they don't
17 accept all of our comments, which usually
18 reflect that, move, don't build it, you know,
19 different types of comments, depending on
20 whether it's installation or operation or
21 removal. And in this case I do not think
22 FERC felt that they had information about the

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1 presence of fish to -- yeah, believe it --

2 MR. DiLERNIA: Yeah, well, that
3 was after we provided them with ten years'
4 worth of log books and dated photographs.

5 MR. BIGFORD: They put systems
6 down there watching -- of course, the water's
7 -- you can't see three inches. But they
8 found nothing. They told us that they
9 operated -- they did their monitoring and saw
10 -- most of the reports said they saw no fish.

11 MR. DiLERNIA: Yeah. And the
12 sonar that's used to detect that is also
13 easily observed -- I mean the commercial
14 fishermen here at this table could tell you
15 that that acoustical signal is also very
16 easily found on a fish finder. And if you go
17 through that area with a traditional fish
18 finder, you can see how the intensity of the
19 signal may vary. Now perhaps it's a change
20 in fluctuation and voltage by accidental, or
21 whatever. But it's -- again, over ten years'
22 worth of dated log books and photographs.

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1 MR. BIGFORD: We provided them
2 with information like that, reports of people
3 catching fish in that area. And they said,
4 "Times must have changed." We ought to talk
5 with them some more. The project has slowed
6 down, so we have an opportunity to influence
7 it again, I think.

8 MR. DiLERNIA: If you go to my
9 website right now, Rocketcharters.com, and
10 look at the pictures with the dates on them.

11 MR. BIGFORD: All right. We'll do
12 that. But the questions that you're asking
13 and the comments that you're sharing, the
14 same thing is true for most of these projects
15 around the country. Most of them are at --
16 most of them are proposed to be at the first
17 highway crossing of each river that drains an
18 estuary or a watershed around the country.

19 So it's where all of the water
20 gets to the narrowest place, which is where a
21 bridge is built. And they want to put their
22 in-stream contraption there, and the effects

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1 can be really bad. But usually we don't know
2 much about it, so we get into this trap of
3 FERC issuing a preliminary permit installing
4 a small-scale facility and then trying to
5 learn through that and then manage it
6 actively. It's not a good situation at all.

7 It would help if we knew more about each
8 area but, you know, Verdant is the first of
9 many that might be put out there on a pilot
10 mode.

11 MR. DiLERNIA: And isn't it true
12 that this also involves state money, state
13 research money?

14 MR. BIGFORD: In this case New
15 York was a huge supporter of it, and they
16 were -- they put a timeframe on it, which
17 forced Verdant to move more quickly because
18 the state wanted a financial return on their
19 investment within two years. And that's why
20 FERC gave their permit for them to generate
21 energy. They're not selling it now. They're
22 giving it to the supermarket and proposed to

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1 the UN. But Verdant is well ahead of all of
2 the other ones around the country.

3 MR. DiLERNIA: But you don't see
4 them completing a project with a full field?

5 MR. BIGFORD: I've heard nothing
6 at all about that, except that people who
7 used to work for Verdant often apply for jobs
8 in our agency. That's the only -- that's a
9 huge indicator of what's going on there.

10 MR. DiLERNIA: One last question,
11 and I'll go.

12 What's the timeframe for them to
13 remove their footprint? If you're not going
14 to go forward, do you know how long they have
15 before they have to pull the buoys, pull the
16 generators, and restore the ground to what it
17 was like?

18 MR. BIGFORD: I don't know the
19 timeframe, but that is part of every one of
20 these projects. If the project ever goes
21 belly up, if it runs its course and the
22 system wears out, everything has to be

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1 removed. There'll be nothing left behind.
2 That's one example of something we've learned
3 over the decades. So that's built in and
4 accepted by everybody. But the timeframe for
5 it, I'm not sure. It would have to be pretty
6 soon after they stopped using it. So they'd
7 have to like -- they would have to make some
8 financial decision that they're stopping.

9 MR. DiLERNIA: They had to post a
10 bond in order, if they go bankrupt, there's
11 that bond.

12 MR. BIGFORD: Yes.

13 MR. DiLERNIA: Mr. Chair, one last
14 comment. We in New York did not oppose the
15 technology, and we thought that there was
16 merit in the technology. We even suggested
17 alternate sites. What we did oppose in New
18 York was the location, the direct hit, the
19 direct hit of a striped bass feeding area.
20 And we were very disappointed that none of
21 those comments were accepted that was placed
22 there.

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1 I would just caution all the
2 members around the table that to be aware of
3 what may occur, because we did try to
4 cooperate and because there were state funds
5 involved, because of some of the folks that
6 were associated with the project were well
7 known within the state, the fishing community
8 was -- I'll say we were ignored. And
9 hopefully that this be future guidelines.
10 Thank you.

11 MR. BILLY: Okay. Thank you.

12 I've got five more members that
13 want to speak or ask questions.

14 MR. BIGFORD: I knew 30 minutes
15 was too short. Sorry about this.

16 MR. BILLY: All right. What I'd
17 like to propose is that we take a 15-minute
18 break. And when we come back we'll pick up
19 with Randy any others that indicated an
20 interest.

21 I've got Randy, Vince, Erika,
22 Larry.

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1 MS. FELLER: I won't stay on the
2 list.

3 MR. O'SHEA: Only one last
4 question.

5 (Recess taken from 10:24 a.m. to
6 10:43 a.m.)

7 MR. BILLY: All right. I think
8 we'll get started again. Thank you for
9 coming back on a timely basis.

10 Randy, you've got the floor.

11 MR. CATES: Thank you, Chair.

12 I have a couple comments, and then
13 a suggestion for the MAFAC.

14 First I want to tell Tom, thanks
15 for the presentation. I'm a big supporter of
16 alternative energy, and I'm involved in
17 aquaculture.

18 MR. O'SHEA: Can you speak up a
19 little bit, please?

20 MR. CATES: Sure.

21 The first thing I want to say, I
22 want to make sure I'm on record saying this.

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1 As a former dolphin trainer for the United
2 States Navy, there is no way a pile-driving
3 can kill a dolphin six miles away. Absolutely
4 no way. I have had animals in a basin and
5 had pile-driving 200 yards from us for six
6 months. I've had explosions go off,
7 thousand-pound bombs off the coast of Bahrain
8 and been well within six miles. So I think
9 whoever told you that was highly mistaken.

10 In Hawaii there are -- have been
11 several attempts at energy projects. And I
12 have seen a huge mistake very recently,
13 within two months, where there was a proposal
14 on the table, significant investment wanted
15 to come in, in federal waters and put in wave
16 energy and wind energy combination, which was
17 quite interesting.

18 I found it really sad to see how
19 things evolved. The first thing that
20 happened was the whale sanctuary folks got
21 real upset because it was within a whale
22 sanctuary. And they aligned themselves with

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1 Native Hawaiian groups, commercial fishing
2 groups, whale-watching tourism, and really
3 railed and went publicly against such an
4 operation, even before it was just a
5 proposal.

6 It's clear to me that our society,
7 we have to find alternative energy. And this
8 has become the new environmental movement to
9 go after alternative energy projects. And
10 it's real sad.

11 The other comment I would have is
12 we should align aquaculture and other
13 production facilities with energy projects.
14 And there has been a drive to separate them.

15 Recently the MMS came out and the
16 environmental groups attacked aquaculture for
17 trying to get permits through the agency and
18 aligned themselves. But that makes total
19 sense, in my opinion.

20 If you're going to take a piece of
21 the ocean to produce energy, you could also
22 use that same piece of ocean to produce food.

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1 So I would suggest that this body make a
2 policy statement or a suggestion to NOAA that
3 we should look to ocean energy uses with open
4 eyes and not just go after them with
5 commercial fishing interests and say: No,
6 not in our area. It's a real mistake. And I
7 guarantee you that the energy producers will
8 have a stronger lobby than commercial
9 fishing. There is no doubt that they will,
10 because all of our society understands they
11 need cheap energy.

12 So I just find it really
13 disheartening how the politics play out in
14 some of these projects. And we've had about
15 four potential projects in Hawaii that have
16 just basically walked away. There's only a
17 certain amount of investment money, and there
18 are plenty of places that do some of the
19 projects. They will find countries and they
20 will find areas to do these projects. So is
21 that I encourage this body to really think
22 about it.

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1 MR. BILLY: Vince.

2 MR. O'SHEA: Thanks, Mr. Chairman.

3 I thought I understood at the
4 beginning of the presentation, Tom, that you
5 said that NOAA really has potentially a lot
6 of clout with FERC renewals but at times
7 hasn't been willing or hasn't exercised the
8 muscle to do that. And I don't know if this
9 is a question maybe for Jim or even Sam.

10 But it would seem with the change
11 in the administration, Dr. Lubchenco, and
12 sort of the general direction that there
13 might be a change in that. And I was just
14 wondering if you guys have any -- have
15 thought about that or any speculation on what
16 might happen there.

17 MR. BIGFORD: Well, maybe I can
18 explain just a little bit. It takes an awful
19 lot of scientific knowledge to support a
20 fish-wave description, which is what I was
21 referring to FERC. It's Section 18 of the
22 Federal Power Act. And you need to really

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1 have your ducks in a row and take years
2 developing something that will establish --
3 that will survive scrutiny by the engineers,
4 the lawyers, the biologists, the economists,
5 everybody, because it has to be -- it has to
6 make sense in every way: Cost effective to
7 legally, and everything.

8 So in some cases the National
9 Marine Fisheries Service does not choose to
10 go that far, because we don't have enough
11 people to be able to do it. Alright, so that
12 means in some cases we negotiate short of a
13 fish-wave description and try to influence
14 FERC's decision in other ways, "other ways,"
15 being things that FERC does not have to
16 accept our comments, like a Section 18
17 prescription where they have to.

18 That's what I was referring to.
19 If we had more resources, we might revisit
20 some of those, but right now I don't think
21 it's a resource issue as much as it is just a
22 timing issue. It just takes a huge amount of

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1 time.

2 MR. O'SHEA: Okay. Thank you.

3 MR. RAUCH: So if I could
4 elaborate on what the new administration
5 might deal with?

6 Obama, in his presidential
7 campaign, was a big supporter for alternative
8 energy as a source of jobs creation. So in
9 that manner it would be a push to even
10 further clear through these processes,
11 although we do need to control environmental
12 considerations.

13 Dr. Lubchenco is better positioned
14 than any new administrator has been with the
15 administration staff. So to the extent that,
16 all the legal issues aside, we might have
17 concerns and want to engage the internal
18 political discussion within the
19 administration, Dr. Lubchenco would be well
20 positioned to do that, if she so chooses,
21 which we've never had that kind of clout with
22 NOAA before. That's not really the legal

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1 issues; that's more of the interagency
2 political issues.

3 MR. O'SHEA: Fine.

4 MR. RAUCH: So I think we're well
5 positioned to do that, balancing out the
6 President's stated purpose of trying to
7 encourage development of these kinds of
8 systems.

9 MR. O'SHEA: Thank you, Mr.
10 Chairman.

11 MR. BILLY: Thanks.

12 Erika.

13 MS. FELLER: Thank you.

14 Tom, so the way I kind of heard
15 the presentation, it sounds to me like, you
16 know, at this time a lot of the siting
17 decisions for these facilities are basically
18 application driven, permit driven. Has there
19 been any discussion in the Working Group, you
20 know, among the groups that you're working
21 with on how to maybe take more of a resource-
22 management approach to siting decisions and,

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1 you know, rather than have an application
2 drive you towards someplace that may alienate
3 five or six other constituencies to sort of
4 look more holistically?

5 I mean because a Multi-purpose
6 Marine Cadastre is starting to pull a lot of
7 that data together, and I know that there is
8 CSC-led efforts to try and see if you can use
9 that data in multi-objective plans and do all
10 that. Is that...?

11 MR. BIGFORD: Yeah, it comes up
12 more and more as we see more speculation in
13 really site grabbing. There are people who
14 might not have any design at all to assist
15 them, but they're grabbing a site. That's a
16 big issue on the Mississippi and a big issue
17 in Alaska.

18 So taking a step back from that,
19 which is what we're trying to do, which is be
20 more -- you know, we're trying to avoid the
21 speculation, avoid making decisions without
22 good information, avoid individuals making

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1 decisions that might not be good for the
2 whole corporate process here that we're
3 trying to push. It does make sense. But
4 that's -- FERC is still making decisions on
5 individual projects, and it might not be the
6 best project in the best place. It might not
7 be the best applicant. But they're grabbing
8 a place, the mouth of a river, for instance,
9 or the main stem of a river.

10 I really do think that there is an
11 opportunity here to take a step back and
12 think more, get ahead of the curve, and
13 getting more into what Charlie is going to
14 talk about, try to look at things spatially
15 and figure out the best place to do this,
16 what's the best place for a different type of
17 energy system, if any place is, in a certain
18 area so that we get a little bit ahead of
19 this.

20 This is the one area where I think
21 we are -- we have a threat to sort of lose
22 control of this, because we're trying to

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1 think this through, but there's speculation
2 going on at the same time.

3 MS. FELLER: So from the
4 perspective of -- just thinking about energy
5 siting, are there legal constraints that you
6 see out there to implementing a more kind of
7 holistic multi-objective planning approach?

8 MR. BIGFORD: I don't think so.
9 In the beginning or the last couple of years,
10 one of the huge issues with this debate
11 between FERC and MMS was mostly offshore, not
12 onshore. Onshore it's clearly FERC. So I
13 don't think that there is a legal impediment.

14 I think this confusion with the Corps of
15 Engineers and FERC who are trying to apply
16 their existing regulations to new energy, to
17 new sectors.

18 But I don't think that there is a
19 legal impediment to doing what you're talking
20 about. I think it's a matter of trying to
21 find the time and the energy, the time and
22 the people to get ahead of the curve and

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1 trying to get the industries to slow down.
2 That's the -- I had a slide up there about
3 some moratoria.

4 I think getting the regulators to
5 sort of call a timeout, so that we can get
6 ahead of the curve, would be very good. They
7 have done that individually for specific
8 questions. The Coast Guard, who was very
9 involved in LNG, did that on LNG about three
10 years ago so they could answer questions
11 about what type of design would be good,
12 closed versus open.

13 And I think a pause like that
14 might be good. And over the long term it
15 wouldn't slow things down, because it would
16 add to the information to make good, sound
17 business decisions. I think it's a good
18 idea.

19 I'm not a regulator, and I don't
20 know if the regulatory agencies would take
21 kindly to it, but I think the argument could
22 be made.

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1 MR. BILLY: Larry.

2 MR. SIMPSON: Thank you, Mr.
3 Chairman. Erika's comments, and Tony's
4 comments, and Sam's comments, as well as
5 John's, tie directly into what my comment is.

6 And it goes back to a little bit about what
7 I suggested, that you look at the aquaculture
8 development in the Gulf of Mexico as a
9 possible use to do some things.

10 And I liken it unto treating a
11 symptom versus treating the cure. And what I
12 think is a wise thing to do at a policy level
13 is to try to initiate exclusion mapping,
14 exclusion criteria for siting these different
15 energy-type structures. In the Gulf of
16 Mexico we have thousands of offshore oil
17 rigs. Early in my career and early -- in the
18 late '70s and early '80s there was a big
19 problem with the shrimp industry.

20 And I think that what some of the
21 things we've done in this aquaculture, FMP,
22 is try to develop the idea -- and even Bill

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1 or Jim asked us -- Hogarth, Hogarth asked us
2 to work with and exclusion-mapping,
3 exclusion-siting criteria for offshore
4 aquaculture. And you consider things like
5 the standard; you know, currents; historical
6 participation in the area; zones, navigation
7 zones; you know, artificial reefs areas; high
8 concentrations of spawning.

9 You can just GIS layer this. And,
10 if you wish, I have a guy that could give you
11 a graphic presentation of this. And you
12 start layering all these things on what
13 you're left with is some areas then that
14 could be utilized by alternative uses of the
15 ocean, no shipping.

16 And we tried to look at that a
17 little bit with regard to LNG. So my comment
18 and suggestion is maybe we should be working
19 toward an exclusion-siting plan rather than
20 dealing with this after-the-fact and trying
21 to treat the symptoms and maybe we ought to
22 try to work on the cure. Thank you.

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1 MR. BIGFORD: Yeah. I think that
2 is one of the intents of the Multi-purpose
3 Marine Cadastre that Erika mentioned. That's
4 a huge coast-wide, ocean-wide mapping effort
5 required of MMS, already done, for oil and
6 gas, but a lot of information is classified -
7 - whatever the word is in the private sector
8 -- and already done by the Navy, and it is
9 classified.

10 So this would be a third national
11 mapping effort, but it would be available for
12 public use and it would help an awful lot.

13 MR. SIMPSON: They have explosion
14 missile ranges off Florida, buffer zones
15 around -- whatever. You can add all that in.

16 MR. BIGFORD: Right.

17 MR. BILLY: Okay. Steve.

18 MR. JONER: I want to go back to
19 Randy, what he said. Remember, you talked
20 about how alternative energy is something
21 that's got to happen and --

22 MR. BILLY: We can't hear you.

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1 MR. JONER: I'm sorry. --
2 alternative energy is something that has to
3 happen. And it has to happen in somebody's
4 backyard. So the Makah Tribe got into a
5 joint venture with developing a pilot project
6 for these wave buoys, which are -- they're
7 pretty clever. They use the wave energy to
8 pump water through a piston. They have a
9 very small footprint. And really the only
10 problem we saw was it actually is a physical
11 obstruction to the vessels passing through
12 there, but we felt like, at least on a pilot
13 scale, that, you know, we could -- one thing
14 we don't have a problem in our area is
15 catching our quotas.

16 So it's not like closing off a
17 square-mile area is going to present the
18 trollers from catching their salmon, or
19 whatever the case is. So, unfortunately, we
20 were having problems with the Coast National
21 Marine Sanctuary.

22 And, you know, Sam, I'm not bitter

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1 about you guys putting a sanctuary there, but
2 it's --

3 MR. RAUCH: Sam didn't do it.

4 (Laughter).

5 MR. JONER: You guys, you guys,
6 yeah. You guys in the big "You", NOAA. It's
7 all sanctuary all the time for me, yes,
8 because yesterday during the presentation by
9 the Monterey Bay guys, I was supposed to be
10 on a conference call with our
11 Intergovernmental Policy Council on back
12 home, but I had to choose which sanctuary I
13 wanted to deal with that day. But, you know,
14 we have an Intergovernmental Policy Council
15 that tried to -- really initiated it, the
16 four coast tribes in the state are a party to
17 it. We worked directly with the sanctuary.

18 Yet they just went completely
19 around the Makah Tribe and our group in their
20 objections to getting this FERC permit. And
21 our message was if you're not going to try
22 alternative energy to improve the ocean --

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1 and I guess they needed to have John's
2 presentation before; we should've started
3 with that, but -- they're going to do it
4 there, who do you expect to do that.

5 And so they went so far as to
6 exert 4(e) authority which, you know, I hate
7 to sound like a bureaucrat, but that's --
8 those of you that were naive like me, that's
9 where a landowner can go and object. And
10 they were basically saying: We're the
11 landowner and we're objecting to this. And,
12 fortunately, FERC didn't buy it. And they
13 were going to appeal that. We put enough
14 pressure on that, for some reason, they
15 didn't go through -- the sanctuary be "they"
16 -- didn't go through with it.

17 Well, in the meantime, the company
18 ran out of money, and I honestly don't know
19 where it is now. It's kind of discouraging,
20 because somewhere it has to start. And this
21 -- and the tribe it was a very low impact,
22 but with, you know, great additional benefits

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1 to the tribe, because in the winter time, you
2 know, you lose the power repeatedly out
3 there, because the power comes from
4 Bonneville Dam, a long ways away, and there's
5 a lot of trees that fall down, lines -- would
6 have gone -- the power would have gone from
7 the pistons, up on the beach, through the
8 tribe's property, to the local county power
9 company, power supplier, and gone into the
10 grid.

11 And when the lights were off
12 because the Bonneville power lines were down,
13 you would have had your own energy source.
14 So, you know, again, this is part of the
15 message that Randy was talking about. We
16 need to give a message that this has to start
17 somewhere. And we need to do something about
18 it, rather than having opposition to it. We
19 need to be encouraging and be supportive.

20 MR. CATES: Can I follow up with
21 that real quick?

22 One thing to remember is some of

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1 these energy products or projects, NOAA
2 Fisheries benefit from them. Bill's farm is
3 benefiting from a failed energy project.
4 That's where his hatchery is in Hawaii. It
5 didn't work. It changed into something
6 that's now producing food. So fisheries kind
7 of go that, they say: No, no, no, no, no,
8 we're not going to do this. We've got to
9 remember there are benefits. We've got to
10 find a way to match up with energy projects
11 and get the benefit out of them. There are
12 examples there. We don't look at them.

13 MR. BILLY: Tony.

14 MR. DiLERNIA: I'm good. Thanks.

15 MR. BILLY: Eric, the last one.

16 MR. SCHWAAB: I just want to -- I
17 mean a lot of what you talk about is sort of
18 project specific with you. It's kind of
19 reactive in nature. And I mean, you know, if
20 we look at some of these broader planning
21 questions, it seems to me -- and you
22 mentioned it a few minutes ago -- that, you

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1 know, MMS and Interior have a lot of
2 responsibilities.

3 My question is really specifically
4 what level of kind of comprehensive planning,
5 sort of proactive engagement is happening
6 across the federal agencies now and whether
7 you envision sort of greater opportunities
8 developing, given the new administration's
9 attention to some of these issues?

10 MR. BIGFORD: Well, I'm glad you
11 asked the question, if you think that we're
12 just stuck in a reactive mode, because we're
13 not. There are projects.

14 MR. SCHWAAB: Yeah.

15 MR. BIGFORD: So we do have to
16 respond to requests for comments on a
17 project, but we are, in order of magnitude,
18 more engaged in proactive-type things. The
19 head of the Minerals Management Service
20 Program on Renewables Energy just had a
21 detail to NOAA, working with NOAA leadership,
22 working with Paul in Paul's office -- Paul's

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1 boss for a couple of months -- she had to go
2 back, but she's going to come back again.

3 So at the personal level and
4 between agencies were very, very engaged.
5 The Department of Energy has an interagency
6 group on renewables, ocean renewables, and we
7 work with them. So we're very involved
8 working on policies and regulations,
9 developing interagency research and
10 development programs, working on requests to
11 the Hill for funding this and would -- like
12 DOE asked for NOAA's ideas on their own
13 budget initiatives to support R&D there on
14 ocean renewables.

15 We are involved in an awful lot
16 that's very proactive, trying to address the
17 concerns that come up in individual reactive
18 opportunities like commenting on the Verdant
19 Project that Tony mentioned. So it's a lot
20 of both.

21 MR. SCHWAAB: So who's in the lead
22 right now on some of these sort of

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1 comprehensive planning questions? Is it
2 Interior through Minerals Management?

3 MR. BIGFORD: It's MMS -- yes,
4 it's Interior, Minerals Management Service
5 for the EEZ, federal waters.

6 MR. SCHWAAB: Yeah.

7 MR. BIGFORD: It's FERC mostly for
8 inshore waters. It's the Coast Guard for
9 offshore LNG facilities. It's not NOAA
10 anywhere. NOAA is not the lead, but we are
11 very engaged and everyone knows to talk with
12 us, because between Sanctuaries, the Weather
13 Service information on winds, and currents,
14 and things, and National Marine Fisheries
15 Service on a lot, they know to come to us.
16 But we don't have the lead.

17 MR. SCHWAAB: So just the last
18 follow-up: Is there a formal interagency
19 organization for some of these comprehensive
20 planning efforts --

21 MR. BIGFORD: Yes.

22 MR. SCHWAAB: -- that is led by

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1 MMS?

2 MR. BIGFORD: It's mostly led --
3 but, well, when it comes to MMS' regulatory
4 process, they lead. But the interagency
5 committee to talk about all these things is
6 led by DOE.

7 MR. SCHWAAB: Okay.

8 MR. SIMPSON: Isn't CEQ involved
9 in it?

10 MR. BIGFORD: Only if a project
11 gets really contentious, like Gulf Landing,
12 down your way.

13 MR. SCHWAAB: But -- and, again,
14 that's a project.

15 MR. BIGFORD: That's an individual
16 licensed project that goes to the White
17 House.

18 MR. SCHWAAB: Okay.

19 MR. BIGFORD: And that happens
20 once every couple of years, if that often.

21 MR. DiLERNIA: When does the Army
22 Corps come in on this? I thought they were

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1 the coordinator for the permits.

2 MR. BIGFORD: They give a permit.

3 When you finally -- when a license is issued
4 and they're going to go out and drop -- you
5 know, tether something to the bottom, the
6 Corps of Engineers gets involved through
7 Section 10 of the Rivers and Harbors Act, and
8 Clean Water for discharge, so --

9 MR. DiLERNIA: Do they have to
10 really get the Corps permit -- they have to
11 jump through all your hoops, don't they?

12 MR. BIGFORD: Yes, but the Corps
13 really is a minor player here. More of a
14 player near-shore than offshore, but the
15 Corps of Engineers, they're not leading any
16 of this. Other agencies have got the lead,
17 but the Corps of Engineers has to give
18 permits, just like we have to consult on ESA
19 and things like that, but now the Corps --
20 this is different than most other activities,
21 where the Corps is the ultimate decision-
22 maker. Here the lease and the license and

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1 the permit from other agencies are much more
2 important in the whole sweep of things than
3 the Corps of Engineers, Section 10 or 4 for
4 permits.

5 MR. BILLY: Tom, the last --

6 MR. BIGFORD: It looks like we
7 should talk more, Tony.

8 MR. RAFTICAN: And this is really
9 to follow up on where Eric was going. We're
10 looking at a number of different projects and
11 we're deciding in the grand scale who has the
12 lead on those projects. It's apparent to the
13 people in this room that we each got an
14 individual iron in the fire on different
15 projects, so we basically bought into the
16 concept that you've got this spatial planning
17 going on.

18 How do you get -- how do you take
19 an overall picture so that you can actually
20 get all of these different lead agencies into
21 one entity so that you're actually taking a
22 comprehensive look at this? When I say -- I

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1 mean really basically how do you start
2 bringing about spatial planning -- ocean
3 zoning is the name of the game. Call it
4 whatever you want, but how do you start --
5 who do you go to in order to bring a
6 comprehensive look to the entire project, to
7 the entire --

8 MR. BIGFORD: I think you go to
9 Mark for the next topic on the agenda.

10 (Laughter.)

11 MR. BIGFORD: Is that what you
12 want me to say, Mark?

13 MR. BILLY: Tom, I thank you for
14 setting up the next two presentations.

15 MR. BIGFORD: And I'll follow up
16 with you, Tom. I didn't mean to be flip, but
17 we're working on that too. MMS has the lead
18 and they're on that group led by DOE.

19 MR. BILLY: I'd like to apologize
20 to both the Committee and the speakers that
21 we're running a little behind. But it's
22 always an interesting process or experience

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1 to manage a meeting like this because this
2 interaction, the interest is the very thing
3 you're trying to achieve. And the interests
4 of the Committee and the likelihood then that
5 we're going to be instructive in terms of
6 helping NOAA in this area is very high. You
7 don't want to shut that off, but it comes at
8 some expense sometimes, so I apologize.

9 I'd like to move on now to Mark
10 Holliday who's going to talk about regional
11 ocean governance.

12 DR. HOLLIDAY: Thanks, Tom.

13 And I'd like to preface this.
14 I've got a short PowerPoint, about 17 slides,
15 it's going to take about 15 to 20 minutes to
16 get through, but I wanted to warn you we're
17 going to ratchet up the discussion a little
18 bit.

19 We've been looking at energy as
20 one of the sectors in this controversy over
21 competing uses, water-compatible uses, what
22 are non-uses, and what's the process by which

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1 we are able to prioritize, reconcile, and
2 develop a governance model across these
3 different levels. And the levels could be
4 federal agency levels, state levels,
5 interactions between the U.S. and
6 international.

7 So I'm going to try to walk us
8 through what some of the thinking that's
9 going on now with respect to regional ocean
10 governance in this administration and pose
11 some questions for MAFAC to consider that
12 we're looking for input on your perspective.

13 And I'll leave it at that time.

14 So I've got the clicker, I control
15 the slide. I guess I'll move on.

16 So my purpose here is to identify
17 and discuss some issues that are most
18 important to NOAA in anticipation of a future
19 based on regional ocean governance. And I'll
20 define what we mean by regional and ocean
21 governance in a moment, but we're trying to
22 do some thinking and identification of the

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1 steps or actions needed to prepare for those
2 outcomes. So with that I'll jump right in.

3 What are the some of the most
4 recent background and context driving this,
5 so that the Joint Ocean Commission Initiative
6 Report, you recall there was a Pew Ocean
7 Commission and a U.S. Commission on Ocean
8 Policy. Lots of recommendations on the
9 future of oceans, science, research,
10 management, governance. They issued a report
11 in April. There is a copy that was posted as
12 a read-ahead for you on the MAFAC website.

13 There are about two dozen
14 findings, recommendations. The bottom line:
15 There is still work left undone from those
16 two Commission reports. And they made a
17 series of very specific recommendations to
18 the Obama Administration on where they felt
19 there was emphasize needed on a way forward.

20 At the same time we have a new
21 NOAA Administrator viewed from the CEQ and
22 the White House as the leader for oceans, a

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1 very assertive responsibility, to take charge
2 and lead the country forward on ocean policy
3 and governance. And she's indicated that
4 it's part of her mission to fulfill these
5 ocean policy and governance questions that
6 are left undone or missing that are important
7 to the Obama Administration.

8 So clearly, because Dr. Lubchenco
9 is on the Pew Ocean Commission, she was one
10 of the authors contributing to that, she had
11 some very strong feelings and ideas about the
12 future of ocean governance. So this is part
13 of how I've set up the presentation.

14 Based on these recommendations
15 from this Joint Ocean Commission report,
16 these are the specifics that were still left
17 undone that needed to be focused on:
18 Strengthening ocean science, specific
19 management challenges about Coastal Zone
20 Management Act reauthorization, how are we
21 going to fund this, bolster international
22 leadership.

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1 I'm going to focus on the improved
2 governance things. So these are
3 recommendations from JOCI, the acronym that
4 we use inside the beltway. We can't live
5 without them. To develop a policy for the
6 U.S. ocean policy, providing a governance
7 structure and a process. And so I'm going to
8 -- this was all in the background material,
9 but if I were to summarize what the five
10 missing elements are that are important to
11 NOAA that we're looking to try to help
12 coordinate a federal overall perspective on,
13 is that we're missing a statement of national
14 ocean policy. And that ocean policy should
15 be founded on the principle of ecosystem
16 health. A resilient, healthy ocean ecosystem
17 function is paramount.

18 That we need an interagency
19 strategy to execute the policy, so we have,
20 and if you remember the reports, there are
21 dozens and dozens of federal entities with
22 responsibilities for some aspect of the

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1 ocean: Energy, transportation, oil and --
2 specific oil and gas, fisheries. How do we
3 bring those people together and what's the
4 strategy to reconcile the sometimes competing
5 uses and strategies, and how do we blend them
6 together into a coherent policy.

7 What's missing. We don't
8 currently have an independent ocean advisor
9 to the president. Under the previous
10 administration's Ocean Action Plan, there was
11 a Committee on Ocean Policy that was formed,
12 but it was still a part of -- not a direct
13 report to the president. It was part of CEQ.

14 So that was one of the missing elements that
15 was needing attention from the JOCI report.

16 In both the Percipient witness and
17 the U.S. Commission on Ocean Policy Reports,
18 the emphasis on using the process and the
19 tool of comprehensive marine spatial planning
20 as a vehicle to help evaluate these different
21 choices, these public policy choices of what
22 to use, what to exclude, and how to exert

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1 some integration of these different ideas
2 into a way forward, and who's going to be
3 responsible and what's the process.

4 Well, what's missing is some
5 federal leadership to implement regional
6 ocean governance. So it would be done on a
7 regional basis, but with some federal
8 perspective on an overarching principle or
9 overarching national policy, and taking place
10 at the regional level for its execution.

11 So just as a sample of what a
12 national ocean policy statement might be
13 through some executive order, some
14 legislation or otherwise, but it would be:
15 The policy of the United States at
16 maintaining this healthy, resilient, and
17 sustainable ocean ecosystem function is a
18 guiding principle for all federal agencies'
19 activities and actions affecting the ocean.

20 So if you were going to be the
21 Minerals Management Service in charge of oil
22 and gas leases, alternative energy, your

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1 decisions would be guided by these ecosystem
2 principles of a national policy statement.
3 And these underlying characterizes of the
4 policy would include one or more of these
5 different principles, characteristics, or
6 attributes, that you'd have to make your
7 decisions, build in ecosystem resilience,
8 that you'd be mindful of protected
9 biodiversity. That in case of uncertainty,
10 scientific uncertainty you would adopt a
11 precautionary approach.

12 You'd want whatever decision-
13 making is taking place to be able to balance
14 passive and consumptive uses. It's not all
15 extractive. There's value and there's
16 benefits for passive use as well as
17 consumptive use.

18 So you go down here. These are
19 choices that need to be made and adopted that
20 support an overall policy statement. Two of
21 the most important ones, I think the last
22 one: Ensuring transparency and stakeholder

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1 engagement. And there's a variety of reasons
2 for that, but this administration has stated
3 from the outset that it hopes to be a much
4 more open, transparent, and participatory
5 form of policymaking than in prior
6 administrations. So that's a very important
7 attribute that underlies creation of an ocean
8 policy.

9 And, again, it's not rejecting all
10 uses of the ocean, because, we heard from
11 Tom's discussion, people are interested in
12 having the lights go on when they flip the
13 switch -- someone was telling me at the
14 break. So ensuring national security
15 interest. That's more than just national
16 defense interest. Those are competing uses
17 of the ocean environment. But food security,
18 energy security, these are all ideals that
19 are important to the public. They're all
20 going to have some cost and they're all going
21 to have some benefit with respect to the
22 governing the ocean. So we have to be able

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1 to identify what those are and be able to
2 evaluate them, give them weights. We'll look
3 at the priority. And do that in a
4 transparent and open means of engagement. So
5 those would be the essential characteristics
6 of a policy statement.

7 So now we're moving onto -- okay,
8 we have a policy statement. That's one of
9 the missing elements. The policy itself --
10 you know, the execution of the policy will
11 heavily rely on the collaboration of
12 partnerships with other people, particularly
13 the states, other levels of government, and
14 the stakeholders themselves.

15 And so Tom sent me up here, he
16 says, "Well, how do we bring together in one
17 place these multiple management authorities,
18 the different sectors, the different
19 constituencies?" Well, the answer is that's
20 what regional ocean governance is really
21 defined as. How do you do that? And we're
22 looking to figure out the best way forward.

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1 So people have researched this.
2 Other countries have looked at this:
3 Australia, Canada, and others, in terms of
4 developing a national perspective on ocean
5 governance. And research has shown that
6 there are different kinds of planning regimes
7 in use worldwide. And they're sort of listed
8 in a hierarchical order there of individual
9 sectors, managed segments of the ocean use,
10 but without any particular common ends in
11 mind.

12 And so Tom's example this morning,
13 when he talked about, well, there's a sector
14 plan for wind energy development that was
15 developed, brought together stakeholders
16 within that sector for a way forward for wind
17 energy, that to me, okay, that was an
18 excellent example of an individual sector
19 moving forward with planning, but not
20 necessarily in the context of common ends for
21 other sectors, right. And that's what the
22 second one would be.

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1 So if you had wind energy
2 complemented with these other sectors that
3 had agreed upon a national principle of an
4 ecosystem approach that made sure that the
5 function was maintained, you'd begin to more
6 progressively get through this desired end
7 point of having collaboration and integration
8 of these competing ideals and principles.

9 So as you move down you get to
10 something like number 3, a virtual
11 organization of partnerships, committee
12 structures, co-management. Some examples are
13 on the next page of what those mean.
14 Increasingly as you go forward to greater
15 degree of authority and control, an overall
16 coordinating body, and the read-ahead
17 materials, we had a side-by-side comparison
18 that was put out there for you about the
19 formation of regional ocean councils. I
20 don't know if you had a chance to look at
21 that. Pieces of legislation and the
22 Commission reports have talked about creating

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1 new entities, all the way to on the final
2 level, which is an overall management agency,
3 sort of this top down, overall authority for
4 the execution and management of a policy
5 statement.

6 So we tend to talk about these
7 recently in terms of soft governance, the
8 collaboration, and the identification of
9 common goals at the beginning, to hard
10 governance, where it all comes together at a
11 pinnacle. And there's a range of pros and
12 cons that are associated with each one of
13 these different approaches.

14 So what's the current U.S.
15 situation with regard to regional ocean
16 governance? These are some examples I've
17 been looking at and we've been evaluating.

18 You have these state-organized
19 regional collaboration alliances. That's a
20 mouthful, but I call them the big eight. We
21 have the West Coast Governors' Agreement,
22 Great Lakes Commission, Gulf of Maine

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1 Council. And these are, again, driven by
2 state organizations with federal partners.
3 We'll talk a little bit more about what the
4 pros and cons of some of these models are in
5 a moment.

6 We have these federally-chartered,
7 statutory-charted regionally fishery
8 management councils that are very familiar to
9 MAFAC and the roles and responsibilities that
10 they have. But we have other regional
11 federal entities in the Fish and Wildlife
12 Service, EPA, Minerals Management Service,
13 that have responsibilities for some of the
14 sectorial management policy decisions that
15 affect the ocean right now.

16 So we do have a variety of
17 different levels of governance from those
18 models from the previous page that are
19 already out there. Some of these are
20 collaborative, some of them are more
21 cooperation based, and some of them don't
22 have authority to actually implement rules or

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1 regulations.

2 And of course from the NOAA
3 perspective we have from Admiral
4 Lautenbacher's tenure we created these NOAA
5 regional teams to help promote NOAA's
6 participation in regional planning, regional
7 execution, and delivery of NOAA services to
8 various entities, whether they were these
9 collaborations of the big eight or just the
10 delivery of services to clients and customers
11 around the country.

12 Another example just as, again, of
13 an existing structure we have National Marine
14 Fisheries Services regional offices set up to
15 do policy for, under the Magnuson Act, under
16 the Endangered Species Act, under the Marine
17 Mammal Protection Act already operating it in
18 place with different partners and
19 stakeholders around the country. So there
20 are a variety of different models that are
21 out there.

22 So what's the current capacity of

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1 these groups to do regional governance?

2 Okay, you have a number of different groups
3 and entities that have been established. So
4 in the last couple of months our office has
5 been looking at this question. We've
6 interviewed the NOAA personnel because we
7 wanted to try to keep this sort of an
8 internal evaluation at this point. But the
9 NOAA personnel that are serving on these
10 major regional collaboration organizations,
11 the Gulf of Mexico Alliance, et cetera, and
12 the NOAA regional team members, to ask the
13 question: How well are they positioned to
14 help advance a regional ocean governance
15 model.

16 In other words, looking at those
17 different policy functions that we saw in the
18 earlier slides, what are their interests,
19 what are their priorities in there? Was
20 there close alignment. Do they have capacity
21 and interest to try to work on bringing
22 together in one place these different

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1 organizations in a transparent, stakeholder-
2 driven model? And so we have been trying to
3 do a little bit of reconnaissance on that.
4 So the good news is, well, most of them are
5 very much ecosystem centered, that they are
6 very much aligned with the idea of an
7 ecosystem approach to the management
8 decisions that they're facing.

9 The downside is the common end,
10 the common-shared vision, many of them were
11 established for different purposes, have
12 different foci on what's important to them.
13 There is some overlap with some of the ocean
14 governance model interests of NOAA, but
15 there's still a lot of work to do to try to
16 align them in a common end point in the
17 models that we were talking about earlier.

18 One of the other findings was in
19 many cases these entities that are created
20 are based on collaboration and working
21 together, but they really don't have any
22 governance authority. They don't have

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1 statutory authority to make rules, to enforce
2 laws, to create regulations. And so there's
3 a missing element there in terms of carrying
4 forward to an end point, the ideas of how to
5 move forward to: Well, we have the authority
6 to actually control and make these decisions.

7 Many of them have different models
8 of stakeholder and public participation. The
9 idea of bringing to a table these various
10 institutions is sort of remarkable in and of
11 itself. Federal, state, and local
12 governments working around the table, but the
13 ability to say that they have a transparent
14 process, that they have different
15 opportunities for public review and comments
16 sort of equivalent to what the regional
17 councils do and under the Administrative
18 Procedures Act of proposed rulemaking, final
19 rulemaking, judicial review of the results,
20 that's quite varied and not found very
21 frequently in these other institutions.

22 And of course the basis of all of

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1 our policy should be based on high-quality
2 science. And many of these venues have got
3 the science but there really isn't any
4 independent peer review standard or reference
5 point for the policies that they're proposing
6 or advancing. And so these are some of the
7 things that we were finding about the current
8 capacity to move forward.

9 Well, what's the future look like.

10 And so I mentioned earlier that in the peer
11 report and the legislation that's been
12 introduced for the NOAA Organic Act and other
13 pieces of legislation on the Hill, to create
14 new regional ocean councils. Okay. New
15 regional, and in some cases they're called
16 partnerships. So that's one model of the
17 future: New entities that don't currently
18 exist, to bring together under one umbrella
19 or one tent these different stakeholders and
20 these different priorities and perspectives
21 to do governance, to do policymaking,
22 decision-making, regulations.

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1 There are also other models that
2 people have proposed to modify the roles of
3 existing things. So we have these big eight
4 regional commissions. Do we reconstitute
5 them and instead of creating competing
6 regional ocean councils, adopt them, but
7 change those missing or weak links in their
8 structure and process to devolve governance
9 responsibility to them.

10 Another model is: What about
11 existing state programs themselves under the
12 Coastal Zone Management Act. Do we use that
13 as a vehicle to try to develop standards and
14 practices that states would then take and
15 implement them?

16 There are some models that have
17 looked at Fishery Management Councils and
18 expanding the roles and responsibilities of
19 those venues to include more since they're
20 doing ecosystem approaches to management, to
21 bring under some bigger umbrella
22 responsibilities for governance beyond the

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1 fisheries, marine mammal, and other
2 interactions that fisheries have that we have
3 authority for.

4 The Interstate Commission. So no
5 matter which way we go forward, and this
6 presentation doesn't have answers. What it's
7 designed to do is to provoke some questions
8 in your mind about, well, what do we think
9 might be the way forward. But any approach
10 for regional ocean governance, I think, ought
11 to address this question of how hard or how
12 soft that governance ought to be. You know,
13 is it one of collaboration or all the way to
14 the hard governance where there's one
15 management entity. What are some of the pros
16 and cons and why would we prefer or recommend
17 one over another?

18 It clearly has to be able to have
19 the competency to resolve conflicting
20 mandates, so to be able to capture
21 information and understand what the different
22 priorities are and what the benefits are of

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1 going forward with a use for a consumptive
2 use of a resource or leaving a resource
3 untouched or whether it's an MPA or a reserve
4 or a monument or consuming it for food,
5 consuming it for recreation, assumption it
6 for acoustic testing of military readiness.
7 There are all sorts of pros, cons, values,
8 and costs and benefits to these things.

9 How well do any of the proposed
10 models that we talk about have that ability
11 to put on the table and resolve those
12 conflicting mandates? And does that entity
13 then have the authority to implement,
14 monitor, and enforce the policy. You know,
15 is it more than just advisory? Is it a good
16 idea, the consultative roles we talked about
17 earlier where somebody's in charge of making
18 the decisions, they consult with other
19 agencies, and then they can accept that
20 advice or they can blow it off or do
21 something in between. So what's the
22 authority to actually carry through to

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1 fruition the recommendations of that policy?

2 Very much important, again I'm
3 tending to overemphasize it, but that
4 transparency, that public participation is
5 key to it, not just from an administration's
6 perspective that it's important, but in terms
7 of the buy-in and the ability to carry out
8 and implement that policy. You've got to
9 understand the role and the interests and the
10 ability of stakeholders to follow through on
11 the policies that are out there. And any
12 system that we come up with has to have that
13 design in at the outset.

14 And then what are the checks and
15 balances. Cases that we had some questions
16 about changing sanctuary designations once
17 they have been made. Once a monument's made
18 do we have any way to go back. What are the
19 checks and balances? So is it all in the
20 executive branch determination or is there a
21 check and balance with judicial review. Do
22 you avail people of redress if they feel

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1 they've been wronged in the process? What's
2 your institutional design going to do about
3 that.

4 Right now the situation on how we
5 integrate different competing ideas and what
6 do we do to resolve conflicts. We have these
7 systems that were set up under the Commission
8 on Ocean Policy, the Subcommittee on
9 Integrated Management of Ocean Resources,
10 Joint Subcommittee on Ocean Research and
11 Technology. But they really have the limited
12 effectiveness in resolving, competing, or
13 conflicting uses -- a very difficult time in
14 looking at consideration of these cumulative
15 impacts across multiple decisions over time
16 and space.

17 And clearly from another
18 perspective, you know just as a
19 consideration, NOAA Fisheries and the
20 Regional Fishery Management Councils under
21 MSA and ESA and the National Ocean Service
22 under Sanctuaries in the federal government

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1 are really the two principal regional ocean
2 governance authorities outside of the
3 territorial sea. In other words, in the EEZ.

4 They have the broadest federal agency
5 mandate to conserve ecosystems. So it's more
6 of an observation or a consideration than
7 anything else.

8 Some options to consider about how
9 one would move forward. SIMOR was one of the
10 entities that was created under the Ocean
11 Action Plan of the last administration.

12 What's the role of Congress? I want to try
13 to get to sort of the last couple slides here
14 on the trigger questions.

15 So it's important to this
16 administration, it's important to NOAA to
17 move forward on advancing regional ocean
18 governance. What changes might need to occur
19 in NOAA and in the Fishery Service and the
20 future that's based on that. How would our
21 responsibilities change, our research focus.

22 Do we need new authority, data requirements,

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1 resources, accountability. These are some of
2 the requirements for regional ocean
3 governance, just skip to these last two
4 slides.

5 So these are possible discussion
6 questions that the subcommittees could take
7 up this afternoon and debate. You could
8 brainstorm this, if any one of these
9 questions kind of turn you on. I think
10 feedback on them would be helpful. What role
11 should NOAA and informs have and what
12 responsibilities for regional ocean
13 governance. If some of the legislation moves
14 forward to create regional ocean councils,
15 how do you see them interacting with the
16 Regional Fishery Management Councils. In
17 some models they're a member of a Regional
18 Ocean Council, but how do you divide up that
19 turf, if you will, or that responsibility of
20 one entity being a sub-element of another.

21 What are NOAA's strengths relative
22 to the issue? I mean what services could we

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1 provide to some of these different models of
2 governance from soft to hard. Do we have
3 something to offer that other agencies don't?

4 As I was mentioning before, we have
5 different statutory authorities, different
6 research competencies, what services could we
7 provide.

8 With then the Fishery Service, we
9 have a certain structure that's set up today.

10 Would it be affected? Our science centers,
11 our headquarters, our regions be affected by
12 some of these different models and how would
13 that take place.

14 So the bottom line is: How would
15 these responsibilities for regional ocean
16 governance in the next administration impact
17 our current activities and our future
18 strategies. And how does that fit in with
19 things that we've already said are important
20 to NOAA, which are ecosystem based
21 management, our science based on integrated
22 conducting and creating integrated ecosystem

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1 assessments, and regional ocean governance.

2 How do these different principles fit in?

3 And one of the tools that we'll be
4 used to get there will be this idea of marine
5 spatial planning. And that's why I've asked
6 Charlie to come and give us a perspective on
7 how that tool, how that function could
8 complement this. But these were sort of the
9 discussion questions that I'd like MAFAC to
10 sort of mull over and consider and offer your
11 perspective on it back to NOAA and the
12 Secretary, because we're all about policy.

13 (Laughter at the slide.)

14 MS. McCARTY: Mr. Chairman, thank
15 you.

16 Mark, can you remind us how the
17 aquaculture role fits into this? I think
18 there is legislation, there was legislation
19 on the table. Can you remind us how that
20 fits into this regional piece? I just can't
21 remember how that imagines it will be run. I
22 just can't remember what that piece of

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1 legislation does.

2 DR. HOLLIDAY: Well, it creates
3 authority for sort of coordinated permitting
4 and development of aquaculture activities in
5 the EEZ with NOAA. And so one of the
6 additional responsibilities and one of the
7 uses of ocean territory would be -- permitted
8 uses would be for aquaculture. So that adds
9 that to the list of pros and cons for this
10 particular area. What are the gains, what
11 are the losses, and the responsibility would
12 not be with Minerals Management Service, it
13 would be with NOAA under these legislative
14 proposals for a comprehensive plan.

15 MS. McCARTY: Right. Under the
16 Regional Fishery Management Councils, or not?

17 I can't remember that part.

18 DR. HOLLIDAY: Not under the --
19 not under the --

20 MS. McCARTY: So under another
21 system of councils or something?

22 DR. HOLLIDAY: Well, through the

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1 federal bureaucracy as opposed to any
2 advisory council or aquaculture councils on a
3 regional base.

4 MR. RAUCH: If I could clarify
5 that? The bill the administration put
6 forward would have NOAA as the primary
7 permitting agency. They would consult with
8 the councils, but there wouldn't be any other
9 bureaucratic formation. A version in the
10 Senate did envision the creation of regional
11 aquaculture panels, one or more, and we
12 actually discussed whether those panels might
13 be a subset of MAFAC to provide advice on the
14 regional side of aquaculture facilities.
15 That issue is in a version of the bill in the
16 Senate.

17 MS. McCARTY: Okay. And, Mr.
18 Chairman, if I could -- where is that whole
19 process with those bills? Is it -- what's
20 your assessment of that?

21 MR. RAUCH: So the Senate
22 continues to work on it. The House is

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1 working on a bill which, as I said yesterday,
2 is more concerned with the environmental
3 aspects of aquaculture. They're fairly far
4 apart, so I don't believe that we're likely
5 to have legislation any time in the near
6 future because they're working on very
7 different texts.

8 MS. McCARTY: Okay. Thank you.

9 MR. BILLY: Vince.

10 MR. O'SHEA: Mark, this is a
11 terrific presentation at another great
12 strategic level, which I think is very
13 helpful and good, so thank you for doing
14 that.

15 One of the things I was pleased to
16 see in there and that's sort of the sad
17 reality of what our experience has been is I
18 think no one of your third bullets back there
19 was the sort of needed for an
20 enforcement/enforcing mechanism. So if we're
21 going to bring these groups together to solve
22 very difficult problems, the reason they're

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1 difficult is the tradeoffs are very sharp and
2 expensive and it creates vote split winners
3 and losers. So my first -- and I've gone to
4 these different workshops and things. And I
5 think that's a key element that has to come
6 through there.

7 The reality is you're going to
8 need a way for whatever group that emerges to
9 have of course a mechanism. You're only
10 going to get so far with cooperation. The
11 reality is you're going to get to some real
12 tough decisions and the sad part is it's
13 going to have to be a forcing mechanism. We
14 certainly learned that at the Commission and
15 I think that will be a theme through all this
16 discussion. Thanks.

17 MR. BILLY: Okay. Randy.

18 MR. RANDY FISHER: I'm curious
19 about one thing. Let's pretend like you
20 actually got to a point where you zoned the
21 ocean. Who would have the authority under a
22 situation like that? Nothing exists now,

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1 right?

2 DR. HOLLIDAY: Well, that's what
3 we're trying to identify, I think, is the
4 tool and the mechanism of creating -- the
5 tool for evaluating those different uses.
6 But who is going to exercise the enforcement
7 and the execution of that. And that's where
8 Charlie's -- that's where we kind of segue
9 from one presentation to the other. But I
10 think that's the regional ocean governance
11 model if you choose. There's got to be one
12 entity where this all comes --

13 MR. RANDY FISHER: Yeah.
14 Everybody works for somebody.

15 DR. HOLLIDAY: But you've got to
16 make sure that it's inclusive and that it's
17 transparent and it has a science basis. It
18 has all these attributes and we're asking for
19 your input on how that should be constructed.

20 MR. BILLY: Okay. Bill.

21 MR. DEWEY: So to Heather's
22 question, I'm just looking back at the ten-

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1 year plan for aquaculture and see if we
2 called out comprehensive planning for
3 aquaculture in the plan from a zoning
4 standpoint, and we didn't really. I mean in
5 the appendix there's reference to the
6 legislative drivers. And CZMA requires NOAA
7 to provide assistance to coastal states to
8 support comprehensive planning, conservation,
9 and management for living marine sources
10 including planning for the siting of
11 aquaculture facilities within the Coastal
12 Zone.

13 This is an area of significant
14 concern to our industry, particularly in
15 Washington State. It's both affecting -- use
16 conflicts are affecting our existing farms
17 that have been in place for over 100 years,
18 but it's also affecting our ability to grow
19 and expand our industry as well. And we've
20 been advocating to NOAA as they look to
21 reauthorize CZMA, to try to include some sort
22 of directive to the states to encourage

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1 comprehensive planning for aquaculture
2 development. And not just in federal waters
3 but in state waters, to help us deal with
4 these use conflicts. So this direction from
5 our standpoint is perfect. I mean we need
6 this.

7 MR. BILLY: Anyone else? Yeah,
8 Eric.

9 MR. SCHWAAB: Tom, I'm not sure
10 what to make of this but just the thought
11 that occurred to me when you were going
12 through your principles that I'll just toss
13 out. That it seems like a lot of these
14 issues whether it's offshore, renewable, or
15 energy-development issues, that we get
16 focused on sort of the cost-side of the
17 equation. It sort of harkened me back to the
18 comment yesterday on consumption advisors.

19 And we get all focused on sort of
20 the cost-side of the equation and who's
21 against this and who's against that and who's
22 against the other. And I think it sort of

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1 argues that we really need sort of this
2 benefit side of this conversation imported
3 into this ocean governance question and just
4 as a thought.

5 MR. BILLY: Good point, yeah.
6 Thanks.

7 Randy.

8 MR. CATES: Mark, on the one slide
9 you had on the missing element, I know you
10 mentioned food security under security. I
11 think it would be beneficial to actually get
12 back to labeling in writing "food production,
13 food security," because we see a whole list
14 of conservation issues or management and
15 we're not seeing much in writing about what I
16 think is a major important role of NOAA and
17 the National Marine Fisheries is to protect
18 our food production.

19 VICE CHAIR BALSIGER: You think
20 we're under the Department of Commerce, or
21 what?

22 (Laughter.)

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1 MR. CATES: Yeah.

2 MR. BILLY: Well, it is
3 interesting, I mean we talked about
4 acidification and energy, but a lot of what
5 NOAA Fisheries does has to do with food.

6 MR. CATES: And yet we don't see
7 it. We don't see it in writing that that's a
8 major responsibility.

9 MR. BILLY: Okay. Let's move on.
10 Charlie.

11 MR. WAHLE: Thank you. My name is
12 Charlie Wahle. I work for NOAA's National
13 Marine Protected Area Center and I'm the
14 Senior Scientist there.

15 MR. BILLY: A little louder,
16 please.

17 MR. WAHLE: Sorry. So I work for
18 NOAA in the Marine Protected Area Center. My
19 office is based here in Monterey, about a
20 quarter of a mile that way.

21 My day job has to do with a form
22 of comprehensive planning, thinking about how

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1 best to use MPAs as a management tool.

2 Increasingly my night job, which is starting
3 to spill over into the day more and more, is
4 to help a group of people within NOAA think
5 about marine spatial planning, what it means
6 both to NOAA, to the nation, how we might get
7 from here to there, and how we might
8 articulate some of these ideas.

9 So what I'm going to talk to you
10 about today, and I very much appreciate the
11 opportunity to discuss this with you, is sort
12 of some of the thoughts that have been coming
13 up within NOAA. It's by no means an official
14 policy statement. We're not even there yet,
15 but there are a lot of very clever people
16 thinking very hard about these issues around
17 the clock for the past couple of months. And
18 I'm going to try to distill some of those
19 thoughts for you today.

20 I don't think would have been news
21 to you anyway, but it certainly isn't by now
22 in today's sequence, that the oceans are

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1 getting to be really crowded places. Decades
2 ago you could go out on the water and be by
3 yourself and it's just not true anymore. And
4 it's not just other people doing what you
5 might be doing, but there are other people
6 doing a lot of other things.

7 One of the principal sectors of
8 ocean use of course is fishing of all kinds,
9 commercial and recreational. But there are
10 also an equal number or at least a large
11 number and a growing number of non-
12 consumptive uses, typically recreational
13 activities, which are all over the place.
14 Many of you probably engage in one form or
15 another of them, and are generally poorly
16 understood largely because they're not
17 regulated and, therefore, not well
18 documented. But they're happening all over
19 the place in the same places as some of the
20 fishing activities.

21 And then, as you've seen in the
22 themes today, there's a lot of growing

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1 activity and interest in emerging uses
2 related to industrial applications and to the
3 military. And these are driving a lot of
4 analysis and policy deliberations about how
5 do we deal with this. Do we just put them
6 wherever they want to go? If so, who's
7 displaced, who wins, who loses, that kind of
8 thing. Hence the thinking now about how we
9 need a better way.

10 And then, finally, there are the
11 funny uses that my friends from the National
12 Ocean Service will probably recognize all
13 occur in National Marine Sanctuaries that,
14 you know, might want to just not even know
15 about, but they're happening. These are all
16 in Florida.

17 So where does this take us. We've
18 got all this stuff going on in the ocean and
19 we all want it to work and we want it to work
20 well and smoothly and we want the oceans to
21 continue to function and provide us with the
22 services and benefits that are outline on the

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1 right. So in order to achieve these societal
2 outcomes of healthy ecosystems and social and
3 cultural and economic benefits, reduced user
4 conflicts, we've developed all these
5 management schemes, many of which you all are
6 directly involved in.

7 The challenge with this is that,
8 as you've seen this more than, I think we
9 already know the answer, is these all require
10 information and insight and actual management
11 action on something we don't know much about.

12 And that's how and where and why and to what
13 impact we use the ocean.

14 We're pretty good at the
15 theoretical side and we spend a lot of money
16 on the science and policy, the fussing side
17 of figuring out what the outcome should be.
18 But we're lacking a little bit in the middle.

19 And that's, in fact, one of the main focal
20 areas of marine spatial planning and of my
21 work in NOAA, is to get some of the
22 information into that circle about ocean uses

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1 and what they mean.

2 So what's really missing from this
3 whole picture and what we need in order to
4 get from where we are now to where we -- Mark
5 articulated it, at that kind of policy level,
6 is a clear and rigorous and supportable and
7 transparent understanding of all those
8 different uses, where they happened and what
9 they mean to the ocean and to us. And we
10 just don't have that.

11 As you've heard in all these
12 examples, they basically involve two things:
13 One is we don't know what we're doing and we
14 don't have the authority to do it anyway. So
15 we have a problem that we need to fix.

16 And the first step in fixing that
17 is to paint this picture of where are those
18 uses and what do they mean.

19 So I want to take you -- this is
20 not a shameless advertisement exactly, but
21 it's a project that we're doing because of
22 that problem, to fill that gap, the paint the

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1 picture of human uses in the ocean, starting
2 in California. We call it the Ocean Uses
3 Atlas. It's grant-funded and it's an effort
4 to document using expert input 30 consumptive
5 and non-consumptive and industrial uses, from
6 zero to 200 miles out throughout California
7 waters. And we view that as a pilot for
8 doing the same thing nationwide. We're
9 almost done with the data gathering and we're
10 about halfway through the analysis.

11 So what I'd like to do is show you
12 just what kinds of insight are coming out of
13 it. The details aren't really that
14 important. But, Tom, I recognize this as the
15 results of our Southern California mapping
16 project. And we show here the pattern of
17 motorized boating in Southern California, the
18 darker areas represent places where there was
19 greatest agreement that the activity was
20 occurring.

21 And you can see that there is a
22 lot of boating going on everywhere, not

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1 surprisingly, but there are places where it
2 tends to be more concentrated. You can also
3 take that same data, and remember this is for
4 30 uses now, and roll it up into aggregations
5 of uses that have some relationship to each
6 other. Here we have it for commercial
7 fishing and you see the same idea: Lots of
8 activity and several hot spots, some of which
9 are directly adjacent to the new no-take
10 reserves.

11 Then when you roll them all
12 together, the giant picture emerges, which is
13 pretty scary. This is the use equivalent of
14 the pH issue we had this morning, where this
15 region is saturated with human use. Of one
16 kind of another, somebody's doing something
17 out there all the time. Not necessarily a
18 bad thing, but if the job is to try to find
19 ways to manage and allocate those uses,
20 that's a real challenge. And this is the
21 first time we've developed a kind of a
22 comprehensive dataset to make it at least

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1 possible to have the conversation.

2 Then finally you can begin to get
3 to the real question which is what do these
4 uses mean to each other. And here we've
5 combined all the uses within the three
6 sectors and then mapped the three sectors on
7 top of each other. And the details aren't
8 important, but you see there's a lot of
9 overlap. All that busyness that you can't
10 really interpret. What that means is those
11 are places where many of these uses are
12 happening in the same place at the same time,
13 thus the potential for some sort of use
14 conflict.

15 So that's given us data,
16 basically. It's a tool and it's intended as
17 a tool with a purpose. The purpose is to
18 make it possible to understand the uses but
19 also make it inescapable that there's a lot
20 going on out there and we need to have a
21 better way to manage it comprehensively,
22 because piecemealing it probably isn't going

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1 to work.

2 Now the three things that happen
3 when you do this kind of stuff piecemeal, as
4 you all know better than I, is: One, there's
5 increasing pressure on ocean resources and
6 ecosystems, so more use of more kinds, we
7 begin to see sort of stresses in the system.

8 The second is there are increase
9 in conflicts among users. You can see sort
10 of examples of that, especially the guy on
11 the board who's about to get chopped up by
12 the blades.

13 And then, finally, and probably
14 most significantly for the fishing sector, is
15 that some of these uses are permanent
16 allocations of space that exclude other uses,
17 whether intentional or not. And so these
18 result, or at least they have the potential
19 to decrease access, decrease the pie that
20 we're all trying to carve up. And so we
21 really need to know this stuff.

22 So that brings us to how. I think

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1 that we all understand probably equally well
2 that we need to do this, but now the question
3 is how do we do it and how quickly can we do
4 it. And that's where this concept of marine
5 spatial planning arose. It's not entirely
6 new, but it's been sort of rethought and
7 modernized and basically it's the way to
8 figure out how things are arrayed in space
9 and how we want them to be arrayed.

10 And we have within NOAA there's a
11 group that's working on this and we've
12 developed a very draft working definition, so
13 think of this as just ideas at this point.
14 But it's important because it has some really
15 key concepts. The one, probably the biggest
16 is it's comprehensive, meaning all uses and
17 it's ecosystem based. So it's intention is
18 to look through the lens of sustaining a
19 healthy ecosystem, how do we allocate uses.
20 It's a process through which compatible human
21 uses are objectively and transparently
22 allocated to appropriate ocean places. So

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1 they're not just willy nilly put somewhere.
2 They're put somewhere where it works for the
3 use and the ecosystem and other comparable
4 uses in order to sustain critical ecological,
5 economic and cultural services, not just for
6 us but for future generations.

7 It's a tall order but it's what we
8 all know we need to do and, in fact, these
9 concepts are embedded in virtually every
10 statutory authority we all work under, it's
11 just how to get them integrated is the
12 challenge.

13 So this is sort of what we're
14 thinking within NOAA in a very informal way
15 now about how to execute this kind of
16 process.

17 There are examples, just in case
18 you're wondering if this is just some crazed
19 idea that popped up out of nowhere. This has
20 been going on for some time in other places,
21 in Europe, in Australia at the Great Barrier
22 Reef, in New England, in many of these

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1 coastal regional ocean government consortia,
2 and even in our own work in developing a
3 comprehensive national system of MPAs, the
4 same basic process. Where are the important
5 places, what's vulnerable, who's using them,
6 how do you allocate that.

7 Now within this group within NOAA
8 we've struggled with, well, how do you
9 organize these concepts into something that
10 you can actually work from. It's one thing
11 to say we need an integrated, comprehensive
12 approach to ocean management, and then go to
13 lunch. It's another thing to really lay out
14 a framework that then drives a workplan that
15 results in that outcome. And this is -- the
16 current thinking is that that framework has
17 basically two big themes. One is
18 information, spatial data, and planning
19 tools. The other is the policy framework and
20 the leadership action that makes that
21 information turn into comprehensive
22 management.

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1 So within the data and planning
2 tool it's not surprisingly it's spatially
3 explicit information about the ecosystems,
4 where are the important or the vulnerable
5 places, where are the places we value for one
6 reason or another.

7 The second is spatially explicit
8 information about ocean use. It's not just
9 where they occur but what do they mean to
10 people, what are their benefits, what are the
11 impacts.

12 And, finally, and this is key I
13 think for the near-term in NOAA, a set of
14 decision-support tools that make it possible
15 for stakeholders and agencies and anyone
16 interested in the ocean to explore the
17 implications of these uses in a real place.

18 Now the second theme has to do
19 with: Then what, so you have all this
20 information and basically the two areas of
21 interest are interagency coordination and
22 regional planning, which is largely what Mark

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1 was talking about. And the second is the
2 underlying policy framework that makes that
3 possible, also a large part of talk, which
4 was essentially we need a mechanism to enable
5 or even require this kind of activity to
6 occur.

7 Now I'm not going to belabor this
8 because it's strikingly similar to Mark's
9 slide, which probably suggests I didn't do my
10 homework, but basically to get from where we
11 are now to a more comprehensive integrated
12 approach to ocean management, there are some
13 sort of evolutionary stages we can go
14 through. The real issue is how quickly do we
15 move through these stages. How fast can we
16 go from sectoral management to collaborative,
17 integrated planning but still using our own
18 independent authorities to a more integrated
19 comprehensive ocean management structure. I
20 have no answer to that. That's clearly sort
21 of a policy level issue and there are a lot
22 of things that have to happen no matter which

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1 one of those options occurs. And that's
2 basically the meat of marine spatial
3 planning, is making it possible to have the
4 information to execute any one of these
5 strategies. So that's where we are.

6 There are really a couple of
7 things that have come out of our thinking and
8 were reinforced in the talk today. One is
9 that we clearly in the very near-term, like
10 today, need better insight into what's
11 happening in specific places in the ocean.
12 We need to understand what those places mean
13 ecologically and economically. And we need
14 to understand how the uses affect them.

15 We also need venues for this
16 larger conversation, and that could be a
17 formal thing. It could be an informal
18 gathering. But we need to begin playing with
19 that information in a way that has an
20 outcome, which is: Here are some possible
21 solutions.

22 And then I believe that we need to

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1 act now. It will take a long time to develop
2 the authorities to do what we know we
3 ultimately must do. But I think most of
4 these things, these FERC permits for example,
5 are happening today. They're not five years
6 from now. And so we need to develop the
7 tools to at least allow us in an ad hoc way
8 or an interim way to deal with that stuff
9 right now.

10 So that's it. I appreciate the
11 opportunity to talk to you all and be happy
12 to answer questions.

13 MR. BILLY: Sam.

14 MR. RAUCH: Thank you. I really
15 liked your definition of marine spatial
16 planning and I want to talk about that
17 definition and then the mapping issue for
18 just a minute.

19 The way that I think of marine
20 spatial planning is you could -- people think
21 about it in three different ways. One is
22 that it's a tool for mapping and to get all

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1 the uses together and then coordinate.
2 Everybody should talk to each other. And I
3 think we're fairly good at doing those kinds
4 of things. We need to make more progress in
5 actually doing the work, but we're structured
6 well to actually carry out this kind of use
7 mapping and talking to other agencies and
8 other government structures.

9 The second one is to have some
10 sort of, as we said, arbiter of uses as they
11 arise. Somebody to say do this and don't do
12 that. I don't think we're well suited to
13 that, but that's -- even that's a more
14 simplistic way to go about it.

15 The third way, and this is the way
16 your definition is set up, which I like that,
17 is to allocate ahead of time what the sort of
18 uses of the area will be so that you avoid
19 those uses conflicts up front which requires
20 an arbiter to come say at some point this is
21 what this would be good for. And so we've
22 been struggling with that definition, and I

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1 like the way you've set that up.

2 I don't think we're well set up to
3 do that one either, so anything that involves
4 sort of the arbitrating uses, I don't think
5 there's a very good structure because it's
6 not just a federal issue. If it were a
7 federal issue it would be somewhat easier,
8 but it is a state and international issue as
9 well. A lot of these issues happen on the
10 states. And a lot of them that we're dealing
11 with, we can't just -- one thing we tend to
12 focus on is just the ocean uses itself,
13 looking at whether you want to put an
14 aquaculture farm or a wind farm, or whatever.

15 We've also got to look at onshore impacts
16 into the ocean, because onshore development
17 as it's releasing pollution and sediment and
18 things into the ocean, that's an ocean use.
19 The drainage from the onshore uses is an
20 ocean use and we need to figure out a way to
21 incorporate that into the planning.

22 The other thing about mapping --

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1 so the other part about mapping that I think
2 we're struggling with is the third dimension.

3 We're fairly good, where we can, at
4 overlapping existing uses looking at the top,
5 but that doesn't necessarily tell you what
6 all we need to know because we need to know
7 who is using the bottom, who is using the
8 column, particularly for fishing impacts, and
9 who's using the surface.

10 And there may be that those are
11 overlapping uses but they're not conflicting.

12 Or it may be that they do conflict when you
13 look at them in three dimensions. So we need
14 to figure out some way to deal with that.

15 And my final statement on mapping
16 is it seems to me that there is a lot of
17 effort by a lot of different agencies and it
18 is very disjointed. We heard about the
19 Marine Cadastre, we heard about this effort.

20 There's a lot of effort going on to map
21 various uses. And so my sense of it is we're
22 both overinvesting and underinvesting in that

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1 we've got a lot of inefficiencies and a lot
2 of different people doing different things.
3 And I'm concerned that they will at some
4 point talk to each other, and we're not
5 getting the comprehensive ocean-wide look at
6 it. We can get areas like off California,
7 but is anybody looking at it comprehensively
8 so that you can actually talk to each other.

9 And so those are some of my
10 concerns.

11 Thank you, Mr. Chairman.

12 MR. BILLY: Okay. Thanks.

13 Heather.

14 MS. McCARTY: Thank you. I'm also
15 interested in the definition and it seems to
16 me that something that Sam said is kind of
17 what I was thinking, and that is that it's
18 not just spatial planning obviously, it
19 really is zoning because it's talking about
20 the appropriate uses. And so it's more like
21 marine use planning which has a spatial
22 consideration.

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1 And it seems to me that there's
2 quite a leap between the mapping that you're
3 doing now which establishes the footprint of
4 the current uses and the mapping that you
5 might do if you had a wish list as to what
6 uses are appropriate. And that leap is the
7 arbitration or the decision-making process
8 that Sam is referring to, which would include
9 the authority to enforce all of that. And so
10 it's more than spatial clearly.

11 Are you actively seeking to avoid
12 the term "zoning"?

13 MR. [SPEAKER]: Yes.

14 MR. BILLY: It wasn't me.

15 MR. WAHLE: Yes.

16 MS. McCARTY: I'm just curious.

17 MR. WAHLE: I mean personally I
18 tend not to use it because it seems to have a
19 negative reaction often for all kinds of
20 reasons, some real, some probably not.

21 My sense is that we're in that
22 sort of funny terminology gray area where

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1 some time in the near future we'll come to
2 our senses and come up with something that's
3 a little more compelling sounding than this.

4 But the core idea is there and clearly the
5 outcome is, in effect, zoning. It may not be
6 exactly like zoning on land, but it's the
7 allocation of use to particular places.

8 Your question about our mapping
9 project and the scope of it, you're exactly
10 right. And we do ask in the mapping
11 workshops the experts to project out in the
12 future about emerging uses with this very
13 thing in mind. But we also recognize that
14 this is really just the beginning of the
15 conversation about how you would evaluate the
16 suite of uses in an area, but it's surprising
17 and it took us a long time to come to grips
18 with this. That's where we are in terms of
19 the information. There's very little, other
20 than fishing and the few oil rigs, there's
21 very little data on human use that you can
22 use in a consistent, comprehensive way across

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1 regions.

2 And so we made the strategic
3 decision to start what we thought was simple,
4 it turned out to not be simple, of just where
5 is it happening, and then build on that with
6 what does it mean and how it might change and
7 really get into the real meat of it.

8 MR. BILLY: Thank you.

9 We have one more presenter. My
10 proposal is we'll go till 12:30, so I hope
11 that will work.

12 Paul, the floor is yours.

13 Yeah, Bob. Oh, I'm sorry, Bob.
14 You're on the list, too.

15 MR. FLETCHER: You know when you
16 were talking, Charlie, I immediately started
17 harkening back to something that fishermen
18 have been preaching for years and that that
19 is nobody's ever taken a look at the
20 cumulative impacts of things that happen in
21 the ocean on fishermen. And this definition,
22 maybe I'm missing something, but one of the

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1 things that I don't see there is that social
2 impact of cumulative burdens placed on
3 fishermen, because they were really some of
4 the first ones out there using the ocean.
5 And one layer after another of burden was
6 placed on them.

7 And you've done a pretty good job
8 of identifying a lot of the layers of burden
9 that have affected fishermen. Recreational
10 fishermen, it's not so much ecological or
11 economic. Maybe it's cultural, maybe that's
12 where we fall, but I didn't see in this
13 process that you've developed to show the
14 full array of cumulative impacts on fishermen
15 that have happened. And every one have
16 further restricted fishermen somehow,
17 somewhere, either across the waters or
18 restricting their ability to fish. This
19 cumulative thing has never been properly
20 addressed in my mind and I'm thinking maybe
21 what you've done here is the beginning of the
22 way to address that problem.

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1 For example, we have pollution
2 impacts on the mainland in Southern
3 California, but we can't ever address that
4 because that's always politically, oh, you
5 don't go there. Fishermen are the ones that
6 they get a hold of to further restrict, but
7 their resource has been cut back because of
8 those pollution elements. So I guess I'm
9 kind of wandering, but I see this as a
10 potential to get at some of the concern that
11 fishermen had over a long period of time.
12 And like we were the first in and we're
13 getting to the point where we may be the
14 first out.

15 And so when you do this work,
16 rather than just make us all various
17 consumptive and non-consumptive, you've got
18 to look at that big picture and make sure you
19 don't lose sight of there's a break point at
20 some point with all these other uses, there's
21 going to come a time when that will break
22 fishermen. And I hope you're sensitive to

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1 that as you develop this comprehensive look.

2 MR. WAHLE: It's a very good
3 point. And I think there is a lot of
4 awareness of that and part of it is there
5 will be several layers that deal with the
6 regulatory overlay in places. A lot of our
7 own work does that. But also there is the
8 more complicated thing of whether the impacts
9 on a particular usage, that would all fall
10 into that decision-support tool, but I think
11 maybe we need to make it more clear that it's
12 going into the soup so that it doesn't look
13 like it's being ignored.

14 MR. FLETCHER: I'm just glad I'm
15 old now and --

16 (Laughter.)

17 MR. FLETCHER: -- I don't have to
18 face the future.

19 MR. BILLY: I think we're going to
20 shift to a plan B here. We're going to hold
21 Paul till after lunch and give him a little
22 bit more time and squeeze Alan a little bit,

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1 which he's agreed to. And we've got a couple
2 more people that would the like the floor, so
3 Tom.

4 MR. RAFTICAN: This has been a
5 sobering morning. I was looking around the
6 room before and it was dead quiet. We all
7 have priorities and it was interesting
8 because what we saw this morning were other
9 people's priorities being placed alongside
10 and sometimes over ours. And obviously we
11 got to deal with it.

12 I think one thing about Charlie's
13 definition, though, if you were looking at
14 it, the thing that I would change on it is as
15 you get down to the last line, to say:
16 Crucial ecological, economic cultural
17 services for today and future generations.

18 I think the stuff that you're
19 looking at right now, as you quite accurately
20 put, these are things that are affecting us
21 right now. And how we deal with them now, we
22 deal with them now. And many of the

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1 priorities are already set out there, it's
2 just how do we start integrating them. But I
3 think the deal is it is for today and for
4 future generations.

5 MR. BILLY: Patty.

6 MS. DOERR: Your work especially
7 with the ocean use as atlas and in general on
8 this whole topic, are you looking at -- and
9 by "you" I mean you MPA Center and NOAA --
10 looking at the scientific data that kind of
11 underlies all of this, the state of the
12 fisheries, the state of the habitat, what's
13 there, what's not, what's the impact of the
14 various uses on the fisheries and the habitat
15 and stuff like that? Because all I saw there
16 was just the uses, but then there's under- --
17 the undercurrent of the data and its impact?

18 MR. WAHLE: Yeah, that is in fact
19 what we're doing. Our job is to think
20 through a national system of Marine Protected
21 Areas, taking into account all those things.

22 But we very quickly realized that the one

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1 thing that there just is virtually no
2 information on are these uses. So you can
3 think of it is as a separate layer in a cake
4 of information and the other layers include
5 the regulatory data, ecosystem information,
6 impacts, conflicts, all that stuff. So we're
7 sort of working on them in parallel.

8 And the way I described it, it
9 wasn't put in the context, but it's for that
10 reason, yeah.

11 MS. DOERR: So there's somebody
12 within NOAA, within the Ocean Service or the
13 MPA Center working on data needs --

14 MR. WAHLE: Yes.

15 MS. DOERR: -- and scientific
16 needs?

17 MR. WAHLE: Absolutely.

18 MS. DOERR: To input into --

19 MR. WAHLE: Yeah.

20 MS. DOERR: -- the marine spatial
21 planning?

22 MR. BILLY: Bill.

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1 MR. DEWEY: One flaw that I have
2 with the definition is it seems to suggest
3 that all uses are somehow compatible. And
4 that's part of -- in my mind that's part of
5 what you need planning for, is to recognize
6 that some uses aren't compatible but they
7 have a higher priority from a national policy
8 objective standpoint, whether it's food
9 production or energy production, that you
10 need to plan for and there needs to be an
11 arbiter, a process to resolve that. So I'm
12 challenged by the inclusion of compatible or
13 at least maybe needs to see compatible and
14 non-compatible or something to make that
15 assumption that everything's going to be
16 compatible.

17 MR. WAHLE: Yeah. I think you're
18 right. A lot of us weren't really
19 comfortable with that, but what we were
20 trying to signal was there may be uses that
21 because they're compatible would be put in
22 the same place.

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1 MR. DEWEY: I definitely
2 acknowledge that.

3 MR. WAHLE: Yeah.

4 MR. DEWEY: I mean there's lots of
5 things that are going to be compatible --

6 MR. WAHLE: Yeah, you're right, --

7 MR. DEWEY: It's inevitable there
8 are going to be things that aren't.

9 MR. WAHLE: -- it's confusing.

10 MR. BILLY: Okay. Ed.

11 MR. EBISUI: I have a concern that
12 was touched on by Bill and that is when I
13 read it I thought of some selective process
14 going on where only so-called compatible uses
15 are considered. I'm hoping that's not the
16 case, because not all the uses are
17 compatible. And at some point in time you're
18 going to have to prioritize them.

19 MR. BILLY: Jim.

20 VICE CHAIR BALSIGER: I was
21 thinking the same thought and then I thought
22 a better way to read it would be looking at

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1 processes and uses that are compatible with
2 using the ocean for future generations. So
3 make the compatibility with fitting in the
4 ocean, if it's incompatible with having a
5 future in the ocean, don't let it go any
6 place. So if you can have a use that's
7 compatible with an ongoing useful ocean, then
8 those are the things that you have to
9 allocate.

10 MR. BILLY: All right. Food for
11 thought. We're going to break for lunch.
12 It's 12:15, so be back by 1:15 at the latest,
13 hopefully a little earlier than that if you
14 can. 1:15 at the latest. We will start at
15 1:15.

16 (Luncheon recess taken from 12:15
17 p.m. to 1:25 p.m.)

18 MR. BILLY: We've heard about some
19 of the planning efforts at the NOAA Fisheries
20 level as it relates to multi-sector ocean use
21 and governance. And now we're going to take
22 an even broader perspective and look at NOAA

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1 strategic planning and how it can be
2 supportive of this kind of work, that kind of
3 work as well as more broadly. So let me
4 introduce Paul and turn the floor over to him
5 to share with us his presentation.

6 MR. DOREMUS: Thank you. It's a
7 great pleasure to be here. I really
8 appreciate the opportunity to be able to talk
9 to you about what's going on in NOAA as far
10 as trying to put together what we are calling
11 it the next generation strategic plan.

12 Clearly, with the leadership
13 transition that we are going through now,
14 it's an appropriate time for that reason,
15 among several others, that I'll allude to
16 here, to really step back and rethink what
17 kind of course NOAA is on. And I think input
18 from this group has already factored into our
19 thinking, and I will mention that along the
20 way, the Vision 2020 document in particular
21 has been very useful for getting us to the
22 stage that we have gotten to. And I'm really

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1 here today to invite your participation in a
2 number of different ways, which I will
3 mention further as NOAA goes forward and
4 really tries to cast what we are calling the
5 next generation strategic plan.

6 It's been a great pleasure for me
7 as well to be able to attend your whole
8 proceedings here and benefit from the variety
9 of conversations that we've been having on
10 major issues, and that all, I consider to be
11 a direct source of input into our corporate
12 thinking about major trends and issues that
13 affect your set of interests and the
14 communities that you represent.

15 So I'm here, really, to put
16 forward four questions. And I'm going to
17 step through these slides quite briskly
18 because I know we are behind and I want to
19 make sure I don't take up too much of Alan's
20 time. And if you've got a full agenda for
21 the afternoon. But we will be available
22 throughout the day today to follow-up on

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1 this, and certainly, through any kind of
2 channel after today as well.

3 I'm going to cover a segment on
4 each of these topics starting off with just a
5 thumbnail sketch of some major trends. This
6 is a presentation that I have been using for
7 all of an NOAA's federal advisory committees
8 as I have been able to move across them or
9 cooperative institute directors and a variety
10 of other internal and external communities.
11 So I will be giving you a kind of cast, the
12 same kind of casting as how we are thinking
13 about and trying to approach, really, the
14 challenge of framing and advising the new
15 administration on a set of five-the year
16 goals, four or five-year goals, in the
17 context of NOAA's mission responsibilities.
18 And that's sometimes a lift, but --
19 particularly in Washington where we think
20 budget year to budget year. And the idea of
21 thinking even five years and out takes a bit
22 of a stretch. But I imagine that is less of

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1 a challenge here given your own thinking that
2 is, I think, represented in the Vision 2020
3 document. Looking at the long-term at what
4 you want to see in it major domains on how
5 things should evolve over that time period.

6 We are taking a slightly different
7 approach because of the high degree of major
8 issues that are highly uncertain and have a
9 big impact on both the demand for what NOAA
10 does and how we will be able to meet those
11 demands in the future. And I would just talk
12 about the process in the second to questions:

13 How we are developing our short-term in the
14 context, the long-term strategy and how you
15 all can participate in addition to ways that
16 you, in effect, already have.

17 A couple of quick trend slides,
18 and I will go through these very briskly.
19 Climate, when you look out, particularly at
20 the 2035, which is where we are kind of
21 trying to start, cast out 25 years and ask
22 how the world might be different. This is

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1 one that you could pick, you know, a million
2 different sources of data to try to drive
3 home the notion of major impacts from long-
4 term climate trends. And this is one of
5 those visual things that always seems to
6 work, from my vantage point. It's the visual
7 look at the shrinking polar ice. If you look
8 at things like the Arctic Marine Navigation
9 Committee's 25-year scenarios in that region,
10 they don't ask, will the ice retreat, they
11 ask how much and how fast.

12 This is the kind of trend at
13 baseline projection out over a number of
14 decades, but you see a rather dramatic change
15 their, with all kinds of impacts, not just in
16 the Arctic region but in terms of global
17 climate dynamics. There are already
18 challenges that many people up in that
19 region, close to that region, are familiar
20 with in the fisheries domain among others in
21 terms of changed migratory routes, changing
22 impact on the fisheries, on the navigation,

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1 on a variety of economic and societal ways of
2 doing business in the region that are being
3 impacted now. This isn't a theory or
4 something that is going to happen in 10, 20,
5 40, 50 years. It is quite real now and with,
6 I think, increasingly dramatic impacts over
7 time.

8 Similarly, global precipitation
9 patterns, areas warming, -- or areas drying,
10 areas getting more wet. This is a look over
11 -- back, we can project out over time at a
12 global scale. We need that at a regional
13 scale as well.

14 Slides that I often use along
15 these lines to point out again, something
16 that I think you are well familiar with,
17 NOAA's major mission responsibilities don't
18 move dramatically year-to-year. You are not
19 going to see major perturbations in the
20 things like global fish stocks. Our actions
21 that we take near-term are actions that will
22 play out over a long period of time. I think

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1 many of the discussions this morning really
2 drove home that point. The ocean
3 acidification discussion, the difficulty in
4 the long-term nature of setting up governance
5 regimes to deal with conflicting of multiple-
6 use sorts of issues -- these are all part of
7 the mix of issues that are going to take
8 place in coming years that will have a big
9 impact on how we are able to deal with things
10 like sustainable -- creating and managing
11 sustainable fisheries in all the ecosystems
12 that they reside within.

13 We often use this slide, too, to
14 drive home another point, is that it's not
15 just about the environmental trends
16 themselves, and again, all the issues that
17 you're dealing with here are very much to
18 this point. This is just a slide that we
19 used to characterize the governance nature of
20 the fisheries management challenge. It is a
21 -- actually taken from a recent issue of
22 *Nature* just a few months back. Compliance

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1 with FAU's voluntary code of conduct for
2 responsible fishing. A couple of takeaways
3 in addition to the fact that governance
4 issues, policy issues play a big role in our
5 thinking about long-term trends is the
6 relatively large number -- the large number
7 of countries involved, the large number that
8 fall below what is considered to be a pass-
9 fail sort of the standard of 40%, even with
10 room for continued improvement for countries
11 at this end of the spectrum here: Norway,
12 US, Canada, Australia, Iceland; countries
13 that are performing high relative to these
14 standards are still only at a level of act or
15 slightly less than 60%.

16 Absolute issue isn't so much the
17 accuracy of the measure but the general
18 concept here that it's a global problem and
19 that working on the common solutions is a
20 long way off. Look at the energy domain.
21 What are we going to see? We heard a
22 presentation this morning about trends in

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1 alternative energy. What are we going to see
2 in terms of any kind of change in supply and
3 demand along the energy front, not just
4 composition but also level of use. And I
5 will explain a couple of ways that that is
6 played out in our thinking.

7 Economic factors as well. This is
8 one of my favorite charts that sort of drives
9 home the volatility of the economic world
10 that we live in. I was in New York in 1987
11 during Black Monday, and we thought the
12 financial world would never be the same at
13 that point in time. It was incredibly
14 disruptive, kind of level of decline in a
15 short period of time that no one had seen
16 before. But look at that compared to the
17 tech bubble -- correction, housing bubble,
18 and absolutely astounding downturn that many
19 of us are dealing with very, very directly
20 now.

21 You know, recent count we're at an
22 unemployment level of 8.9%, heading towards

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1 10. We have shed 5.7 million jobs since the
2 recession started. Something on the order of
3 10-plus trillion dollars of wealth on a
4 global basis has been wiped out right here,
5 okay.

6 That's a just and absolutely
7 dramatic situation in terms of the economic
8 context, near-term. It raises, in my mind,
9 many others a lot of questions about what the
10 growth path is going to be coming out of
11 this, you know. What are we going to revert
12 to? What is going to be the source of
13 economic growth and what will that mean in
14 terms of energy use and in terms of
15 environmental factors.

16 The rate of decline in jobs here
17 has been faster than any other postwar
18 recession. And it hasn't been just a matter
19 of cutting back production, industries have
20 been -- firms and industries have been
21 shutting entire lines of business, raising
22 questions about what the growth path will be.

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1 Employment gains always lag other
2 indicators on the, kind of, upside as you
3 back out of a recession. And there's -- you
4 know -- who knows what the growth that out
5 will be either on a domestic or an
6 international level. Again, a major source
7 of uncertainty in our environment. An
8 obvious direct impact for a public agency is
9 on the fiscal posture of the federal
10 government. We have taken on a -- you don't
11 need me to tell you, just astounding levels
12 of debt in recent years. Again, the growth
13 path out of that, sort of -- this is a CBO
14 content, this was in the press very heavily
15 recently. You know, differences in
16 projections between the administration's
17 estimate here and CBO's estimate of what the
18 long-term deficit is going to do. The basic
19 issue is constrained resources on a federal
20 level. The only way you are ever going to
21 get out of the whole that we dug ourselves
22 here is through a very strong growth pattern

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1 that will pull us out on the receipt side of
2 the picture. You are not going to cut your
3 way out here.

4 Either way, the future is probably
5 one of very, very strong and protracted
6 pressure on federal discretionary spending.
7 We are already seeing that now. Another big
8 impact of things like this is the relative
9 presence, if you will, of environmental
10 issues in the public mind. And this is
11 something that we track. This, sort of, is a
12 global indicator. And just as a thumbnail
13 illustration, you always see environmental
14 issues are never in the top tier, they are
15 never the primary or secondary, they are
16 usually a tertiary issue set. And in recent
17 times, in the current economic context that
18 were in, environment is -- environmental
19 issues completely disappear from the list.

20 So we are here in a community, and
21 talking, and working in industries and in
22 sectors that are -- where we really

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1 understand the sort of deep interdependence
2 of economic viability and environmental
3 sustainability. That's not necessarily
4 broadly established in society. And we can
5 see very different types of relationships
6 over time between what society values and
7 what they will be, in effect, willing to pay
8 for and that relative of economic growth. So
9 that we can see very different scenarios
10 working out there. And I will talk through
11 that in a few minutes.

12 The point here is that look at any
13 of these dimensions that you can see that
14 incredibly broad spreads in terms of
15 potential outcomes over the time period that
16 were looking at. And that raises the
17 question, you know, how do you know -- and
18 here is NOAA sitting right now with this
19 strategy, right? We have got our existing
20 line offices fisheries here, executed mostly
21 through a strategy in our ecosystem goal that
22 covers fish, oceans and our research division

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1 as well as some satellite input. And,
2 obviously, from our aviation operation and
3 lead operations.

4 But here is our strategy. And in
5 the context of all of these forces the
6 question is, is this a good strategy. Are we
7 on a good path? How do you evaluate that?
8 Will our strategy really hold through the
9 types of ranges of potential outcomes on all
10 those factors. It's a big question.

11 So how do you handle those kinds
12 of uncertainties when you look out into the
13 future. And what we are using as a way to
14 just get an orienting framework in mind is a
15 tradition -- traditional planning tool that
16 is used all over the private sector and
17 governments alike. And I will refer to a
18 couple in a minute, basically, scenarios. It
19 is the only mechanism at least that I'm aware
20 of that you can handle this type of
21 insurgency and the types of dynamics between
22 these forces could play out in a way that

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1 helps you make informed decisions about
2 strategy without making the mistake of trying
3 to predict the future. Nobody can do that.
4 What you can do is try to understand what the
5 dynamics are, how they might evolve, and
6 think through what kind of impact that will
7 have on your organization, on the community
8 that you work with so that you can be pre-
9 positioned -- or, actually, try to influence
10 some of these long-term trends; which, in
11 many respects, I think NOAA has a capability
12 to do.

13 The issue is, again, that you
14 looked at this morning are areas where that
15 might be the case. Look at these long-term
16 trends it really raises -- we were talking
17 over lunch with Charlie and others about the
18 urgency of getting some sort of interagency
19 process together on what we are broadly
20 calling here marine spatial planning. When
21 you look out over the long-term those
22 conflicts -- the potential issues loom much

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1 larger. If you look at the ocean
2 acidification issue stretched out over the
3 long-term it makes the -- now the presence of
4 -- the decisions that we need to make now,
5 much more present to people.

6 And that is just one of the ways
7 that I think is probably going to be, for
8 both us and a variety of other organizations,
9 federal and private and otherwise, turn to
10 techniques like this.

11 So I just wanted to set the
12 context: This is, again, a way of thinking
13 about the future. It's not predictions.
14 That's not what we want to have happen. It's
15 plausible scenarios about how things could
16 play out. This is actually a diagram I took
17 from the World Bank who has used scenario
18 planning very extensively to try to deal with
19 long-term issues in terms of global patterns
20 of economic activity and, fundamentally, of
21 poverty.

22 So they have done a bunch of

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1 scenarios based on geopolitical and a variety
2 of other conditions. The key thing is it's a
3 way to explore the range of the possible; not
4 to predict or to try to define a probability
5 space or anything like that. And the main
6 thing, I think, to understand is that they
7 are really, you know, about the range of the
8 possible, not either theories or hypotheses
9 of the world that we necessarily want to see.

10 This is a discipline that is well
11 established in the private sector. Shell is
12 particularly well-known. They were the only
13 of the major oil-producing countries that
14 actually thought through and I foresaw the
15 possibility of an exogenous price shock in
16 the 70s before the two big 73, 76 Arab oil
17 embargoes which had not been -- never, kind
18 of a price -- producer price control had
19 never happened before. Most of the major oil
20 companies didn't think it was even possible.

21 Shell was the only company to come out
22 actually profitable after all of that turmoil

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1 in the market during the 70s. And it really
2 established scenario planning as a discipline
3 in the private sector. It had already been
4 well established in the public sector,
5 primarily, in the defense arena.

6 National Intelligence Council
7 briefs the new administration every four
8 years. They do a major scenario effort. We
9 used this, we actually looked at it.

10 Interestingly, if you go there you will find
11 a lot more treatment of international
12 environmental issues that you will of
13 terrorism, which was a big surprise to me.

14 It was just one little factoid that I thought
15 was interesting. But they are trying to ask,
16 you know, what kind of sustainable economic
17 growth path might we see. And what would the
18 new balance of power look like. And this is
19 in forming the new administration's
20 geopolitical strategy. What do they really
21 want to try to effect to make things go in a
22 direction that would be basically positive in

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1 terms of the nation's geopolitical interests.

2 MR. FLETCHER: Who is the National
3 Intelligence Council?

4 MR. DOREMUS: That's a council
5 that sits above all the intelligence agencies
6 in the federal government, the NIC.

7 MR. FLETCHER: Hmm.

8 MR. DOREMUS: Yeah. That report
9 is available -- it's on our website. It's a
10 very interesting piece of reading. To
11 understand the big world that we live in.

12 Hmm?

13 MR. CATES: They sit above who?

14 MR. DOREMUS: These --

15 MR. CATES: The National
16 Intelligence Council sits above who?

17 MR. DOREMUS: Above -- it's a
18 council of all of the defense intelligence
19 agencies, the CIA. It covers all of the
20 major national intelligence agencies in the
21 federal government. It basically bridges the
22 CIA and the Defense intelligence

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1 establishment.

2 MR. CATES: The FBI? Why don't
3 they connect the dots?

4 MR. DOREMUS: So they produced
5 this every four years, and it is a very
6 interesting piece of work.

7 We are similarly sitting here
8 looking at long-term trends, what should our
9 strategy be in the next five years. And a
10 way to ask this is if you were sitting here
11 and advising the new administrator on what
12 course of action do you think NOAA should
13 take given that these long-term trends and
14 where we think we need to be focused for
15 long-term success in the future. That is
16 essentially the question we're putting out
17 for the organization. That's the question
18 we're being asked to answer. And we are
19 hoping that you can help us answer it.
20 That's basically why I'm here today.

21 To get through this thing we sort
22 of started off with this whole issue, how do

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1 you even cast this, this sort of long-term
2 future. And we got a group of people
3 together inside the organization from across
4 all of our lives, and we looked at a series
5 of, basically, workshops in the fall. We
6 surfaced about, close to -- I think it was
7 290 major forces and factors over the long-
8 term. We went through a vetting to identify
9 the high impact, high uncertainty variables.

10 And we looked at how they clustered on three
11 different dimensions on an -- on the,
12 basically, on an economic dimension, on a
13 governance and policy dimension and on a
14 society and the environment dimension. And
15 we looked at that slide where I showed you
16 all those major factors, the economic
17 factors, political ones, factors in the
18 environment like climate, like fish stocks.

19 We looked at how those things
20 could range, what with the extremes be and
21 then a compile the stories about different
22 combinations of extremes. That's essentially

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1 what are scenarios represent. And this is
2 just one sentence on each of these things.

3 Again, I don't want to overweight
4 the scenarios here, I just wanted to
5 illustrate how it is that we're trying to
6 grapple with long-term future and high degree
7 of uncertainty.

8 These storylines kind of tell you
9 how the world might evolve and make you think
10 about -- it puts kind of a different context
11 on our current strategy. And this is one of
12 the things that the Vision 2020 document
13 informed. And one of the big things I took
14 away from that is in terms of the major
15 fisheries -- the drivers of the future health
16 of fisheries that you identified in that
17 document included the -- basically the health
18 of habitat, water quality, major climate
19 issues as well as using governance things.

20 And in our scenarios, those things
21 vary over time. So in the too little, too
22 late scenario you see a movement early in the

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1 first phase of the scenario towards very well
2 integrated fisheries management. But because
3 of the long-term nature and the kind of
4 inherent drivers behind some of the climate
5 change things, late in the scenario you start
6 seeing a much higher level of ocean
7 acidification, as per one example, and other
8 sort of disruptive environmental effects that
9 start having an adverse impact on fisheries.

10 That's one of the trend lines
11 inside that.

12 Green chaos is an interesting
13 scenario because you have -- the chaos part
14 is on the governance side. It's basically at
15 the international level as well as federal to
16 state, just current circumstances of
17 fragmentation, of difficulty of pulling
18 together common policy solutions to major
19 environmental challenges, including but not
20 limited to resource management issues like
21 fisheries.

22 Is -- remains, but you get much

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1 more creative and positive interactions
2 between society and private sector in terms
3 of coming up with solutions. So in this
4 scenario there's -- in effect, a great deal
5 of weight is put on market-based solutions to
6 resource management problems like fisheries
7 rights allocations, essentially. And that's
8 one of the major drivers there.

9 And in the carbon junkies, as is
10 probably not hard to imagine, the pathway out
11 of our economic recession is really one
12 that's essentially reindustrialization on a
13 global scale, much higher valuation of
14 economic growth over the environmental
15 impacts. They're put off until later. You
16 see a much more intensive use of carbon
17 intensive forms of energy, and the
18 environmental effects just start to
19 accumulate really rapidly, and it becomes a
20 race to figure out, late in the scenario, how
21 can we mitigate this big mess. And it
22 becomes very conflicting. It's another issue

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1 -- or a kind of trend line that creates a lot
2 of challenges in terms of thinking about
3 domestic and international policies.

4 I've provided, in the back of the
5 slide -- and I'm just trying to rush through
6 this so we have time to talk about your
7 contributions in a second. But I did put in
8 the back of the -- in the back up slides,
9 more complete -- one page descriptions of
10 each of these scenarios and how they play out
11 over time. And you'll see some of dynamics
12 there with respect to natural resources.

13 And we have longer scenario
14 documents that you can look at as well if
15 you're interested in this stuff.

16 Our main thing is it's a way of
17 challenging our thinking about whether we
18 have the right strategy, whether we're
19 focused on the right things.

20 And we're trying to answer these
21 questions to inform the new administration,
22 to work with our stakeholder communities so

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1 that we are collectively working on the same
2 issues, the issues that are the greatest
3 priority to you that are within our mission
4 mandate to address. And consequently, be in
5 a better position to maximize our
6 contribution, if you will, over the long
7 haul.

8 We also have a requirement to do
9 this, but I think that's the least of the
10 reasons to do it, in particular.

11 So these are the reasons for doing
12 strategic planning. But I just want to point
13 out here -- and one of the reasons we call
14 this a next generation plan is because we are
15 really trying to, self consciously and much
16 more extensively than we have in the past,
17 systematically obtain stakeholder input and
18 not just get input, say, "Thank you very
19 much," and compile it all into some kind of
20 common document. It's not about -- as Jim
21 was saying at the beginning of the day
22 yesterday, the words on paper, per se, it is

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1 about really coming to a collective
2 understanding of what we need to focus on.
3 We're viewing this much more as a common
4 action agenda than putting together a nice
5 document that we can say we've got input from
6 a lot of people on.

7 So that's a key thing that I want
8 to make sure that I drive home here. And we
9 characterize it internally a lot this way,
10 no, is this sort of a notional representation
11 of NOAA's organizational evolution moving
12 from a system of pieces to what we hope and
13 characterize to be a strategically integrated
14 organization where you have that alignment in
15 this quadrant here with the demands of the
16 community that ultimately relies on our work,
17 and in a much more of a sense of deep
18 interdependence than we have up to this
19 period of time.

20 So that's a key element or our
21 thinking about how we go about doing things,
22 and we intend to use this plan for that

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1 purpose. Again, not to generate a document
2 that we can say has had everybody's input,
3 but to genuinely understand the composition
4 of needs, different communities, different
5 places in the country, and how that all kind
6 of drives towards the type of choices that we
7 need to make with the limited resources that
8 we're going to be faced with internally.

9 Just a notional look at what the
10 plan would actually look like. And this is
11 just to show that we're looking at a plan
12 that's going to cover a five-year period, but
13 our planning horizon is much longer.

14 We're doing a current document
15 right now that's sort of a bridge document.
16 It's going to reflect the incoming priorities
17 of the new leadership. But it'll be
18 basically a bridge to the next generation
19 strategic plan.

20 Mark mentioned in his -- the
21 beginning of his conversation, the premium
22 that our current leadership puts on external

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1 consultation in virtually all aspects of our
2 work. This not being excluded by any sense.

3 So I am meeting and continuing to
4 meet, including tomorrow morning -- actually
5 Friday morning, with Lubchenco and the staff
6 that she does have in place right now about
7 both how we want to develop this, but what
8 this sort of bridge content is going to be
9 all about. So you'll be hearing more from us
10 there.

11 A very quick story in terms of how you
12 can contribute. We have, as I've been
13 talking about, a systematic process of trying
14 to draw from broadly within the organization
15 as well as our stakeholder and customer
16 community. I've got a list of major folks
17 here at the beginning, not just in response
18 to a document that we generate internally,
19 but at the beginning, so we understand the
20 big trends, the challenges that you all face
21 that you think NOAA should do something
22 about, and what your broad sense is of what a

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1 response strategy might be. Then you also
2 have the opportunity to contribute to the
3 written document in the end.

4 So we're in this phase right here
5 of getting input from within the
6 organization, our advisory committees,
7 cooperative institutes, all kinds of other
8 external sources. From within our line
9 offices, our councils, both teams. We have
10 regional teams that Mark mentioned. And
11 we're going to go through a synthesis
12 process. And we expect at about very early
13 in next year, in the January-February
14 timeframe, to be putting a full plan out for
15 formal public review. So there will be
16 another review phase. And we'll be going
17 back to all the people that gave us input and
18 saying, here's how we put it together. Does
19 it make sense? Is it what you expected? Do
20 we have major gaps or are there deficiencies.

21 So there will be kind of two
22 rounds at the front end and the back end to

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1 make sure it has that degree of
2 representativeness that we hope it to have.

3 This is just a phase that -- you
4 know, the plan and the development of the
5 plan itself. The scenarios were just a way
6 to get us thinking about the long-term
7 future. We have those well documented. You
8 can look at them. We'll make them available
9 if you're so inclined. But the key thing is
10 to get to this business here of rethinking
11 our mission and vision and goals, long term,
12 and then the-five year objectives that we
13 will commit to, to try to push that thing
14 forward.

15 It is, in NOAA, not a paper
16 document. A strategic plan is what we use to
17 frame our investment choices every year.
18 It's what we use to revisit our priorities
19 very year and look at our progress to plan.
20 So the organization has taken this quite
21 seriously.

22 These are the three questions we

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1 put out. In ways you have already answered
2 the first one: What are the major long-term
3 trends? You've characterized that in your
4 Vision 2020. That can be viewed, in some
5 measure, as an input to that question.

6 But we're trying to systematically
7 ask everybody, you look out 25 years, what is
8 it that concerns you? What kind of
9 challenges and opportunities does that create
10 for you, your business, for our kind of
11 shared interests. And what do you think, in
12 particular, NOAA should strive to accomplish
13 in light of those challenges and
14 opportunities.

15 Those are the questions we're
16 putting out. And you have all kinds of
17 different ways, either as a committee or as
18 individuals, that you can consider providing
19 input on those questions or any other aspect
20 of this if you're so inclined.

21 One is through your functions as a
22 committee. Another is through your

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1 individual lines, either directly to us
2 through mechanisms that we've set up on the
3 web or just directly to me or to my staff as
4 well as through regional events that we're
5 trying to hold. I was talking with some
6 people earlier, we are making a very, very
7 strong effort to have regional stakeholder
8 events or to attach to major regional events
9 that are happening opportunities to talk with
10 a broad array of stakeholders and ask them
11 these same questions. And that would be a
12 way for many of you to tie in as well,
13 through those kinds of venues.

14 We do have the scenarios document
15 that you can look at. But, I -- again, I
16 think you all have done a considerable amount
17 of thinking about long-term trends and
18 drivers for what you could broadly cast as
19 sustainable fisheries and ecosystems. So
20 you're well down that path already.

21 I will leave it at that. And open
22 it up for any kind of discussion you want to

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1 have about how we are doing things, what we
2 intend to create here through a strategic
3 plan process for this new leadership team and
4 how you can best contribute. But I really do
5 want to thank you for the efforts that you
6 have done already to cast strategy in this
7 area.

8 Of all the advisory committees
9 that I've looked at, there isn't anything
10 comparable to the Vision 2020 document. And
11 I think that that's a wonderful place to work
12 from. And I think it puts you well down the
13 path in terms of your ability, collectively,
14 as a committee to start conveying your
15 answers to some of these questions in -- as a
16 committee as opposed to as a set of
17 individual respondents.

18 But, again, thank you for the
19 opportunity to be here today and to meet many
20 of you for the first time. It's been very
21 helpful for me in terms of this whole process
22 that I'm trying to lead to understand our

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1 different advisory committees and what their
2 concerns are and what sort of issues that
3 they're really trying to drive NOAA to pay
4 attention to.

5 MR. BILLY: Okay. Thank you,
6 Paul.

7 It's not clear to me what is your
8 -- your timeframe is in terms of when you
9 will need our input.

10 MR. DOREMUS: Well, I apologize
11 for that. On this slide there used to be a
12 timeframe on the bottom, and my staff took it
13 off, in part because this conveys sort of a
14 hard break here. But there really isn't. We
15 are trying to do most of our input through
16 the end of the summer.

17 But what's happening is that a lot
18 of these regional events -- they're trying to
19 work with major stakeholder gatherings that
20 already are taking place instead of convening
21 independent events. And some of those are
22 taking place in mid-late August or early in

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1 the fall. So we're trying to kind of stretch
2 our input gathering phase as far as we can.

3 But we are trying to organize as
4 much of the input as possible by the end of
5 the summer so that we can -- in this phase
6 start formulating goals -- long-term goals
7 for the organization to consider in a
8 first-phase look at our strategy and work out
9 a whole plan out in this kind of phase here.

10 So that the best -- from our
11 vantage point, the best line of input would
12 be by the end of August or thereabouts. And
13 we are anticipating having a plan for review
14 in January-February of 2010.

15 MR. BILLY: Randy.

16 MR. CATES: Thanks, Paul.

17 A couple of comments. One is it
18 seems like, in my last ten years within NOAA,
19 we do a lot of planning. And then we kind of
20 re-plan everything.

21 Is there a way -- or maybe part of
22 the process is to measure whether actually

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1 implementing the plans? I mean aquaculture
2 ten-year plan is a perfect example.

3 MR. DOREMUS: Yeah.

4 MR. CATES: A lot of work into
5 creating the plan, but we're not implementing
6 it. And I find that we're -- we kind of --
7 throughout the years we're asked to create
8 another plan and then create another one and
9 another one. But we've got to get to the
10 point of actually implementing these things.

11 That would be one problem.

12 The other is we're an advisory
13 committee for the Secretary of Commerce. The
14 best thing we can do for you folks is to
15 actually advise the Secretary of Commerce.
16 There is a serious disconnect. I don't think
17 we really do that.

18 It's a great -- this is a great
19 organization. I like being on it because I'm
20 getting advised. But our job is the other
21 way around. And somehow we've got to back to
22 that, where we're actually doing what we

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1 signed up to do, which is advise the
2 Secretary of Commerce.

3 And finally, in all this stuff --
4 I mean you've heard it throughout the day, is
5 my opinion, we've got to get back and
6 consider NOAA as being food production with
7 conservation, and not just conservation
8 because our communities need it.

9 MR. DOREMUS: Well, that was
10 actually one of the things I had in mind when
11 I was telling you that it was very beneficial
12 for me to hear the proceedings during the
13 course of the day, because that message that
14 you've been quite consistent on is something
15 that has been standing out in my mind.

16 Coincidentally, we do have food
17 security as one of the issues in our
18 scenarios, to help us think about how the
19 might play out. It's one of the ways that we
20 can elevate the visibility of the issue. But
21 I've certainly heard you on that point.

22 On your other two points,

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1 implementation, I couldn't agree more. One
2 of the things that I've done, and others of
3 us here from inside NOAA know how we've kind
4 of grappled with these issues.

5 A lot of what the last leadership
6 team brought in was ways to try to build
7 effective decision-making for NOAA as a
8 whole. And there's a big emphasis on the
9 planning and shaping your programs and
10 budgets out of the plan.

11 And when I started at NOAA -- I've
12 been at NOAA since 2005 -- NOAA was reviewing
13 its strategic plan every year. And we were
14 trying to come back to our stakeholders every
15 year and saying, what do you think should be
16 in our annual statement of priorities? And I
17 think we had the very problem that you're
18 talking about here.

19 So what I'm trying to do and
20 committed to doing here is doing this once
21 every four years. Phase next is going to be
22 an alignment phase and an implementation

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1 phase and then an evaluation phase over this
2 four-year period. And in part it's based on
3 the evaluation of how well we implement this,
4 we'll feed that information into the next
5 cycle four years from now.

6 So we're looking at not just doing
7 planning all the time, at the corporate
8 level. There's going to be planning at
9 different offices for aquaculture, for
10 different kinds of things based on
11 programmatic needs.

12 But I think plans make no sense if
13 you don't execute them. They make no sense
14 if you don't evaluate how well you did and
15 why things turned out the way they did.

16 So that's part of our approach
17 here too, to not be coming at you every year.

18 This is -- we're calling it next generation
19 for a reason. We think we're really in an
20 inflection point, not just new leadership,
21 but the composition of issues, really big
22 issues that we're trying to grapple with all

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1 at once.

2 So we -- that's why we want to
3 kind of cast this energy as a major document
4 and then really try to drive it into the
5 organization and make things happen.

6 Your second point on advising the
7 Secretary, I'll leave that to the head of the
8 table, in a sense. I think that's the
9 greatest benefit of advisory committees, is
10 that they can speak on behalf of the issues,
11 and NOAA, in the context of those issues.

12 So I would view your advice to us
13 here as being advice that you would give to
14 the Secretary of Commerce. What you think
15 the issues are and what we think -- you think
16 NOAA should be focused on. You could direct
17 it however you choose to direct it.

18 MR. BILLY: Randy, I have a little
19 different perspective than what you just
20 expressed. And I'll use the aquaculture
21 ten-year plan as one example.

22 In fact, that wasn't asked for or

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1 generated by NOAA fisheries. This committee
2 took the initiative and requested that NOAA
3 develop a ten-year plan because we were
4 troubled by the absence of any kind of
5 organized approach to aquaculture that would
6 reflect NOAA's in that arena. And,
7 fortunately, there was a positive response.
8 And now there sits on the table a ten-year
9 plan.

10 I won't comment on how well NOAA's
11 following up on it. I'll leave that to the
12 folks that are responsible. But I see a real
13 difference there.

14 This, now, is entirely different,
15 in my mind, where NOAA's coming to us asking
16 for our input in a much broader strategic
17 planning effort rather than our pushing the
18 ball in several areas encouraging planning
19 aquaculture, planning on seafood quality and
20 safety, that kind of thing.

21 This is quite different to me, and
22 it represents, it seems to me, a real

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1 opportunity.

2 Other comments? Yeah.

3 MR. CATES: My first experience
4 with planning of 1999, NOAA asked aquaculture
5 to come to D.C., and we spent a couple of
6 days and created a plan. And there were some
7 very ambitious goals by the Commerce
8 personnel trying to get us to get this thing
9 going. And every couple of years we have
10 basically been asked to come back and do
11 similar things.

12 In the ten-year course, we've done
13 a lot of planning, but there's no
14 implementation of any of these plans. So I
15 think the ten-year plan is great. I think it
16 was a great piece of work. Now I just
17 believe the job is, let's get the job
18 rolling. And how are we going to implement
19 it. And we need to measure it because, if
20 you think about it, we have all these, the
21 Pew Ocean Commission, all these commissions
22 coming out and making advice and plans, but

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1 nothing is really happening, at least from my
2 perspective.

3 MR. BILLY: Jim.

4 VICE CHAIR BALSIGER: You know, in
5 particular on the aquaculture plan, it may
6 have been a long time developing, but the
7 Agency, clear through the Secretary of
8 Commerce, pushed that very hard and tried to
9 get that in place. So I guess I don't know
10 where you lay the blame on not getting that
11 action done. But it wasn't because the
12 Secretary of Commerce or NOAA didn't
13 wholeheartedly take that advice and try to
14 get some program moving.

15 And your point on working for the
16 Secretary of Commerce, that's what you do, of
17 course, but Paul's working for the Secretary
18 of Commerce too, and as he said, "We are
19 going to pay attention to this plan. It does
20 direct where money goes now."

21 When we try to -- from what
22 discretion we have at NOAA's office, those

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1 funds are aligned with what's going to be in
2 our strategic plan. So I think it's just an
3 opportunity, as Paul said, individually or as
4 a group, to give advice to Paul, which is --
5 and there's certainly been nothing wrong with
6 also getting that advice on a piece of paper
7 and sending it to the Secretary. And he'd
8 give it back to Paul.

9 But individually -- now as you can
10 probably tell this under Paul, he's dedicated
11 to this process. He didn't -- I thank him
12 for not taking too much exception to my
13 opening remarks saying it isn't the plan,
14 it's the process developing it. So he was
15 kind to me that way. But in this case it is
16 the plan a little bit too, because that's
17 what the money is going to follow.

18 MR. CATES: I think we're all
19 trying to figure out in our industry and in
20 commercial fishing, oh, okay, where are we
21 at. How are we going to move forward?

22 I mean, clearly, the aquaculture

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1 is a good example that it was a good, hard
2 effort, but it just didn't get through. I
3 don't think we're kind of blaming anybody,
4 but we're trying to figure out as an industry
5 how do we pick pieces up and get going again.

6 And I think that's a fundamental question
7 for -- we're all uncertain on how and if
8 we're going to be able to do anything.

9 MR. BILLY: Interested in other
10 comments by members of the committee.

11 MS. McCARTY: Mr. Chairman. I
12 think the aquaculture issue is a good example
13 of what I'm thinking, and that is regardless
14 of what this group plans for and says they
15 want to see happen at NOAA, I think we have
16 to consider that a lot of the planning is
17 going to come from the top down with the new
18 administration.

19 We were just talking about it at
20 lunch and -- no, I'm not entirely hopeful
21 that this new administration is going to
22 embrace the aquaculture initiative that we

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1 have taken and that NOAA has taken in the
2 last administration.

3 For example, in fact, I think they
4 probably aren't going to. But I don't know
5 that for a fact. And so my questions in my
6 own mind as we start to help with this
7 planning process is what big picture can you
8 provide to us -- can NOAA provide to us or
9 NMFS provide to us so that we don't go, you
10 know, planning something that's entirely
11 outside the realm of possibility for this
12 administration.

13 I have a feeling that there's
14 going to be some overlay of agendas that come
15 from the administration and from the NOAA
16 element of the administration. That we may
17 or may not know -- we may have some inklings
18 of -- and we're all sort of afraid of, to be
19 perfectly honest, from the fishing
20 perspective -- I know I am -- and from the
21 aquaculture perspective.

22 I'm scared. I'm scared. The

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1 people I represent are scared.

2 MR. CATES: Absolutely.

3 MS. McCARTY: And we don't know if
4 it will happen. So I think the best I guess
5 we can do now, since Dr. Lubchenco isn't here
6 to tell us what she might want to accomplish,
7 we can hope that we can get a reflection of
8 it from these folks if they're willing to try
9 to give that to us. But if now, we can only
10 say what we want and what we think our
11 industries need in our sectors, and then hope
12 that somehow down the road there might be a
13 confluence of those goals.

14 I'm not particularly optimistic
15 from the point of view of aquaculture.

16 MR. CATES: Neither are we.

17 MS. McCARTY: So -- yeah. But I
18 think we have to say those things anyway. I
19 know you're disappointed, but I think if we
20 have the opportunity -- kind of going back to
21 what Jim said -- just from NOAA watching over
22 the last few years, I've seen this -- this

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1 new planning process -- what's it called --
2 PPBBCC, whatever it is.

3 MR. RAUCH: Yes.

4 MS. McCARTY: That, yeah.

5 That's kind of new; is it not?

6 Relatively new? And so there's a whole
7 segment of NOAA that just does, sort of,
8 planning and it kinds of feeds into the
9 budget process in sort of a slightly
10 different way. And so I think there is more
11 hope that the actual planning process will
12 result in implementation.

13 I think it's a good thing that
14 that's in place. And I think that's
15 something that's different. That's just my
16 observation. But, again, I'm thinking that
17 there's an agenda that is over here and we
18 might be over here. No, that the agenda
19 might be here and we might be here.

20 MR. CATES: Mr. Chairman, I'd like
21 to follow up on that.

22 I agree with everything you said.

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1 A fundamental question that I have that I
2 think should be asked of the new NOAA
3 Administrator is we clearly know that we need
4 seafood production. Yesterday's talks gave a
5 good snapshot of that. If aquaculture is not
6 the answer, then my question is: Then how
7 are we going to increase production.

8 Point us in the right direction
9 that we could then assist the Secretary and
10 NOAA on how to make that plan work. But how
11 do we increase seafood production. If they
12 don't want aquaculture, what is it? Give us
13 the guidance.

14 MS. McCARTY: Yeah.

15 MR. BILLY: Okay. Other comments?

16 Yes. Randy.

17 MR. RANDY FISHER: I guess it's
18 kind of a process question that Heather
19 brought up a little bit, because when the
20 Lautenbacher regime was there you kind have
21 had a certain process that was in place
22 trying to eliminate the stovepipes, or

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1 whatever it was.

2 Do you know yet or do you have a
3 feeling whether that is still going to carry
4 through, or are we in kind of a new thing
5 now? Do we know?

6 VICE CHAIR BALSIGER: Actually,
7 Paul may be in the best position to answer
8 that. He used to run PPBES, and --

9 MR. RANDY FISHER: Yeah.

10 VICE CHAIR BALSIGER: -- and his
11 office is slightly -- job is slightly
12 different than that, but he may -- we've got
13 some answer, he isn't sure yet.

14 MR. DOREMUS: In part that's it.
15 There was -- there's been a lot of internal
16 introspection on how that process has worked.

17 I do think the way that it was
18 laid in was a little more bureaucratic than
19 it needed to be. But, fundamentally, what it
20 is, it's a strategic decision-making process
21 for figuring out what you should do.

22 What you really can do with a

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1 limited budget once you have a top, it's kind
2 of a limited fiscal framework, and then in
3 the budget what you're really going to commit
4 to doing, and then executing on it and
5 evaluating your performance. Those last two
6 pieces of really understanding execution
7 relative to finance performance are probably
8 areas that weren't as well developed as they
9 should be.

10 But we're really trying to
11 approach this in a real sensible,
12 businesslike, pragmatic way. You know,
13 you've got to have a view of where you're
14 going, as much as you all have charted out in
15 your own domain and a method for evaluating
16 how you're getting there.

17 One thing that I think I do want
18 to pick up on, you mentioned the issue of
19 evaluating performance. That's another
20 aspect of this, why we're calling it next
21 generation. We're really trying to cast --
22 and this speaks to the aquaculture issue too,

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1 a little bit. We're really trying to cast
2 this in long-term view to make it really
3 clear how society would benefit from NOAA
4 actually going down this path.

5 And I know there are a variety of
6 ways to sort of cast issue. But your casting
7 of food security, domestic production,
8 capacity, some of the long-term trends that
9 we heard about yesterday in terms of sources
10 of protein and all they construed. Those are
11 big picture, long-term issues. And this is
12 just one avenue that you can use to cast them
13 in that way, at a level that is quite
14 policy-relevant.

15 I would always encourage advisory
16 committees like this to articulate in --
17 directly to the Secretary of Commerce,
18 directly to us, within the organization and
19 to other communities that you can reach, what
20 you really think the issues are.

21 If there's any aspect that I think
22 this administration is really committed to

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1 living up to, that is hearing everybody out.

2 I don't know where they're going to go on
3 aquaculture. I don't know they're going to
4 -- how they're going to handle or answer big
5 picture questions like food security.

6 But I think it's incumbent on us
7 to really pose the questions and present the
8 information that we have and why we think,
9 collectively, that this is an issue that
10 should be considered. So I would encourage
11 you to keep going.

12 If there's one thing I've learned
13 in my career in the federal service is
14 persistence. That often pays and I'd never
15 abandon a strategy that makes sense in the
16 end and is well thought through and has got
17 data behind it.

18 So that's my general
19 recommendation there. I think the
20 consultative process is likely to be much
21 more robust and healthy than we've seen. And
22 I hope you can take advantage of that on the

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1 issues that you feel weight out.

2 MR. BILLY: Jim.

3 VICE CHAIR BALSIGER: I think
4 there is going to be a slowdown in the
5 aquaculture thing. But I think Dr. Lubchenco
6 has not closed her mind to it. I think
7 there's some questions that are raised that
8 probably are answerable. And so it may not
9 be immediate; it may not be this year.

10 But I think that making the
11 points, as Paul has suggested, about jobs,
12 about food, about national security, about
13 the response to the public.

14 Now we've seen -- Dr. Lubchenco
15 has a great reputation for conservation and
16 being precautionary. When the New England
17 fisheries had a problem, she let them
18 overfish for another year. So don't tell me
19 she can't be swayed.

20 (Laughter.)

21 VICE CHAIR BALSIGER: And so you
22 have to think -- of course, she had some

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1 big-times pushers that got her going in that
2 direction. But this group can figure out
3 what those pushers are and get aquaculture
4 back on her plate.

5 I think the story behind
6 aquaculture is undeniable, as Randy has
7 started to put some of it out, though we've
8 talked about it a bunch of times. It can't
9 meet the demand for food. And that's got to
10 influence it.

11 So I don't think you have to
12 believe that it's dead, just because she's --
13 I forget her phrase -- took it off the table
14 for a while, or for now, or whatever she
15 said.

16 MR. CATES: Jim, I have a
17 question: How best as a Committee then do we
18 get this to her or to the Secretary of
19 Commerce?

20 VICE CHAIR BALSIGER: Well, that's
21 a good question, I guess, and maybe the
22 political types can help on that.

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1 MR. BILLY: Yeah. Bill?

2 MR. DEWEY: But I just am curious,
3 Paul, from your perspective. You mentioned -
4 - you obviously looked at our Vision 2020
5 document and make that -- I mean, the
6 Committee collectively put a lot of energy
7 into that --

8 MR. DOREMUS: It shows.

9 MR. DEWEY: -- and essentially
10 answered both questions in that. So I'm not
11 sure what we can provide as far as additional
12 input after that very thoughtful process.
13 Granted it's not the 25-year context at this
14 point, but it's, you know, it's some of our
15 best collective thinking in response to this.

16 So I mean is there additional
17 direction specifically beyond that Vision
18 2020 document that you think would be helpful
19 for MAFAC?

20 MR. DOREMUS: Well, I think that's
21 something that the group as a whole can
22 discuss where the things have evolved in a

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1 way, or by taking of kind of a broader view
2 of NOAA's entire mission interest. That
3 might be one aspect.

4 But certainly, as I was indicating
5 earlier, you've gone way further down the
6 path of advising the organization on what you
7 think the strategic issues are. I
8 do think one of the challenges with any
9 organizational planning over that kind of
10 timeframe is the dynamic nature of a lot of
11 the major issues that we're talking about.

12 But one of the things that might
13 be helpful is to think through the very
14 issues that you identified as major
15 contributors to our path towards sustainable
16 fisheries: The habitat issues, the climate
17 issues, the waterfall issues and think about
18 what are things that shape those things, and
19 whether that might make you think about what
20 NOAA should be doing differently.

21 There's no reason why this
22 Committee should be limited to purely

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1 fisheries' issues, when you talk about the
2 long-term issues that shape the domain that
3 you're talking about. The way that NOAA
4 approaches climate services, for instance,
5 comes into play. The way that we handle in
6 other parts of organization aspects of water
7 quality and availability may come into play,
8 as well.

9 So a broader scope might be an
10 option. A longer timeframe might change your
11 view of issues, but that's something for you
12 to determine. That document itself could be
13 your input and it could serve very
14 effectively in that capacity.

15 MR. DEWEY: All of it comes in.

16 MR. DOREMUS: Yes.

17 MR. DEWEY: Thank you.

18 So at least my understanding of
19 MAFAC is that our role is to advise on all
20 things fish to the Commerce Secretary. And
21 so I'm not sure if it's appropriate for us to
22 go too far beyond that realm of fisheries.

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1 I'd be interested in hearing otherwise.

2 And then also just -- I did a word
3 search in our 2020 document on ocean
4 acidification and realized it's not in there.

5 So a good example --

6 MR. DOREMUS: Things change.

7 MR. DEWEY: -- of your new issues
8 that come up.

9 MR. DOREMUS: Things change.

10 MR. DEWEY: Good point. Thank
11 you.

12 DR. HOLLIDAY: So the current
13 charter reads: -- just to remind everybody --
14 "The Committee will advise the Secretary of
15 Commerce on all living marine resource
16 matters that are the responsibility of the
17 Department of Commerce.

18 MR. SPEAKER: Does it say anything
19 about turtles?

20 DR. HOLLIDAY: Everything. Well,
21 yeah. Well, we have the Protected Species
22 Subcommittee. And it's been an issue for us

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1 in the past.

2 MR. BILLY: Tony.

3 DR. HOLLIDAY: So it's not -- it's
4 not singularly fish-centric.

5 MR. O'SHEA: Yeah. To this point,
6 Mark answered half of my question as far as
7 what we should and should not be counting.
8 The question that Bill just asked, does -- I
9 mean, we -- NOAA has four separate agencies
10 or five separate agencies, the Weather
11 Service, MMS, National Fisheries Service.

12 So does each service, each
13 subdivision of NOAA have an advisory panel
14 also, or are we the --

15 DR. HOLLIDAY: No.

16 MR. DiLERNIA: We are unique to
17 NOAA and to NMFS? NMFS has their own.
18 National Fisheries Service has their own
19 advisory panel, which is MAFAC.

20 MR. DOREMUS: Right.

21 MR. O'SHEA: Does MMS have an
22 advisory panel?

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1 MR. DOREMUS: No, they don't, not
2 at the level of NOS. They have advisory
3 panels underneath for different -- for
4 instance, there is the Hydrographic Services
5 Review Panel that focuses just on
6 hydrographics --

7 MR. O'SHEA: The Weather Service
8 doesn't have any?

9 MR. DOREMUS: No, they don't.
10 They have -- not a formal one. There's been
11 discussion of setting one up.

12 MR. BILLY: Okay. Randy Fisher.

13 MR. RANDY FISHER: Well, I don't
14 how to say this, but I hope that everyone
15 understands that we aren't becoming the
16 aquaculture panel here, are we, because that
17 seems to be what we talk about. And so I'm
18 assuming that we're going to go beyond that,
19 you know, any comments or recommendations we
20 have. And we're not going to be just focused
21 on this forever. Is that a fair assumption?

22 MR. BILLY: It is to me.

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1 MR. RANDY FISHER: Because I can
2 tell you that a lot of the people I deal with
3 won't doo aquaculture because they're
4 fishermen, and they're very concerned about
5 it. And they're not on the other end of the
6 table.

7 So, you know, it's not just the
8 fact that there was a failure on NOAA's part.

9 It's a fact that half the people that went
10 in there were bitching about the bill to
11 start with. I'm done with my lecture for the
12 day.

13 MR. BILLY: Thank you. Well
14 taken.

15 Steve.

16 MR. JONER: And I guess I just
17 have a question to follow-up on that. We can
18 have comments. But the perceived lack of
19 support for aquaculture now -- not perceived,
20 but the expected lack of support -- is that
21 for offshore or just for aquaculture in
22 general?

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1 MR. CATES: It's pretty clear the
2 hot-button issues have always been offshore.
3 Offshore offers the highest possibility of
4 production. And we have limited space
5 onshore. That doesn't mean the onshore or
6 near-shore aquaculture is not important.
7 It's very important.

8 When we're talking about reducing
9 the imports or increasing supply, it's
10 clearly going to have to come from offshore.

11 I don't think there's very many people that
12 will speak -- just because we have limited
13 resources on land. Mr. --

14 MR. JONER: But then we have the
15 other question Randy just raised, a lot of
16 opposition within the fishing industry.

17 So, you know, I'm not suggesting
18 we retreat from the goal of offshore
19 aquaculture. I'm suggesting we attack in a
20 different direction. And that is the kind of
21 build -- I don't think it's really built a
22 solid base of support for aquaculture within

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1 the ocean industry or within the aquatic
2 industry. And when you do that, then you can
3 move forward, kind of get with the defense
4 issue, you know. That's what I learned high
5 school football. The coach said: This will
6 last you the rest your life. So it must be
7 true.

8 MR. BILLY: One of the things that
9 -- as I listened yesterday and then thought
10 about what we included in our 2020 document
11 in relation to the work that's been done by
12 FDA and then some of the data that Linda
13 Chaves shared.

14 About four years ago now a
15 National Advisory Committee to the
16 Departments of Agriculture and Health and
17 Human Services that's responsible for
18 nutrition policy in the United States
19 recommended to those departments that the
20 amount of seafood consumed by the U.S.
21 population be increased.

22 I don't remember exactly, but I

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1 think it was to the 12-ounce numbers that we
2 heard about. And we also heard yesterday
3 that we're currently eating somewhat less
4 than that, about three or four ounces, 3.5,
5 whatever it was.

6 And the reason that nutritional
7 panels say that is because they're experts,
8 well aware of the health benefits that that
9 kind of shift in the American diet would
10 provide.

11 And so thinking about that, as
12 well as one of the reference documents that
13 we used in our 2020 analysis, from the Food
14 and Agricultural organization where they
15 indicated, that given population growth, they
16 estimate that the world production of seafood
17 will have to increase by 40 million metric
18 tons by the year 2030.

19 So we've got on the global scale
20 that kind of an increase, a net increase of
21 40 million metric tons. We saw data earlier
22 about the fact that harvests from wild stock

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1 has pretty well leveled off. There's some
2 growth in aquaculture, and it's continuing.
3 But it seems to me, as I think about the
4 fundamental question and what this Committee,
5 in particular, is about is if you look out to
6 the year 2035, the possibility of satisfying
7 that demand for fish, for fish and shellfish,
8 internationally as well as domestically
9 presents some very interesting questions
10 about how that's going to occur.

11 If there's new aquaculture
12 production, and it's not done properly, it
13 can have severe impacts has on the
14 environment. And then those environmental
15 impacts could exacerbate other problems in
16 the ocean.

17 So it would seem to me, as an
18 example, that there's some real interesting
19 thought that could be put into what role NOAA
20 might want to play looking out to 2035 in
21 terms of its responsibilities related to that
22 kind of development growth in seafood

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1 production just to maintain the current level
2 of consumption, let alone to increase it two-
3 or threefold in the United States.

4 So that is just for something for
5 us to think about, but it's -- it's not
6 getting into the argument about whether
7 aquaculture in the U.S. or aquaculture in any
8 other country, the specifics *per se* is
9 looking at this broader picture and thinking
10 about how food security, how these potential
11 new organizations are going to make decisions
12 about the use of the oceans, how all that
13 fits into this picture to provide a kind of
14 development to occur in an environmentally
15 appropriate way.

16 MR. CATES: Tom.

17 MR. BILLY: Yeah.

18 MR. CATES: Okay.

19 MR. BILLY: Okay. Why don't we
20 start here?

21 MR. CATES: I think Cathy.

22 MR. BILLY: Oh, I'm sorry, Cathy.

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1 MS. FOY: Well, that's okay.

2 MR. BILLY: You're next on the
3 list.

4 MS. FOY: Thank you, Mr. Chairman.

5 Not to flog a dead horse any more,
6 but I'm going to try and turn it around on
7 its nose and beat again in the other
8 direction.

9 We have some very under-utilized
10 stocks in the North Pacific. Arrowtooth
11 flounder was the first one that popped into
12 my head. It is currently -- I just googled
13 it on Fish Watch, 198 percent. The current
14 quota is 198 percent over what it -- you
15 know, maximum sustainable yield. There we
16 go. And that's why it's 198 percent over
17 what's currently being harvested at. There's
18 a huge biomass. It's taking off.

19 And I can't imagine that there are
20 not other stocks like that around. I expect,
21 as our ocean environment fluctuates, that we
22 will have other stocks that take off. I see

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1 aquaculture as a supplement. It's not the
2 answer. The answer is to maximize our yield
3 across the board.

4 I'll get down off my soapbox now.
5 That was my catch.

6 MR. BILLY: Dave.

7 MR. WALLACE: How do you propose
8 to cook the arrowtooth, if that's the
9 forecast?

10 MS. FOY: If you microwave it, it
11 gets rid of the enzyme that breaks down the
12 flesh. They're working on it.

13 MR. WALLACE: It's a marketing
14 problem.

15 MS. FOY: It's not anywhere near
16 as good as halibut.

17 MR. WALLACE: Well, Tom, I was
18 going to say a little bit some of the things
19 you said, but I also have a suggestion. And
20 so I'll just go to the suggestion. And it's
21 in a way sort of too bad that Steve Murawski
22 or one of those folks isn't here.

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1 But what I would suggest is that
2 at our next meeting we should ask some of the
3 scientific people in NMFS to give us a rough
4 estimate of the actual capacity of the ocean
5 in the U.S. economic zone.

6 And, you know, all of you
7 biologists know that that's easy to do,
8 because all you have to do is look at the
9 root supply within the food chain, and you
10 can calculate what the maximum is.

11 We have overfished species that
12 have rebuilt, will produce more. And we have
13 under-utilized species that surely should be
14 utilized if we can figure out -- I caught one
15 of those arrowroot flounders. And it's a
16 great big fish. And they said, "Throw it
17 back overboard." Even after pulling it out
18 of 700 feet, I didn't think it was a good
19 idea.

20 But, anyhow, so then we can reduce
21 -- we can say the rest of it is a deficit.
22 And let's face it, we're never going to

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1 produce enough food, seafood, to feed our
2 population when we already import 84 percent,
3 you know. And we just -- I doubt if we will
4 ever be able to make that up.

5 And so then we have this deficit,
6 and it can get made up with aquaculture. And
7 it can be made up with imports.

8 And so I suggest that not now but
9 sometime in the near future, oh, maybe a
10 couple years from now we start a plan and
11 jump, not to 2035, but like 2050 and have
12 this really expansive thought on where
13 consumption is going to be, then what we can
14 actually expect to produce naturally, put
15 that all together and then say: How are we
16 going to make up the difference and think in
17 a more global way.

18 And what I would suggest is we
19 drop out any transboundary fish stocks,
20 because we would not have complete control of
21 those, but we may be able to consider some
22 transboundary with Canada, because we may be

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1 able to have some reasonable expectation of
2 having some control over exploitation of
3 those fishes.

4 And what we can then do is then
5 feed back into this global thing, so that we
6 at least understand. We can quantify the
7 problem in a very general way, looking out in
8 the future, which I've always thought is what
9 strategic planning is really all about.

10 MR. BILLY: Martin.

11 MR. MARTIN FISHER: Thank you, Mr.
12 Chairman.

13 In regards to aquaculture, one of
14 the stumbling blocks that it seemed the Gulf
15 Council had when they were developing their
16 latest FMP for aquaculture was that there
17 were no national standards provided by NOAA
18 again for guidelines that they could follow.

19 It certainly seems to me that it
20 is a national issue, and there should be
21 national standards, national guidelines for
22 the implementation of aquaculture sites and

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1 certainly take into account the regional
2 councils, because there's going to be
3 interaction with local fishermen and local
4 communities.

5 But it seems like the leadership
6 should come from Congress or NOAA and come
7 down to the council rather than it going to
8 the council. And I don't know if that's an
9 appropriate place for this Committee to make
10 a recommendation, but it seems to me that it
11 is. And we'd recommend that there be
12 national standards created.

13 MR. BILLY: Our Strategic Planning
14 Subcommittee is going to be meeting in a
15 little while. So I think they have a lot to
16 think about in terms of how we might, as a
17 Committee, participate in this planning
18 process.

19 And it would appear there are
20 several options. But, you know, we could --
21 we need to get together in a timeframe that
22 fits with the schedule that was talked about.

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1 That ought to be considered. Alternatively,
2 a group could be formed, like we did with
3 2020 and interested members of the Committee
4 could take a shot at getting something on a
5 piece of paper. And it could be then looked
6 at and then forwarded.

7 So there probably are a number of
8 other options, as well. So I think this has
9 been a good discussion. We need to move on
10 so we can complete our schedule and get to
11 that subcommittee work. So any other
12 thoughts before we move on?

13 MR. MARTIN FISHER: I have a
14 question. It seems like there's so much to
15 do, and it's so hard to complete in the two
16 annual meetings. Is there any possibility of
17 upping the frequency of MAFAC gatherings like
18 four a year, or three a year?

19 MR. BILLY: I'll look into it.
20 There's a possibility.

21 MR. MARTIN FISHER: I mean, it
22 seems like we'd be more effective if we had

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1 more time.

2 MR. BILLY: They're going to have
3 to raise our pay.

4 DR. HOLLIDAY: Well, there's a
5 tradeoff. The largest cost is getting people
6 here and there, so you could make it a longer
7 meeting. Once people arrive they do more
8 work. It's the cost of --

9 MR. CATES: It's either that or --

10 DR. HOLLIDAY: -- getting people
11 there --

12 MR. CATES: -- less issues.

13 (Laughter.)

14 MR. CATES: The important part is
15 the discussion. And if we're short on the
16 discussion, we're not really giving advice.

17 MR. BILLY: Alright. That will be
18 taken under advisement. And let's move on.

19 Let's see. Where are we on the
20 break?

21 VICE CHAIR BALSIGER: We're up to
22 Alan.

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1 MR. BILLY: Okay. Alan.

2 VICE CHAIR BALSIGER: Well, wait,
3 you're right. We've got lunch coming up.

4 (Laughter.)

5 MR. BILLY: We need to get to day
6 two.

7 Okay. Alan, talk about the
8 communications and --

9 MR. RISENHOOVER: Mr. Chairman, I
10 would like to switch the two.

11 MR. BILLY: Okay.

12 MR. RISENHOOVER: It kind of
13 follows some more performance with the
14 strategic plan here.

15 MR. BILLY: Have at it.

16 MR. RISENHOOVER: If that's okay?

17 Okay. So we will do performance
18 now. And a couple things, this kind of
19 flows, I think, fairly nice from Paul's
20 30,000-foot strategic plan down to the three
21 foot: What do you do, how do you implement
22 it.

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1 So, you know, while it's not
2 really clear how everything in that strategic
3 plan is implemented, there's usually an
4 implementation plan or a follow-through on
5 those. And so you have the higher-level
6 strategic plan, which has goals, objectives.

7 Probably under those you have strategies.
8 Under that you may have a tactical plan. And
9 under that you may even have some performance
10 measures.

11 So what we're going to talk about
12 here is -- I was asked to talk a little bit
13 about what the counters are doing
14 performance-wise, because they're working on
15 that as we speak.

16 And I thought -- you know, Paul
17 made a couple points I'd just like to get
18 back to a little bit. You know, that is
19 taking the high-level strategic down to what
20 does it mean, and how do you evaluate it? So
21 we'll talk a little bit about that.

22 But the idea of are we going to

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1 scramble on what we do, or are we going to
2 create a blueprint? And I think that's
3 really applicable to what the councils are
4 looking at in their next grant cycle.

5 You know, before it's been kind of
6 every council doing what it needs to do as it
7 thinks it needs to do it. It's been fairly
8 ad hoc. What we're trying to do is pull them
9 back into something that's more of -- make a
10 blueprint for the next five years.

11 And, as we all know, once you
12 combine planning with performance, it equals
13 funding. And I think that's the key things
14 for getting the govern- -- people for getting
15 the government is you can just ask for the
16 money. You've got to plan for the money.
17 You've got to show that you're going to
18 implement and perform with the money you get,
19 and then you get additional funding.

20 So with that we'll get started.
21 We do have a number of performance measures.
22 I don't know if everybody has ever looked at

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1 all those performance measures. The Agency
2 has. There's a lot of them. And there's a
3 lot of them at different levels.

4 My office, we track about 50, 60
5 performance measures or milestones at the
6 Agency level. And we've got about a hundred
7 under that. So we measure performance at
8 many different levels and we call it many
9 different things, performance measures,
10 milestones, what-have-you. But we all track
11 those and try to build them back up into the
12 strategic plans.

13 And so we'll focus a little bit on
14 what the regional councils -- I guess at a
15 previously meeting somebody raised their hand
16 and said, "Well, hey, what about the council
17 performance?" Well, here I am. So we're
18 going to talk about that.

19 And, you know, hopefully the
20 partnership will come through here well
21 between the Agency and the councils. But
22 it's just not the councils and it's just not

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1 the agency. It's both of us together with
2 our constituencies.

3 So what I'm going to do is run
4 through some of the performance measures that
5 are out there, give you a brief overview of a
6 number of them. And then I'm going to focus
7 on four, spend a little more time, and get
8 some feedback from you on.

9 So one of the main things that
10 councils and the Agency are looking at, if
11 you look at our performance measures and what
12 the councils do, the match are the ones I'm
13 going to run through.

14 So the Fish Stock Sustainability
15 Index, I'll talk more about this one in
16 detail. But this is one of our GPRA
17 measures. That's the Government Performance
18 And Results Act.

19 So everything we do has to have a
20 performance measure. The budget came out on
21 Tuesday. There's performance measures
22 associated with every increase in that

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1 budget. So that's the way those above us at
2 Paul's level and at OMB look at how we do.
3 We gave you the money. Did you meet your
4 performance goal? If you didn't, why? Did
5 we not give you enough money, the world
6 changed, or you're incompetent.

7 MR. RISENHOOVER: If you look at
8 the -- what is it, the part -- performance,
9 accountability, and assessment tool at OMB,
10 NMFS is rated as being moderately effective.
11 Now that should cause confetti to fall from
12 the ceilings, because that's the second-
13 highest rating you can get. Moderately
14 effective. It's the second-highest rating
15 you can get. So, again, confetti does not
16 fall, but it should on that. But I digress.

17 Okay. So --

18 (Laughter.)

19 MR. RISENHOOVER: And the reason I
20 say that is because of this first one, the
21 FSSI, the Fish Stock Sustainability Index,
22 we're doing a very good job under it. So

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1 we'll talk more about that.

2 We also have percentage of fish
3 stocks known to be subject to overfishing for
4 longer than one year. Remember, the Magnuson
5 Act says you should do something about
6 overfishing in one year.

7 We're looking at how the council
8 has addressed that. Where would like to get
9 to is that also relates to funding decisions,
10 but our percentage --

11 (Dr. Holliday dropped "confetti"
12 on Mr. Risenhoover.)

13 MR. RISENHOOVER: I feel better
14 already.

15 (Laughter and applause.)

16 MR. RISENHOOVER: So at least
17 you're a little more awake now, right?

18 Percentage of required ACL
19 amendments in place. That's something we're
20 looking at now. When the Act passed at the
21 end of 2006 we put this measure in, in 2007,
22 saying we know that we've got to get ACLs in

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1 place. We ought to be able to manage that
2 and see how well we're doing.

3 Ecosystems approaches to
4 management have been around a while. But how
5 do you tell if the council is doing ecosystem
6 approaches? Well, one way is to look at how
7 they're updating their EFH guidelines and see
8 if they're rounding that out with the ACL
9 amendments and other things.

10 The Fishery Sustainability Index
11 is still in development. We'll probably come
12 back to it, you all, at some point and to
13 talk more about that. But our past measures
14 are kind of like light switches. They're
15 either yes or no, on or off, either you did
16 it or you didn't. It doesn't really give it
17 that gray in between.

18 And they're also fairly
19 biological-based. Is overfishing occurring?
20 Is the stock overfished? That's kind of the
21 biology. Did you do an ACL amendment, didn't
22 you? That's the on or off.

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1 This one we're trying to look at,
2 you know, what are some of the economics
3 associated with the fishery, as well? And
4 there are difficulties in measuring that. So
5 we've got a group looking at that.

6 Fisheries information: Do you
7 have permits? Do you have your adequate
8 data, on and on.

9 Catch Shares: We've been, as I've
10 mentioned before, looking at the number of
11 limited access privilege programs that are in
12 place. We want to double that number. We
13 need to now back up and decide how we're
14 going to characterize that and use Catch
15 Shares as kind of our measure.

16 Bycatch reduction: Where are we
17 reducing bycatch, where do we need to reduce
18 bycatch, and do we have a plan to do it?

19 International: You know, how many
20 partnerships do we have?

21 And then outreach and education.
22 I'm going to talk about a component of

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1 outreach and education, communicating with
2 the industry next. But this isn't just a
3 real good measure here of performance. How
4 many have you completed? That really doesn't
5 tell you what the outcome is. That's more of
6 an output. I did 16 of them, so what? So
7 that one I'm going to talk a little bit more
8 about later with the -- with the "so what."

9 So let's focus on those four that
10 were in red there that are important: Number
11 of LAP programs, FSSI, Catch Implementation,
12 and then also the EFH one and see how we are
13 doing with those, and also how the councils
14 and the Agency might better incorporate those
15 into what we do. And I'm going to have to
16 move the confetti now to get to my notes.

17 Okay. Catch Shares: This is one
18 that we're trying to characterize it more of
19 a blending of not only the biological
20 benefits of it but also the economic benefits
21 of it, because it links the industry or the
22 folks involved with the concern for the long-

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1 term health of that.

2 So if I have a quota share of one
3 percent, and there's a hundred fish, I have
4 an incentive to see there be 200 fish next
5 year, so I get to catch two. So there's some
6 incentives there.

7 I know there's some problems with
8 Catch Share Programs but, again, we need to
9 look at those as we go through. So Catch
10 Share Programs, we've developed kind of a
11 working definition that they include limited
12 access privilege programs, individual quotas,
13 cooperatives, community development quotas,
14 and on and on.

15 Whereas LAPs, our current measure,
16 didn't include things, like the New England
17 Sector Programs, aren't technically LAP
18 programs. And that's caused us some problem
19 I'll talk about, as well.

20 So we're continuing to work toward
21 our goal of doubling the number from 8 to 16
22 by 2011. As I mentioned, I think we are on

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1 schedule to do that. And again our
2 performance measure is the number of those
3 programs. Again, either we are going to make
4 it, or we are not. And that's why we've been
5 looking at the economics associated with that
6 fishery -- of those fisheries to say: If we
7 get to those 16, about a quarter of the ex-
8 vessel value of the fisheries in the nation
9 will be under LAPP -- or Catch Share Programs
10 -- well, let's say LAPP share -- LAP
11 Programs.

12 So if you look around the country,
13 here's the current 12 programs. Some of the
14 issues with this are things like the New
15 England Sector Programs. Are we measuring
16 things the same? Is one sector program equal
17 to one LAPP, because they got about 17 more
18 coming online. And I can get my performance
19 measure pretty well. But is that meaningful?

20 Should these programs be measured on a stock
21 basis, all the cod programs? Should they be
22 measured by gear types? Should they be

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1 measured by areas?

2 And so you can see that we've got
3 a mishmash of things in here right now. So
4 the first thing we need to do is start
5 cleaning that up.

6 The second thing we need to do is
7 figure out where are we going in the future?

8 The planning horizon right now, that were
9 working on, is 2011 through 14 -- 15. And
10 we're starting on 12 through 16. So our
11 horizon is now beyond our performance
12 measure, so I've got to come up with a new
13 one.

14 And so we're talking internally.
15 And if you folks have comments, let me know.
16 How do we measure success? Do they end
17 overfishing? Is it simply the number? Is it
18 the economic value of the fishery? Is it
19 some sort of improvement in the economics of
20 that fishery that we are looking for?

21 So, again, while we've got a
22 performance measure for this, it's going to

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1 be short-lived. And if I want my planning
2 plus my performance to equal a nice new big
3 budget, I've got to get in with Paul's folks
4 on that 2011-2012 process and start
5 justifying why I need money and somebody else
6 doesn't.

7 The Fish Stock Sustainability
8 Index, I think we've briefed MAFAC a number
9 of times on this. This is one of our key
10 performance measures. I've mentioned it's
11 our GPRA measure. We have 230 stocks in
12 there. Those 230 stocks were chosen because
13 they represent 95 percent of the landings
14 around the country. They're the
15 economically-important stocks. And they're
16 just those important stocks you think about.

17 We went out, not scientifically,
18 we went to our regions and said, "What are
19 the important stocks?" These were the 230 we
20 got. So we weren't shooting for 200 or 250.

21 We were shooting for the number that made
22 sense to our regional people where they put

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1 their time and effort.

2 And if you think about where they
3 put the time and effort, it's the
4 economically-important stocks. Those are the
5 ones people call and write letters about.
6 It's also the ones that are landed. So those
7 230 we developed. And we're tracking that
8 subset over a five-year period.

9 We managed about 530 stocks around
10 the country, which represent over 1,000
11 species. So this is a subset that we thought
12 were important to track.

13 The measure -- and I'll show you
14 the chart for it here in a second -- it's a
15 combination of do we have information on the
16 status of the stocks? Do we have a
17 determination whether it's overfished or
18 overfishing. You get one point for that. If
19 overfishing isn't occurring, you get another
20 point. If it's not overfished, you get
21 another point. If the biomass is above 80
22 percent of its MSY target, you get another

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1 point. So a maximum of four points per
2 stock.

3 So the 530, these are the 230 we
4 tracked, because the other thing is stocks
5 come and go. They'll put them in complexes.

6 They'll take them out of complexes for
7 different reasons. We've tried to freeze
8 these to follow. So if you look this is a
9 good chart. You know, when I go to Paul and
10 say, "My program is performing," this is the
11 chart I use to show, yes, we are performing;
12 yes, there's problems; and we need more
13 money. But a dollar put in the Fisheries
14 Management Program yields results. Show me
15 some other charts that have this kind of
16 slope on them.

17 So the scoring is over here on the
18 side. You can see that. We're at about 255
19 right now in 2009. You can see where we are.

20 There's going to be a little plateau there,
21 and then it's going to rise.

22 Well, if you think about it, if we

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1 end all overfishing in 2010 per the Magnuson
2 Act -- that's our measure, remember; that's
3 what our goal is -- you should be starting to
4 see a jump. Well, this is where I get to use
5 the laser.

6 You should be starting to see a
7 jump right here, where we have a plateau.
8 Right? If I've got -- remember -- well, I'll
9 show you. There's 41 stocks that are subject
10 to overfishing.

11 According to my scale here I get a
12 point for every one of those. This needs to
13 go up by about 41 points. Well, this is
14 another argument I can use in the budget, is
15 I don't have the money to do a stock
16 assessment on all 230 stocks in 2010 right
17 after we implement those new measures. If
18 we're able to get that money, we would.

19 But what it shows is the stock
20 assessment comes later. By 2012 we'll have
21 stock assessments on most of those, and
22 you'll see that 41 point increase. So,

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1 again, in the budget scenario, you can say,
2 yes, there's a plateau here, but the payoff
3 comes down the line because you are given me
4 enough money. So that's the FSSI.

5 Annual Catch Limits, again this is
6 related. The Magnuson Act requires them to
7 be implemented by 2010 for all stocks subject
8 to overfishing. All stocks have to have them
9 in place by 2011. So that's our measure. We
10 should be able to count those.

11 The key one is to get these 41
12 stocks that are subject to overfishing, get
13 ACLs in place. So I have a, when we started
14 this, basically a two-year performance
15 measure, that the councils and the Agency had
16 a little over two years to get 41 amendments
17 in place to put ACLs in. And those ACLs are
18 overfishing. So there we are.

19 Now there's a couple things here
20 to note. Our total goal may not be 41. The
21 Magnuson Act had two exemptions. I've
22 mentioned those before, stocks managed

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1 internationally and stocks are subject to --
2 stocks with a year-long lifespan don't need
3 them. Pink shrimp, if it is subject to
4 overfishing, we'd have to have an ACL for it,
5 but I think that's going to come off the
6 list.

7 And then you have a number of
8 stocks that are managed internationally
9 around the country. So we're probably
10 shooting more for the mid-30s on this one.
11 But, again, this is something we're trying to
12 push into our planning to show how our
13 performance is going to be over the next few
14 years.

15 Then the final one I'll talk about
16 before stop is the EFH one. Looking at the
17 status of the -- where they are in updating
18 their EFH information. The Act requires that
19 we do that every so often. So we want to see
20 that folks have a process, that they're not
21 only following the law by updating it, but
22 are they using new information and keeping up

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1 with everything as we go along. So I think
2 EFH is another fairly good measure we can
3 track.

4 And then kind of the final thing
5 here, as I mentioned, the councils this week
6 are in D.C. I chose to be here with you.
7 But they're back in D.C. in a room hashing
8 out their five-year program plans with the
9 Grants Office and some of my staff right now.

10 Usually -- in the past, more than four years
11 ago, the councils got one-year grants. And
12 it got a little bit old, up the council grant
13 every year.

14 So we did a five-year grant in
15 2004. So this is the last year of their
16 five-year grant. Next year, 2010, will be
17 the start of the next five-year planning
18 cycle. So we're looking at how do we better
19 incorporate performance into those council
20 grants?

21 Now obviously there's going to be
22 two parts to that. One of it is just the

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1 administrative. You've got to have your
2 staff, have the meetings, pay for travel, pay
3 the members.

4 But then the other half is: What
5 are those councils going to work on over the
6 five years? What needs to be in their grant
7 proposal that we can track and show that they
8 contribute better to our performance of the
9 Agency as a whole.

10 Part of the problem has been the
11 councils want more money. We've had trouble
12 explaining to OMB and the Hill on why they
13 should actually get that money. Hopefully,
14 this will help with it.

15 So those are some ideas I had.
16 We're looking for some feedback from the
17 Committee on, you know, what are those key
18 performance metrics that the councils could
19 have in those grants that, one, are
20 achievable, you know, because there's a lot
21 of externalities out there that, you know,
22 another stock may come up as being subject to

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1 overfishing. We may get a new stock
2 assessment that gives you completely new
3 information, or you may have a lack of
4 information. That could hold up where
5 they're going.

6 So some other ideas would be, you
7 know, what's the future? In two or three
8 years we're supposed to have this overfishing
9 thing under control through ACLs. What's the
10 next big thing out there? Is it Catch
11 Shares? Should we involve the councils in
12 the Catch Share goal or policy we are trying
13 to develop? Should we have a more economic
14 basis that the councils should work to
15 improve the economic output -- and pardon to
16 the economists here -- the economics
17 associated with that fishery by a certain
18 percentage. How do we best characterize that
19 stuff?

20 With that, I'll stop, and take
21 questions. I'm looking for answers,
22 primarily.

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1 VICE CHAIR BALSIGER: Thank you,
2 Alan.

3 Does anybody have a comment or
4 question? Ed first.

5 MR. EBISUI: Thank you.

6 Now would it be helpful to have
7 like a criteria for sustainability?

8 MR. RISENHOOVER: Yeah, and that's
9 come up a lot. And we've internally been
10 talking about what is sustainability? What
11 does it mean? If we go back to that FSSI --
12 how do I do that?

13 If we go back to the idea that
14 FSSI, are those the four characteristics of
15 sustain- -- or the five characteristics of
16 sustainability? You know, if a stock scores
17 four points, is it sustainable? Well, some
18 might argue yes. You've got the information.
19 It's not overfished. Overfishing isn't
20 occurring. That's kind of the legislative
21 definition we have.

22 We can also hold it up against the

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1 national standards. Is the fishery being
2 prosecuted in a safe manner? Is the bycatch
3 low, and on and on. Is the best available
4 science being used, or are there things
5 beyond that?

6 And that's where -- you know, last
7 night at the Monterey Bay Aquarium, the
8 seafood cards, they're the beyond that. So
9 what are our standards, or what are our
10 criteria for sustainability? And we've been
11 talking about that internally. And I don't
12 think we have quite a definition of it yet.
13 They're close to it. Because sustainability,
14 it's kind of -- you know, if I went around
15 the room, I think each of us would have a
16 different answer.

17 MR. EBISUI: Well, the councils,
18 you know, they've got to live by the national
19 standards. So it would seem to me to be the
20 logical benchmark to use for sustainability.

21 MR. RISENHOOVER: And that's what
22 we've used so far. I've been doing a number

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1 of talks with folks in the seafood community,
2 seafood producers. They want to be told, "I
3 want to buy sustainable fish products only.
4 What are they? List them."

5 Well, it's not that simple. And
6 so you talk about what are some of the
7 qualities of the sustainable stock. And
8 that's -- I just usually run them right down
9 the national standards.

10 But, you know, are we reducing
11 bycatch enough? You know, the Act says, "to
12 the extent practical." But are we reducing
13 it enough? In some people's minds, any
14 bycatch is too much.

15 MR. EBISUI: Two more points,
16 please. Your slide on overfishing, you know,
17 the national picture?

18 MR. RISENHOOVER: Um-hum.

19 MR. EBISUI: Bigeye tuna is --
20 this is for the Pacific, Western Pacific.
21 The councils, I believe -- isn't -- bigeye is
22 managed by the WCPFC.

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1 MR. RISENHOOVER: Right. There's
2 some little print down there, if you can
3 read, that says that.

4 MR. EBISUI: Their point is on
5 behalf of --

6 MR. RISENHOOVER: Well, and on
7 that we just need to make a determination,
8 because the Acts says, "If it's under
9 international management, it's exempt." We
10 just need to make the determination whether
11 or not that's exempt. And that's why --
12 that's when I said, you know, we are starting
13 at 41, but I think in actuality we're going
14 to be down --

15 MR. EBISUI: The mid-30s.

16 MR. RISENHOOVER: -- in the low
17 30s.

18 MR. EBISUI: Yeah.

19 MR. RISENHOOVER: That's one of
20 the ones that I'd subtract.

21 MR. EBISUI: And last point. On
22 behalf of the Western Pacific Council, could

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1 we have some other color but red?

2 (Laughter.)

3 MR. SIMPSON: Just don't give it
4 to the Gulf. Anything that's red in the Gulf
5 is --

6 MR. EBISUI: Yeah, red has a bad
7 connotation.

8 MR. RISENHOOVER: Other questions
9 while I decide which council gets to be red?

10 MR. BILLY: Bob. Bob.

11 MR. FLETCHER: Just, I don't know,
12 maybe a comment.

13 All the hydadine (phonetic)
14 species are subject to management other than
15 the council's. The councils have actually no
16 control really over how those stocks are
17 managed and how they're impacted. Why are
18 they on the U.S. overfishing list at all,
19 when the reality is the U.S. impact on is a
20 minor component of the overall impact? Is
21 that just because of the way they define
22 overfishing of any stock that may be caught

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1 in any extent by U.S. interests in the
2 council's jurisdiction, or -- because it
3 leaves you with a misleading picture.

4 MR. RISENHOOVER: Right. You have
5 an FMP, that has yellow fin tuna in it?
6 That's why. We go through the FMPs. Those
7 stocks, what is their status? Now unless
8 it's subject to overfishing, but that's
9 probably one you could close the U.S.
10 Fishery and it wouldn't matter.

11 MR. FLETCHER: Exactly.

12 MR. RISENHOOVER: So, again,
13 that's one of those ones you need to look at
14 to see if it's got an exemption from ACLs and
15 overfishing. And hopefully in a year and a
16 half this chart is going blank, actually.
17 Blank is the goal.

18 Other thoughts?

19 MS. LOWMAN: Well, you know, it
20 seems obvious that you do want to engage the
21 councils in their Catch Shares standards.
22 And it seems like, just like you give them

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1 this, you could do some sort of points in the
2 elliptic -- did it help with overfishing,
3 conservation, did it help with matching
4 capacity to available resource, did it help,
5 you know, in approving -- were the net
6 economic returns of the fishery increased.
7 You know, that could be two or three things -
8 - or four things where you could get points
9 the same way. And that could also maybe help
10 decide, you know, not only for ones that can
11 get credit because you've done that, but ones
12 that you might be thinking of doing and
13 needing funding for, that could have a great
14 potential for.

15 MR. RISENHOOVER: Right. And I
16 think those are good ideas. And part of what
17 I'm thinking we'll do, instead of putting
18 kind of the performance measure in their
19 grants, is just say that they will contribute
20 to NMFS achieving the federal performance
21 measures and then have a Catch Share
22 performance measure that includes those

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1 elements or characterizes or subsets. Okay.

2 MR. BILLY: Okay, last word.

3 MR. MARTIN FISHER: I have a short
4 question, Alan.

5 MR. RISENHOOVER: Yeah.

6 MR. MARTIN FISHER: And I guess
7 it's a statement, too.

8 I'm a little bit uncomfortable
9 with the definition of ITQ, LAPP, IFQ now
10 morphing into Catch Shares. I understand
11 that Catch Share is a general term and
12 encompasses all of them, but one of the
13 things I've noticed is watching the chase for
14 the red snapper I have to do in the Gulf and
15 now grouper since about mid-'04. Is that as
16 these definitions change they have an impact
17 on how the programs are designed and
18 implemented and constraints on fishermen and
19 fishing communities and the effects after
20 that.

21 So can you speak to that? I mean
22 is there -- it seems like a trend and it

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1 doesn't seem like a trend that's in the best
2 interest of fishermen?

3 MR. RISENHOOVER: Well, I think
4 the impact is Catch Share is a general term,
5 a category, like "Fisheries Management," but
6 "Fisheries Management" involves many
7 different types. So a Catch Share would
8 involve many different types of programs,
9 with some common characteristics. And those
10 common characteristics would be things such
11 as -- and we've got a draft definition.

12 I probably should send that around
13 at some point too, that we're thinking of
14 internally on this. But Catch Shares are
15 basically a program in which a certain amount
16 of fish is given to a specific entity and
17 then that specific entity is supposed to stop
18 fishing when it reaches that level. And that
19 distinguishes it from just splitting out
20 recreational quotas and commercial quotas
21 that then we monitor and close.

22 So it's a specific amount of fish

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1 to a specific group that then has the
2 responsibility to stop fishing once that's
3 reached. And so we still need, as I said, to
4 hone that definition so as we're talking to
5 folks, and there's a lot of talk right now
6 about implementing Catch Shares, we really
7 need to come up with, how do we define that,
8 what does that mean, and watch programs are
9 currently Catch Shares. Some programs that
10 currently aren't captured in my LAPP goal may
11 be captured as a Catch Share.

12 And then the effect on the
13 fishermen is I don't know that there will be
14 a direct other than a move toward Catch
15 Shares because the controlling part of it's
16 the statute and there's legislative language
17 on LAPPs and IFQs and Limited Access
18 Programs. So that would be kind of the
19 legally controlling, whereas "Catch Share" is
20 more of a catch-all term for those programs
21 in kind of this policy we're trying to
22 develop on how should we move toward them and

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1 by what degree and measure how we got there.

2 MR. MARTIN FISHER: Can I ask a
3 follow-up, Mr. Chair? Thank you.

4 Midway through what you just said
5 I heard language that leads me to believe
6 there's a policy shift or a new way of
7 looking at it. When you said that Catch
8 Shares would be imparted to an entity and
9 then that entity would distribute the Catch
10 Shares?

11 MR. RISENHOOVER: No, that entity
12 would then be responsible for fishing to that
13 level of that share they received.

14 MR. MARTIN FISHER: Is that entity
15 a council, a regional council, or a fishing
16 interest, or a community, or whatever?

17 MR. RISENHOOVER: It would be the
18 fishing industry, a community, the whatever,
19 as determined by the councils. So --

20 MR. MARTIN FISHER: To me that
21 sounds like a policy shift, because an IFQ or
22 a LAPP is more individually -- it's certainly

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1 generally assigned to the fishing community,
2 but it's individually assigned to -- and it's
3 very clear who actually gets it.

4 MR. RISENHOOVER: I don't think
5 there's --

6 MR. MARTIN FISHER: No?

7 MR. RISENHOOVER: I may not be
8 seeing exactly what you mean, but I don't
9 think there's a shift there.

10 MR. MARTIN FISHER: Okay.

11 MR. RISENHOOVER: It still needs
12 to go to a person, a vessel, a community.
13 We're not going to allocate these to the
14 councils.

15 And then the allocation would have
16 to be based on something, and so they would
17 have to justify to us why that something
18 deserves a share. Does that help?

19 MR. MARTIN FISHER: A little. So
20 along with this definition is there going to
21 possibly be a national standard or definition
22 of what this -- of how councils will relate

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1 to this, maybe, a new idea of Catch Share is?

2 MR. RISENHOOVER: Well, again,
3 Catch Shares are not something -- Catch Share
4 Programs aren't something new.

5 MR. MARTIN FISHER: Um-hum.

6 MR. RISENHOOVER: It's just a way
7 of categorizing or grouping current programs.
8 It's not a new -- there's -- you know, the
9 Magnuson Act did not include you will have --
10 you could do Catch Share Programs and this is
11 what they are. Catch Shares is just a
12 grouping of current programs that have some
13 similar qualities.

14 MR. BILLY: Okay. Heather.

15 MS. McCARTY: Maybe I can help a
16 little bit. For example, I noted that when
17 "Catch Shares" was put up on the screen, the
18 category of Catch Shares included IFQs, which
19 is an Individual Fishing Quota, but it also
20 included CDQ, Community Development Quota,
21 which is where an entity actually gets the
22 allocation. It's a percentage of whatever

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1 species is available in that region. And so
2 that's the difference that you're hearing,
3 because you're hearing Catch Share described
4 to encompass all those different kinds of
5 allocative situations, I think. So I don't
6 think you're seeing a change in that sense.
7 I think you're just seeing a change in how
8 it's grouped together.

9 MR. MARTIN FISHER: Thank you. I
10 recognized that when I started out. It's
11 just that I'm afraid that -- it's just a fear
12 because it encompasses all those other
13 things. Regionally in your part of the world
14 that makes sense. Regionally in our part of
15 the world it does not. And if there is a
16 policy shift that you have to include
17 community distribution of allocation, that's
18 my fear.

19 MR. RISENHOOVER: No, it doesn't
20 create any new regulations or legislation.

21 MS. McCARTY: Mr. Chairman, thank
22 you. I don't think there's anything that

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1 indicates that you would have to include a
2 community allocation. I think, however, that
3 it does include the community concept,
4 because the community concept is included in
5 the new MSA. And so there is the opportunity
6 under the new MSA provisions to have
7 community holdings and so forth, several
8 different categories of community holdings,
9 for example.

10 MR. MARTIN FISHER: Thank you,
11 Heather. Makes it clear.

12 MR. BILLY: Hey, Alan, want to
13 move on and finish up?

14 MR. RISENHOOVER: Absolutely.

15 The next one, we collectively are
16 going to go where we boldly have not gone
17 before and that is to do a discussion without
18 PowerPoint, so if you have a reaction, I can
19 put a PowerPoint up, so we're going to try it
20 without here.

21 MR. BILLY: Oh, no.

22 MS. McCARTY: No.

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1 (Laughter.)

2 MR. RISENHOOVER: So the goal of
3 this one is to have a discussion. And, Jim,
4 I don't know if this is something you wanted
5 to introduce with the New England experience
6 of communicating with the industry or if you
7 wanted to just launch. Remember, this is a
8 discussion.

9 VICE CHAIR BALSIGER: What do you
10 mean? I am the great communicator in New
11 England. I got my own column in the paper
12 now. But, no, go ahead, please.

13 MR. RISENHOOVER: Okay. And we'll
14 come back to kind of the column-in-the-paper
15 idea.

16 So the purpose of this, which we
17 do have up here, it's not a PowerPoint but we
18 do have a projector, maybe that's the root of
19 the problem, is to discuss how we can
20 increase kind of the two-way communication
21 between the Agency, maybe the councils, and
22 the affected industry. In many cases it

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1 seems like the industry does not understand
2 why the Agency is taking an action. Some
3 cases they may just not like it, but how do
4 we improve that communication to get at what
5 I think everybody's goal is in this, is that
6 sustainable fishery, however you define that,
7 at the end that's still profitable but also
8 not harming the resource ecologically.

9 So I'm going to skip the trigger
10 questions here and we're going to do the
11 background and we're going to come back to
12 those trigger questions.

13 We have put together an outreach
14 plan for the Agency that we've been trying to
15 follow. So this has been posted to the MAFAC
16 site, but it's our National Outreach Plan.
17 And under that there's six Strategic Goals.

18 And so in a month we'll be getting
19 all the outreach people together. And what I
20 want to talk to them about is: How do we
21 implement this plan. First of all, we need
22 to look at the plan and make sure it still

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1 works for the Agency, but then how do we
2 implement it.

3 And one of the things we probably
4 will want to talk about is how do we better
5 communicate with the fishing industry. So in
6 here, the six goals, in case for those of you
7 haven't read it, the first one is: Maintain
8 effective partnerships. So how do we
9 maintain those partnerships we have. How do
10 we make those partnerships better with folks
11 in the communications, so the councils are
12 obviously a partner in communicating. Sea
13 Grant is a partner in communicating.

14 The second one is we want to
15 inform the public on sustainable activities.

16 So how do we inform the public about sea
17 turtles, circle hooks, sustainable fishing
18 practices. What are those mechanisms we use.

19 Third is how do we project a
20 positive Agency image. And some of the
21 wording in here is a little hard for me, but
22 it's like how do we make ourselves look good.

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1 But part of it is how we make the public
2 understand why we do what we do and that
3 we're not either evil regulators or slaves to
4 the commercial fishing industry. Because
5 depending on who you talk to, we are.

6 The fourth one is: How do we be
7 proactive on emerging issues. Do we always
8 wait and react to the issue and then try to
9 explain what the problem is, or are we out in
10 front pitching what we think needs to be done
11 and then working toward it.

12 The fifth one is enhancing our
13 infrastructure. Do we have enough people, do
14 we have enough slide projectors, that sort of
15 thing, to implement these.

16 And then the sixth one of course
17 is how do we evaluate it. How do you know
18 when you've communicated well. If people
19 don't like your decision there's not a lot of
20 patting you on the back at the end going,
21 'Well, I don't like you but you're a good
22 communicator,' so how do we evaluate when we

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1 were communicating well. And so some of the
2 trigger questions we've come up with, we'll
3 try and probe that a little bit in our
4 discussion here.

5 So we also have kind of an
6 inventory of tools we use here in doing
7 things. We have the NOAA Fisheries Business
8 Report that's up on our website. How many of
9 you have read that?

10 (Members raise their hands.)

11 MR. RISENHOOVER: Okay. Anybody
12 outside the Agency read that?

13 (No hands are raised. Laughter.)

14 MR. RISENHOOVER: Okay. That may
15 be a little bit of a problem. If the Agency
16 is a type of business and we put out a
17 business report and nobody reads it, does
18 that mean nobody cares what we do? Or is the
19 way we're putting out the business report or
20 the way it's structured or the information in
21 it not answering the questions people have
22 about the Agency.

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1 We have a FishNews email list that
2 goes about every other week. So how many of
3 you are on that FishNews?

4 (Members raise their hands.)

5 DR. HOLLIDAY: I think everybody's
6 automatically subscribed to that.

7 MR. RISENHOOVER: Oh, so that
8 seems to be something like people are getting
9 whether they want it or not, but how do we
10 evaluate whether it's actually working. Is
11 it informing you of the things you want to
12 know about, is it giving you a right amount
13 of detail. Is it giving you access to the
14 decision-making, the public hearings,
15 whatnot, to be involved.

16 Jim mentioned -- I had picked out
17 several at lunch to talk about, and so guest
18 columns and publications. Jim's in several
19 newspapers. There was a National Fisherman's
20 column that's monthly. How many people are
21 using that? Is it giving people the right
22 amount of information. Are the topics

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1 current? And how do we know whether or not
2 it's having an impact.

3 Fish Watch is one I picked out
4 here. Somebody today, I think it was
5 Catherine, said she used it. Well, good.
6 Are people using Fish Watch. Is it hitting
7 the topics we want to hit? Are people
8 getting the information they need? Is the
9 site usable?

10 We did a little study with some
11 NGOs where we gave them kind of a survey
12 after they used the Fish Watch site to get
13 some information back. I'm going to do that
14 with fishing industries, both recreational
15 and commercial, to get their opinions back,
16 and then some consumer groups to see what are
17 they looking for in the Fish Watch site, are
18 they getting it and how do we improve it.
19 And we've already got some ideas on that.

20 We go to a lot of meetings. We
21 all go to a lot of meetings. We send people
22 to meetings. So one of the things we do is

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1 we go to these large annual events, the
2 Boston Seafood, the Pacific Marine Expo, and
3 on. Is our work there, is it worth my time
4 to send three people to that meeting for five
5 days, have a multi-thousand dollar pop-up
6 display, hand out Fish Watch cards. Is that
7 reaching the constituencies we want. Is it
8 having the effect we want at the end. And
9 you can read these on and on.

10 We do a lot of outreach and
11 communication in the Agency, but I don't
12 think we've ever really decided which ones
13 are working and why, and that's where we need
14 to put more effort.

15 The commercial fishery statistics.

16 You know, each year we put out that
17 Fisheries of the U.S. Is that helpful to
18 folks. Do people use that. Do we need to
19 have that in a different format. I know it's
20 got some online aspects that you can search,
21 but how do we best do that.

22 So that's a little bit. We have

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1 kind of our outreach and communications plan
2 that covers -- it's a little broad in my
3 opinion, so we may need to narrow it a little
4 bit. But I'm looking for feedback on how we
5 narrow it.

6 Just cursor back up here to the
7 trigger questions. And this is the part
8 where the discussion starts. So when we
9 think of primarily the fishing industry, and
10 in New England that was primarily the
11 commercial industry, but perhaps we can
12 broaden this to the fishing industry and then
13 we can talk more about NGOs or environmental
14 NGOs or the general public, but just starting
15 with the industry, so what are the current
16 barriers to effective communication. Let's
17 try to frame the question a little bit. What
18 are we trying to answer here before we get to
19 some of the solutions. It seems like we
20 always jump to the solutions, more reports,
21 more emails, more meetings, but what are
22 those barriers.

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1 And what I'll do when we get
2 through with this is I'm going to take your
3 thoughts back to my communications folks,
4 talk to them. As I mentioned in June, we
5 have a meeting of all the communications
6 folks around the country, talk to them about
7 how do we not only have our plan, focus on
8 what needs to be done, but then what's our
9 implementation plan, our action plan, the
10 tactical plan on doing that, so that we are
11 concentrating on those things that are the
12 real problem.

13 So back to this again. What are
14 the barriers to effective communication? Why
15 is there a problem or what is that problem?
16 Would anybody -- okay. Let's go at it a
17 different way: Would anybody say there isn't
18 a communication problem?

19 VICE CHAIR BALSIGER: (Raises
20 hand.)

21 DR. HOLLIDAY: (Raises hand.)

22 MR. DiLERNIA: (Raises hand.)

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1 MR. CATES: There's a
2 communication problem.

3 MS. DOERR: Well, I mean just to
4 back up before I answer that question,
5 there's nothing on this about the
6 recreational fishing sector.

7 DR. HOLLIDAY: Patty, we're having
8 trouble hearing you.

9 MS. DOERR: There's nothing on
10 there about the recreational fishing sector,
11 which in some fisheries is the primary --

12 MR. RISENHOOVER: And I think --

13 MS. DOERR: -- user of a fishery,
14 and so --

15 MR. JONER: I think Mark answered
16 you. He was having trouble hearing you.

17 MR. RISENHOOVER: Okay, it is late
18 in the day. I did think MRIP and some of the
19 outreach things were in our list of things
20 we've been doing. But, again, when you're --
21 and I did say the commercial or the
22 recreational industry. We do have a

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1 recreational strategic plan. We've got a
2 recreational and executive order. We've got
3 recreational fisheries contacts around. So
4 the question holds too: What's the problem?

5 Is it a lack of people addressing it?

6 So from a recreational
7 perspective, what's --

8 MS. DOERR: So this -- so what's
9 up there applies to the recreational fishing
10 sector as well?

11 MR. RISENHOOVER: But I think --

12 MS. DOERR: The questions apply to
13 us as well --

14 MR. WALLACE: Yeah, I think this
15 started as them or of a commercial industry,
16 but I think we need to broaden it to the
17 recreational industry, the NGOs, general
18 public.

19 MS. DOERR: That would be my --

20 MR. RISENHOOVER: But if we could
21 --

22 MS. DOERR: -- recommendation.

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1 MR. RISENHOOVER: -- solve one of
2 those it would be happy hour time.

3 MS. DOERR: And more confetti.

4 MR. RISENHOOVER: I've got the
5 confetti ready.

6 MR. DiLERNIA: Alan, at one point
7 there existed an Office of Constituent
8 Services. That no longer existence, correct?

9 MR. RISENHOOVER: Correct.

10 MR. DiLERNIA: That's gone.

11 MR. RISENHOOVER: However, Tony,
12 that whole office was folded into my office
13 as a division, so the majority of those
14 people are still there.

15 MR. DiLERNIA: Well, let's talk
16 about that for a minute. Boots on the
17 ground, so to speak. I mean that's what you
18 really need in a sense. And there were
19 representatives to commercial and to the
20 recreational industry. Do those individuals
21 still exist, do they cover all the regions?
22 Are all the regions still covered?

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1 MR. RISENHOOVER: We've had -- at
2 most we've had three people in the field. We
3 now have two, one person just left. So...

4 MR. DiLERNIA: Yeah. I mean
5 that's -- if you're asking how can you
6 improve, I mean lots of what you've done up
7 there, it's great, and some of that's come in
8 recommendations to MAFAC over the years and
9 all. But nothing beats face to face. No
10 objective beats having someone sit down with
11 a bunch of fishermen, be that at a
12 recreational fishing tournament or being at a
13 fisherman's bar or something and doing a
14 face-to-face and sitting down and interacting
15 with them.

16 You have to reestablish that
17 personal, interpersonal contact. Now you're
18 government. So right away no matter what you
19 do people are not going to like you because
20 you're government, and this we understand.

21 MR. RISENHOOVER: Yeah, we're used
22 to that, too.

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1 MR. DiLERNIA: But the problem is
2 when you become too used to that and we have
3 a tendency to write it off after a while and
4 just dismiss ourselves by saying, well, we're
5 government, nobody's going to like us. What
6 are we going to do, we'll go off in a corner
7 and do our work.

8 And I really think you need that
9 interpersonal, you need that face to face.
10 You need that -- what the port and NMFS port
11 agencies do that are not there anymore. You
12 need that kind of face to face -- well,
13 certain places.

14 MR. RISENHOOVER: Right. And part
15 of this, Tony, and for me I've got to
16 separate it from organizationally to what
17 appears externally. So what I'm hearing you
18 say is we need more people interacting with
19 the industry.

20 MR. DiLERNIA: Yeah.

21 MR. RISENHOOVER: And then the
22 subsequent decision for me is should those

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1 people report to a headquarters office or
2 should they report to a field office, the
3 regions. And from your perspective it may
4 not matter.

5 MR. DiLERNIA: But if that person
6 interacts, it should not be -- the
7 interactive person should not be the regional
8 administer or the regulator. It shouldn't be
9 the same person who's writing the rules. The
10 interface between the fishing community, be
11 it recreational or commercial, and the Agency
12 should be someone separate from the rule-
13 maker, so that they can say probably under
14 there granted they're not the rule-maker, so
15 to speak, and you have to establish some type
16 of rapport, communication.

17 MR. RISENHOOVER: Okay.

18 MR. DiLERNIA: It can't be the
19 same. You can't expect the RA to be the same
20 person that's going to be sitting there with
21 a bunch of fishermen and trying to make
22 things happen. It's not going to work.

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1 MR. BILLY: Okay, Randy.

2 MR. CATES: Alan, I'm reading this
3 and I'm assuming this is including the
4 councils, communication between councils and
5 industry?

6 MR. RISENHOOVER: Yeah, I think we
7 can extend it to that.

8 MR. CATES: One of the comments I
9 would have, I think in Hawaii, I mean Ed can
10 comment on this as well, we have fairly good
11 participation at the fisheries meetings. The
12 problem that I see is we have islands and
13 people take their time and fly at their own
14 expense to show up. At the last council
15 meeting I was at, I was asked to be there at
16 eleven o'clock to make a presentation. I
17 didn't even get to talk until seven o'clock
18 that night. From eleven o'clock to seven
19 o'clock at night not one issue was being
20 talked about that I could see was related to
21 federal fish management. It had to do with
22 everything else, so they're extending their

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1 focus.

2 So in that I would say it's the
3 content is the key thing on whether the
4 people are going to show up. And if a
5 fisherman is going to come there and his
6 issue is bottom fish closure, he doesn't want
7 to sit around nine hours waiting for that
8 issue to come up. And if from eight hours
9 it's about the Ahupua'a system or the Maui
10 inland waters things, it's not that that's
11 not important, but that guy took his time to
12 show up and he gets frustrated. So part of
13 that would be what the content is.

14 I don't know if that make sense,
15 but, Ed, what do you think?

16 MR. EBISUI: I was going to
17 mention that I think in Hawaii in the, is it
18 Piro, Pacific Island, I think the Fishery
19 Service has a good network and a good system
20 going there. We have some unique problems.
21 Like, for example, our long-line fishery, we
22 have fishermen from many different ethnic

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1 backgrounds. And so the notices and things,
2 special efforts are made to print the notices
3 in the languages, the various five or six
4 languages that are spoken.

5 I think the National Marine
6 Fisheries Services has also done a good job
7 in connecting with the right people, like
8 Brooks and the auction group, who also help
9 to spread the word to the fishermen. And on
10 the recreational side, you have Kurt Kalmado
11 doing the barbarous hooks project and he's
12 going to every tournament, talking to all the
13 fishing clubs, so there's a real presence and
14 there's a rapport there.

15 I don't know if that's unique only
16 to our region, but I think the system is
17 working well. And the council also has,
18 every meeting, after the formal meeting is
19 done, they host a fishermen's forum. And
20 they do have selected topics, but it's
21 basically open mic, so fishermen actually do
22 attend and they do get to talk and ask hard

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1 questions to council members or others. So I
2 think the face to face rapport is there and I
3 think it's constructive.

4 MR. BILLY: Thanks.

5 Martin.

6 MR. MARTIN FISHER: Thank you, Mr.
7 Chairman. I'm not really sure about this.
8 It's kind of fish right out of the oil. It
9 hasn't even hit the napkin on the plate. But
10 I just spent a few minutes just browsing the
11 NOAA website and looking through the
12 different regional council homepages. And
13 it's hard to find some information,
14 especially if you're a layperson or you're
15 not really used to the system or looking for
16 this kind of information.

17 There's doesn't seem to be a place
18 where you can go and there's broad -- you're
19 involved in fisheries, and there's broad tabs
20 or windows that say quota development or
21 Fishery Management Plans, or anything like
22 that. You have to go through each individual

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1 council website and ferret out each species
2 or each plan that you want out look at. And
3 then there are so many different layers
4 within each regional website that unless
5 you're adept at the system already, it's a
6 daunting task.

7 So if I could offer a suggestion
8 it would be for somebody to take a look at
9 how to facilitate information gathering for
10 John Q. Public because it's not easy. It's
11 there, you could find it, but it's a
12 labyrinth.

13 MR. BILLY: Tom.

14 MR. RAFTICAN: Yeah. I think
15 Patty's questions were good about you kind of
16 focus on commercial here. You do have one
17 recreational representative on the ground in
18 California. Marty does a good job, but
19 California, I think, last count had 1.4
20 million anglers and probably a million of
21 those fish salt water. And when you start to
22 do the math, face to face gets really pretty

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1 tough.

2 You can reach out and work through
3 partnerships, and I think you're trying to do
4 that, but the thing is you kind of lose
5 something each step down the line. And I
6 think what role can MAFAC play in improving
7 the relationship between National Marine
8 Fisheries Service and the industry, if you
9 put in recreational there, you got 21 folks
10 in this room, and our job is to bring
11 information and bring recommendations to the
12 Secretary, but we spent two days here
13 listening to the best and the brightest on
14 what's going on as far as the industry -- as
15 far as the government goes, let's try and see
16 if we can bring some of that information back
17 on a firsthand basis to our centers and flu
18 back along the line. And I think that would
19 probably be pretty helpful. And I try to do
20 that somewhat, but if we could almost make a
21 little formalized -- you hate to talk -- you
22 can't do, 'This is what we are doing.' You

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1 know there's also to the degree that you
2 can't speak on behalf of MAFAC, but you can
3 say that, 'Hey, this is what the outcome of
4 our conference was.'

5 MR. BILLY: Larry.

6 MR. SIMPSON: Thank you, Mr.
7 Chairman.

8 I think this is a wonderful
9 initiative. I mentioned it earlier, the I&E
10 groups and the councils doing this. And I
11 think the key here, Alan, is to coordinate
12 among the council groups so that they things
13 similarly.

14 All of us have gone through the
15 process at the state level or federal level
16 with trying to get the word out to the public
17 through public hearings. And we go and spend
18 our time and a few people show up. How can
19 we do that better?

20 The new initiative that Ed talked
21 about, the fishermen's forum afterwards.
22 I've heard great response. We do the same

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1 thing. And, let's face it, we don't live in
2 the same world as I lived back in '78. We
3 just passed an action at the gov. council
4 where we're going to stream our meetings
5 online. So if you've got a computer, you can
6 sit there in your home in your bathrobe and
7 watch and hear what's going on. So I think
8 that's important.

9 MR. DiLERNIA: The council in the
10 bathrobe?

11 MR. SIMPSON: No, no. The person.
12 (Laughter.)

13 MR. DiLERNIA: Oh, okay.

14 MR. SIMPSON: So I think that's a
15 wonderful thing. And you don't want to
16 stifle enthusiasm. I find it difficult
17 myself, you know, beating my head against the
18 same grove in the wall trying to explain
19 things to different people who just don't get
20 it. I mean the last rash of emails about how
21 stupid the council is had to do with 'Why do
22 they go out and look for red snapper in

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1 places that they're not there. I could show
2 them right where the big ones are.' Well,
3 they don't understand random sampling, you
4 know.

5 And then the other one's, 'Why in
6 the world is there differential management.
7 The commercial guys have got one side of the
8 limit, and why is that. That's terrible.
9 That's just ridiculous. How stupid can you
10 be.' The only thing is about five years the
11 recreational people asked for it so they
12 could get more days. They seem to forget all
13 that.

14 So it's a cost of doing business.

15 I think it's a worthy effort. I think we
16 ought to put time and attention into it and
17 try to make the best of it.

18 MR. BILLY: Cathy.

19 MS. FOY: I'm going to pass, Tom.

20 It's been addressed. I don't need it
21 anymore.

22 MR. BILLY: Bob.

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1 MR. FLETCHER: The line up there
2 by Cooperative Research, I can only speak for
3 the West Coast, but Randy in the Pacific
4 States was able to get some Cooperative
5 Research money a few years ago and some of us
6 got together on a special committee and
7 helped allocate those dollars out. And in
8 Southern California they did something to
9 develop a new stock assessment tool that did
10 more to bring the industry and NMFS together
11 than anything I've seen done.

12 The skippers were on the boat.
13 Biologists and other experts were on the
14 boat. They learned from each other. And the
15 result was a phenomenal new tool that had
16 been -- that was developed with the total
17 participation of the industry.

18 So in terms of Cooperative
19 Research, to me that was probably one of the
20 classic examples of learning from each other.
21 And my industry in Southern California now
22 feel so much better about what is being

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1 talked about at the Pacific Council because
2 they participated in developing the
3 information.

4 So any time you can do that, and I
5 applaud Randy and Pacific States for being so
6 willing to be the conduit to create these
7 partnerships. That was a phenomenal thing
8 and it's kind of gone away now and it's
9 really too bad.

10 MR. BILLY: Okay. Bill.

11 MR. DEWEY: Yeah, a couple
12 observations. One, picking up on something
13 Ed said, and from the list you had up here, I
14 don't have the perception there's lots of
15 opportunity -- you're doing a good job
16 speaking out and conveying from NOAA what's
17 being done. But opportunities for input back
18 seem maybe they might be more lacking there.

19 And the forum he was referencing seemed
20 popular because of the open mic time. You
21 know, today with email and more and more
22 people using email, if there's some sort of

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1 an open forum where people can ask questions
2 and get answers, or some improved way of
3 allowing people to have input, was one
4 observation.

5 Another is, and I see it's part of
6 the strategic plan here, but in the Northwest
7 Sea Grant is particularly effective from our
8 industry standpoint. They're kind of seen as
9 a neutral broker of information. And so with
10 our use-conflict issues they have been
11 particularly valuable at having science
12 forums around the Puget Sound and presenting
13 information and not having a side. Where
14 NOAA, as being an advocate of aquaculture or
15 perceived by some as being an advocate of
16 aquaculture might not be that neutral broker.
17 Just a couple of thoughts there.

18 MR. BILLY: Patty.

19 MS. DOERR: To kind of build off a
20 little bit of what Bill just said, I think in
21 general from the recreational perspective and
22 that sector, I think the rec. sector's going

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1 to care -- really they're going to only care
2 about what's happening locally to them. And
3 so I think the opportunity to speak out at a
4 local level and have the outreach come from
5 some local office or regional office is going
6 to be more effective than having it come from
7 the national office.

8 And, for what it's worth, the
9 sportfishing industry communicates with
10 Forbes Darby the most in Silver Spring, and
11 he's phenomenal. Very open communication
12 with him and he's always very helpful and
13 very responsive. And him and I have had
14 discussions kind of offline as ways to better
15 the outreach to individual anglers, but I
16 still think it's needs to come from a
17 regional office of some kind, a more local
18 organization than from Silver Spring. My two
19 cents.

20 MR. CATES: Tom.

21 MR. RAFTICAN: Yeah, just a couple
22 things that I didn't mention before. You do

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1 some things pretty well. Used to have a
2 fisherman's forum. And I know Jim has come
3 out and sat down in front of 150 people and
4 taken questions.

5 And the other thing is, Jim, you
6 do a weekly update when it comes to us.

7 VICE CHAIR BALSIGER: Don't ask
8 how many people read it, because...

9 MR. RAFTICAN: Hey, well, I do
10 every week. And it's incredible to do that
11 week after week after week. A lot of people
12 start them, but you've followed through on
13 that and that's really very, very good
14 communication. It gives a lot of us the
15 background so that we know what's going on
16 week to week. Thank you.

17 VICE CHAIR BALSIGER: Thank you.

18 MR. FLETCHER: Hear, hear.

19 MR. DEWEY: Hear, hear.

20 MR. BILLY: Randy.

21 MR. CATES: I was going to say
22 exactly the same. I've suggested to several

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1 folks in this room it would be a good thing
2 to have Mike Rubino do it as well. I have
3 asked Mike personally to identify who the
4 stakeholders are at in aquaculture and just
5 give us updates on what he's doing, who he's
6 meeting with. Because many times I'll get
7 called out of the blue and a lot of questions
8 and there was some apparent meeting and there
9 was some negotiation, and I had no idea. And
10 I find myself very uncomfortable, so if we
11 knew what environmental groups are meeting
12 with, for example, what negotiations are,
13 folks in D.C., they do call us and ask us
14 questions. It's very helpful to see; your
15 weekly meetings are a good example of that.
16 I can see who you're meeting with and that
17 gives us a good, clear picture.

18 MR. BILLY: Martin.

19 MR. MARTIN FISHER: Thank you, Mr.
20 Chairman.

21 Alan, one of the things I've
22 noticed in the council process in the

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1 Southeast Region is that during all the
2 public hearings there's these sitting ducks
3 on the table and there are 300 angry
4 fishermen around. And nine times out of ten
5 the sitting duck, the council member, or a
6 staff person is petrified. And their job is
7 to listen and it's our business to answer
8 questions.

9 Nine out of the ten people that
10 come to the podium to give public testimony
11 have as many questions as they do statements.

12 It would be really nice if there was some
13 way or a vehicle to perhaps at every --
14 because it wouldn't be fair to put it on the
15 council members themselves, but if there was
16 a representative of the regional office
17 attending the public hearings and some amount
18 of time, I don't know how you would allocate
19 it or how the meeting would be formatted, but
20 it would be really good if during the course
21 of the person's public testimony, as a
22 question arose, that the NMFS representative

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1 could actually take a minute or some amount
2 of time to answer those questions. Because
3 the people that are in the audience, they
4 don't want to just tell the council how they
5 feel. There are questions that they can't
6 ask because the council process really
7 doesn't allow those questions to be answered
8 directly. So that's something that I think
9 would really facilitate the dissemination of
10 information and a better public relations
11 image of NMFS and the council and the whole
12 process.

13 MR. BILLY: Steve.

14 MR. JONER: I wonder if you know
15 by, say, the industry what percent of the
16 people out there are really connected? At
17 the council meeting. You know, I see the
18 same faces all the time. In fact, a stranger
19 walks in the room, we all look around: Who's
20 that. And even with something like the
21 salmon regulations, you see the same people
22 year after year after year.

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1 So I think it's just probably --
2 you look at the commercial fisheries, the
3 people who are fishing for a living, probably
4 a larger percentage, maybe ten percent of
5 those are connected. And then you move down
6 a level to the recreational, those people
7 that own boats and fish regularly, a smaller
8 percentage of those, and then the occasional
9 person that catches a fish or is somehow
10 involved. This has always been the age-old
11 question I think, you have somebody there
12 representing an industry and it's hard even
13 for that person to get the message down.

14 Once you have everybody's
15 attention is to close a fishery, and then you
16 have the situation that Martin described.
17 You know, I think Tony started out the
18 conversation with boots on the ground. And I
19 just think it's an effort to go around and
20 find those people. Those that really want to
21 be connected, you know where to find them.
22 But a lot of people just don't pursue that.

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1 And once you get them, you got to
2 -- you have to kind of recruit them and get
3 some interest and then once they're to a
4 certain point they'll take over from there.
5 But other than that you need to really be
6 out, be in the cop on the beat. Not you.

7 MR. CATES: I have a quick
8 question for you. I mean in the other areas
9 how much participation is there in your area,
10 for example, at the fisheries meetings? My
11 experience is only Hawaii.

12 MR. JONER: You mean like the
13 council meeting?

14 MR. CATES: (Nods.)

15 MR. JONER: Probably with the
16 trolling industry about half a dozen out of
17 --

18 MS. LOWMAN: It's out of the 100
19 vessels are active, there's probably about 20
20 people who come, most of which are probably
21 not on those vessels anyhow.

22 MR. JONER: Yeah, and then long

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1 line, it's a smaller number. And salmon
2 trollers --

3 MS. LOWMAN: I mean it is a
4 problem. I mean getting out and to really
5 the people -- you know, there's an amazing
6 amount of mis- -- most people get their
7 information from dock talk and it often
8 doesn't have much relationship to what's
9 really real. It's that classic game of
10 gossip, it sounds really different at one end
11 of the dock and the other end of the dock,
12 even. And I do think there's something to he
13 said -- I mean it sort of sounds silly, but
14 you could do once or twice, if you advertise
15 it in the papers that you were coming, I
16 think you would get people who would come to
17 just sit down and talk a story and have a cup
18 of --

19 MR. CATES: Well, just to follow
20 up, I mean in Hawaii we have newspaper ads go
21 out, --

22 MR. EBISUI: Radio.

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1 MR. CATES: -- radio spots,
2 television. It's a pretty big participation
3 that I see. And the Longline Association has
4 their own association that they're there.
5 But the general public, they come. It's a
6 crowded room.

7 MR. JONER: I think I'd just like
8 to answer that. One thing, you're living on
9 an island and it's kind of limited geographic
10 range. But on the West Coast, there's a
11 meeting in Seattle, you have people fishing
12 all the way from San Diego up to northern
13 Washington and it's a big deal to get that
14 far.

15 MS. LOWMAN: I think this isn't
16 NMFS but councils, I think, have gotten worse
17 over time, maybe it's because of budgets, but
18 years ago when I was on council staff we'd
19 try to have the meetings near the area where
20 the people who were affected by those actions
21 lived. Now we're having the last final
22 meeting on an IFQ program for this coast in

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1 Spokane -- you know? And I think there's
2 bound to be a little bit more of a disconnect
3 to where we even meet and where the issues
4 are.

5 MR. BILLY: Tony.

6 MR. DiLERNIA: Thank you. One
7 quick war story and I'll be done. When I was
8 INE chairman for the Mid Atlantic Council we
9 were meeting on Long Island. And the council
10 itself was invited to go out on a fishing
11 trip on one of the fishing boats Fort
12 Capturey (phonetic). Fort Capturey probably
13 has about 20, 25 head boats. And we were
14 scheduled to go out that day fishing.

15 And it probably blew about 40
16 knots that day and the rain was coming down
17 sideways, so we canceled the trip. And
18 everybody was tied to the dock. And at the
19 time I think Dick Shaffer had recreational
20 fishery or something like that. And so
21 Shaffer said, "Well, we aren't going fishing,
22 but let's go down to the dock anyway."

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1 And we went down to the dock and
2 25 head boats captains piled into the cabin
3 of one boat. And if you know anything about
4 Capturey, the wheatfish is probably one of
5 their -- or was one of their biggest
6 moneymakers. And by the end of about seven
7 cups of coffee and before noontime, Shaffer
8 had them agreeing to, hey, listen, if you
9 have to completely shut down the fishery for
10 a couple of years, do it so that if you have
11 to -- if that's the only way we're going to
12 rebuild it, we'll take it.

13 That was one guy taking on 25, but
14 it was one on one on a guy's boat and face to
15 face. That's the kind of stuff you can do.

16 MR. BILLY: Thanks.

17 Tony -- or Dave.

18 MR. WALLACE: Well, the first
19 thing I'm going to say, Alan, is that I think
20 that there is all the information that anyone
21 could ever want and I personally am just
22 overwhelmed with information. I cover two

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1 councils and a number of different species.
2 My biggest criticism is on your website
3 trying to find some information, and I'm
4 going to echo Martin's. I use it all the
5 time and sometimes I get very frustrated not
6 being able to find the answer to the question
7 that I want. And most of the time I'm doing
8 it in the middle of the night or when the
9 council or the regional office is not open.
10 So since the computer systems run all night,
11 then I could be able to find that
12 information.

13 The dissemination of information
14 needs to really come from either your office
15 or the councils. The councils are the main
16 line. They're the people who are actually
17 writing the regulations and then you're
18 approving them or disapproving them --

19 DR. HOLLIDAY: Not everywhere.

20 MS. McCARTY: Not everywhere.

21 VICE CHAIR BALSIGER: Different
22 models.

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1 MR. MARTIN FISHER: No, no. No,
2 no.

3 MR. EBISUI: The committee
4 regulations, recommend regulations.

5 MR. WALLACE: They write the
6 regulations -- well, that's quibbling, we're
7 not going to -- the issue is, is the
8 communications effective? The people who
9 complain about the communications mostly are
10 the people who jump into it at the eleventh
11 hour and, as you said, just don't like the
12 regulations. And we see that a lot. We see
13 that both in the commercial and recreational.

14 And if you want -- and Tony knows it as well
15 as I in the Mid-Atlantic, all you have to do
16 is have a little discussion on flounder and
17 you can fill out this -- you know, a huge
18 auditorium with a whole bunch of recreational
19 fishermen who think that the regulations are
20 awful because they can catch a lot of small
21 fish.

22 And so I guess the take-home

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1 message is I think that there is more than
2 adequate information. Anyone who really
3 looks at it can find notices, the person in
4 the council who handles a specific species.
5 In the macro way, there's plenty of
6 information. And in a micro way, all you
7 have to do is call the council office or NMFS
8 and talk to someone in the region or in the
9 council who actually is in charge of that
10 species and then they can answer very
11 specific questions if you can't find it
12 online.

13 All the fisheries' management
14 plans are online and so -- but sometimes it's
15 really hard to answer the question that you
16 have, so all I would say is have your IT
17 people see if they can improve the -- make it
18 more intuitive to find the information that
19 we're looking for.

20 MR. BILLY: Ed.

21 MR. EBISUI: Thank you. I just
22 wanted to say that in the overall scheme of

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1 things the councils really are the front
2 lines. And in our council no chairman was
3 ever shy about responding to a question,
4 because I think the comment was made that
5 many times people come with as many questions
6 as they have things to say. So our -- the
7 principle we operated on was the chair was
8 free to address any questions. You keep it
9 short. You don't want to have the
10 discussions hijacked. But the chair and
11 staff were always there to respond to
12 questions, regardless of the setting, be it a
13 formal general session of the council meeting
14 or a forum.

15 The other thing I wanted to say is
16 that I think there are times when it behooves
17 the council members, especially in
18 controversial issues, to articulate what
19 they're basing their vote on. Why are they
20 voting this way? I think it goes a long way
21 in promoting, at least understanding, from
22 the constituents, from the public. At least

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1 they have an understanding of why you're
2 doing what you're doing. And it shows I
3 think it's not a star chamber, a
4 predetermined decision that the council was
5 going to do this at any given time.

6 So I think, yeah, we've had a lot
7 of really contentious, almost physically
8 dangerous situations in the past, but I
9 think, by and large, people walked away with
10 an understanding of why the council did what
11 it did, although they may not agree with
12 them.

13 MR. BILLY: Vince.

14 MR. O'SHEA: Thank you, Mr.
15 Chairman.

16 There have been a lot of comments,
17 Alan, about -- you know, your question was
18 the National Marine Fisheries Service
19 outreach. And the councils have been
20 included in many of the comments here. And I
21 think the reality is that councils and the
22 councils' outreach problem is a little -- or

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1 challenge is a little bit different than the
2 Agency's because from time to time the Agency
3 is not going to do necessarily what the
4 council's doing.

5 So the council provides a good
6 forum, I think, for things like the regional
7 administrator to hold listening sessions and
8 such. But where you guys are, for example,
9 in New England is not exactly on the same
10 page as the council and that's by some pretty
11 fundamental things that aren't going to
12 change in the law. So just a limit -- you
13 know, I think you got to recognize there's
14 two parallel paths here and you can't put all
15 your eggs in the council basket. Thanks.

16 MR. BILLY: Thank you.

17 Martin.

18 MR. MARTIN FISHER: Thank you, Mr.
19 Chairman.

20 To further that note, I was going
21 to say that Dr. Crabtree in the Southeast
22 Region has done an excellent job of bringing

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1 himself and staff, his staff to -- he's
2 created Q&As at the end of the council day.
3 I don't know how many days out of -- Larry's
4 gone --

5 MR. SIMPSON: I'm here. I'm just
6 standing up in the back here.

7 MR. MARTIN FISHER: Oh. Has he
8 been every day at the council meeting?

9 MR. SIMPSON: Generally once.

10 MR. MARTIN FISHER: At least once.

11 MR. SIMPSON: Once during the --
12 during it.

13 MR. MARTIN FISHER: Yeah, but at
14 least once. He's done an excellent job of
15 after council, at six o'clock, sitting in the
16 room, everybody's in a chair, there are no
17 tables involved, and it's a real town hall
18 meeting atmosphere. And that's a really good
19 opportunity for constituents to ask about --
20 or stakeholders to ask about the particular
21 questions, and he does a good job of that. I
22 just wanted to make sure that was brought to

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1 light because it's a good model to follow.

2 MR. BILLY: Okay. I think I'll
3 have the last word and then we're going to
4 stop.

5 VICE CHAIR BALSIGER: I wanted the
6 last word.

7 MR. BILLY: Jim can have the last
8 word after I have something to say.

9 (Laughter.)

10 MR. BILLY: I'd encourage you to
11 look in other parts of the government. And
12 one of the best examples I can think of,
13 Alan, would be the Agriculture Department.
14 They have extensive communication systems to
15 reach a million cattle ranchers, two million
16 farmers, the consumer community. They
17 regulate, so the regulatory process. There's
18 lots of models.

19 They have a meat and poultry
20 hotline. And I think they just passed
21 something like their five-millionth call in
22 ten years, or something like that. There's

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1 lots of different systems that are proven to
2 work over time and might be examples that you
3 could extrapolate from for fisheries. So you
4 might want to look around to see what works
5 in other parts of the government.

6 VICE CHAIR BALSIGER: Thank you.

7 I appreciate all those answers. This has
8 been close to me for a while now and I have
9 some stories I could tell and I won't, but I
10 just wanted the last word so I could say that
11 no one suggested that I start Twittering,
12 because I wasn't going to do that.

13 (Laughter.)

14 MR. BILLY: All right. Okay.

15 We're now going to break into the work of the
16 Strategic Planning Subcommittee and the
17 Ecosystem Subcommittee. And I'm going to
18 turn it over to Mark to sort of set the
19 stage.

20 DR. HOLLIDAY: Thanks, Tom.

21 Well, we're going to take a break.

22 That's going to allow everybody up to get a

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1 stretch, get some refreshment. But we're
2 going to again use the two different rooms.
3 And we have, after the people have expressed
4 interest in serving as subcommittee chairs
5 for that, these two committees -- well, for
6 all the committees as well as looking at
7 people's terms and when they expire, we've
8 come to ask Heather to take on the Strategic
9 Planning Budget Program Management
10 Subcommittee and she'll lead the discussion
11 for that group. And the Ecosystem and
12 Climate Subcommittee, Tom Raftican could take
13 on that charge for us.

14 And we'll split up into the two
15 rooms that we -- the same sort of drill we
16 did yesterday. So after you get a five-,
17 ten-minute break to get your cookies and
18 refreshments, if the Strategic Planning,
19 Budget, Program Management Subcommittee could
20 meet next door in the Colton III Room and the
21 Ecosystem and Climate Subcommittee could stay
22 and meet in this room.

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1 And if you're not sure which room
2 you belong in or should be in, you can come
3 ask me and I'll tell you. If you have to
4 ask, I'll tell you.

5 MR. BILLY: Okay. Thanks,
6 everyone.

7 MS. McCARTY: Could we get Mark to
8 tell a little bit about what each one of the
9 groups is going to talk about so that people
10 know which one they might want to join?

11 DR. HOLLIDAY: Right. Well, on
12 the agenda we had put out, prior to the
13 discussion, though we had anticipated that,
14 we designed this agenda so that we'd have
15 these breakout groups and the subcommittees
16 meet in the afternoon. So for the Strategic
17 Planning, the topics that we covered
18 yesterday and today that seemed highly
19 relevant were the transition plans, what's
20 happening in NOAA, the budget reporting out,
21 the performance metrics that Alan spoke of
22 earlier this afternoon, the discussion we

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1 just concluded on communications, and clearly
2 Paul's presentation on NOAA's strategic
3 planning, right up that alley.

4 On the Ecosystem Climate

5 Subcommittee, the specific topics of ocean
6 acidification, Bigford's presentation on
7 energy -- again, the committees can choose to
8 do all these issues, none of these issues, or
9 some entirely different issue. But that was
10 how it was designed, was that to get into
11 some more detailed discussion on a smaller
12 group that you could come look at findings or
13 was there movement towards a particular
14 action that you'd like to see taken, were
15 there questions that didn't get resolved. Do
16 you want to make some findings and
17 recommendations? Because tomorrow's agenda
18 is the report out from the subcommittees.

19 So we've gone from the big group
20 to the subcommittees to come up with
21 findings, recommendations, actions. Bring
22 them back to vet them in front of the big

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1 group, reach a consensus, take the vote, have
2 those motions recorded and documented, and
3 then move onto going onto our next meeting.

4 Does that make enough sense to get
5 some direction?

6 Now we have the rooms beyond -- we
7 can go past five o'clock if you're earnestly
8 engaged in discussions and you want to work a
9 little longer. But that's entirely up to the
10 participants in the rooms.

11 MR. BILLY: We would expect no
12 less.

13 DR. HOLLIDAY: Tanks.

14 (The MAFAC meeting recessed for
15 the day at 4:01 p.m. to resume May 14, 2009
16 at 8:30 a.m. The meeting of the Ecosystem
17 and Climate Subcommittee was recorded and
18 transcribed, and is contained below.)
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1
2
3 ECOSYSTEM & CLIMATE SUBCOMMITTEE
45 Wednesday, May 13, 2009
67 The Ecosystem & Climate Subcommittee of the
8 Marine Fisheries Advisory Committee met in
9 the Colton Rooms I and II at the Monterey
10 Conference Center, One Portola Plaza,
11 Monterey, California 93940, at 4:18 a.m., Tom
12 Raftican, Chair, presiding.
1314 MEMBERS PRESENT:
1516 RANDY CATES
17 BILL DEWEY
18 PATTY DOERR
19 ERIKA FELLER
20 CATHERINE L. FOY
21 STEVE JONER
22 TOM RAFTICAN, CHAIR
23 VINCE O'SHEA
24 ERIC C. SCHWAAB
25 DAVID H. WALLACE
26
27
28
2930 ALSO PRESENT:
3132 JAMES W. BALSIGER
33 TOM BIGFORD
34 JESSICA M. DUTTON
35 MARK HOLLIDAY
36 SAM RAUCH
37 ALAN RISENHOOVER
38 JOHN STEIN
39 CHARLIE WAHLE**NEAL R. GROSS**

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

2 (4:13 p.m.)

3 CHAIRMAN RAFTICAN: Welcome to the
4 Ecosystem and Climate Subcommittee Meeting,
5 Special Planning. This meeting's going to be
6 a little more informal than the normal MAFAC
7 meeting, so I suspect that beyond having
8 refreshments across the way we'll have a
9 little bit more open communication, so
10 reasonable cross talk is not only encouraged.

11 How many people were felt that
12 this morning seemed to be a very sobering
13 morning? And I mean I looked around the room
14 a couple of times and it was like, wow.
15 There were just absolute looks like
16 absolutely full hands there. And I think
17 that was the overwhelming thing that I took
18 away from the meeting.

19 We're asking to bring forward
20 recommendations to the Secretary. And when
21 you start looking in terms of the things
22 we've got in front of us, it's a pretty

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1 daunting task right now.

2 Before actually getting into this
3 I think probably a good idea is to go around
4 the room and we've got some -- I think we've
5 got all members here, or... Charlie.

6 I'm looking, Larry had some
7 comments, Steve Joner had some comments.
8 Eric had some comments this morning that I
9 thought might get carried over to the
10 meeting. Maybe open this up with -- you
11 talked a little bit about coming forward with
12 positive recommendations as opposed to -- you
13 know, and we see a lot of don't do this and
14 don't do that. A good place to start?

15 MR. SCHWAAB: Well, I don't know.

16 To think about this in a useful context, it
17 just seems to me, I mean there are a couple
18 of issues that might be relevant here. One
19 is this -- and partly for effect I think
20 accused Tom of being a bit reactive as
21 opposed to proactive or a big project-
22 specific as opposed to systematic in

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1 addressing some of the alternative energy or
2 energy-related issues out there. So that's a
3 piece of it that I think is this kind of
4 systems broader sort of strategic systems-
5 based approach that needs to take place
6 there.

7 But I think what you're asking me
8 for is, you know, this concept that whenever
9 you try to do that what happens is you get
10 all of the interests, specific interest areas
11 coming out saying, well, this thing is a bad
12 idea for all of these reasons and that thing
13 is a bad idea for all of these reasons, and
14 instead of coming out with things that offer
15 comprehensive solutions you come out with --
16 essentially just -- you've created focal
17 points for opposition. Or it's probably not
18 helping at all.

19 CHAIRMAN RAFTICAN: Well, we've
20 got an ecosystem based -- you know, how do we
21 take an ecosystem-based approach to
22 management? And it's kind of easy to point

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1 out ways that systems don't work, but I like
2 the idea that you came forward with let's
3 look at proactive ways of going forward with
4 something like that. I mean this isn't --
5 we're at an interesting time here. I mean
6 this is not -- you got a change in
7 administrations, is one thing. But on top of
8 that really trying to implement it and
9 honestly having an opportunity to implement
10 an ecosystem-based management, I'm not sure
11 anybody's actually defined it, let alone try
12 to implement something like that.

13 So I was trying to pull things out
14 this morning. What are some of the small
15 steps you take along the way on -- how do you
16 start -- how do you start making positive
17 recommendations on things to do to move
18 forward on something like this?

19 MR. CATES: I see several
20 different subjects. Which one are you
21 specifically referring to?

22 CHAIRMAN RAFTICAN: Well, I think

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1 starting off -- the things we were looking at
2 this morning: Ocean acidification, energy
3 governance, spatial planning, -- governance
4 and spatial planning I think are probably
5 closer to it. I think the sobering thing was
6 the ocean acidification, which puts this all
7 in the background. So if you want to take
8 these one at a time and issues, which one
9 would you like to address?

10 MR. CATES: Well, if ocean
11 acidification is a reality, then it seems to
12 me we better go out there and catch
13 everything we can now, put all the energy
14 projects out there, and look at land-based
15 stuff.

16 MS. FOY: Okay, Tom, I got speak
17 to that one.

18 MR. CATES: If it's not a reality,
19 --

20 CHAIRMAN RAFTICAN: Okay.
21 (Laughter.)

22 MR. CATES: If it's not a reality,

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1 then -- I mean they're different issues, so
2 that's why I asked. I mean ocean
3 acidification is one issue that if we're
4 going to talk about, we should say what are
5 the recommendations we could make. Energy is
6 a completely separate issue to me, and the
7 issues relating to fisheries and
8 recommendations. So they're all individual,
9 in my opinion.

10 CHAIRMAN RAFTICAN: They're
11 individual, and the other thing is we've got
12 to look at this in terms of living systems
13 that our recommendations come in on. And
14 ocean acidification, I guess, addresses them
15 across the board. And I'm not sure that --
16 like I said, sobering was -- this is
17 something that -- you know, talking to Bill,
18 I mean this is something that really is
19 taking effect right now.

20 MR. CATES: Let me follow up that
21 real quick.

22 CHAIRMAN RAFTICAN: Okay.

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1 MR. CATES: One of the things I
2 wanted to say this morning and I didn't get
3 across is when we're talking about energy,
4 spatial planning, and governance, we've got
5 to get away from aquaculture. We've got to
6 get more into seafood production. And I
7 don't -- it bothers me that we're narrowing
8 it down and it's an either-or issue right
9 now. To be honest, we're losing the battle
10 on aquaculture. It's very clear. But we've
11 got to get back to how NOAA and Commerce, how
12 we produce more seafood.

13 Now in my opinion once we commit
14 to getting back to production on seafood,
15 that's our goal and commitment with NOAA and
16 Commerce, aquaculture will be part of that.
17 But also how can we enhance our existing
18 fisheries? Can we improve not just by
19 conversation, but are there things that we
20 can do to improve our fisheries, whether it
21 be habitat creation, I mean artificial reefs.
22 There's a whole host of things.

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1 And over the last couple years
2 we've gotten focused into not really looking
3 at how we're going to produce more seafood.
4 If we're going to conserve the ocean
5 resources and we're not going to have
6 aquaculture and we're going to import
7 everything. We got to get away from that
8 somehow.

9 MS. FOY: Tom, if I may?

10 CHAIRMAN RAFTICAN: Yes, please.

11 MS. FOY: I think my comments kind
12 of follow up on Randy's. As an ecologist, I
13 am concerned when someone talks about
14 conservation because that to me indicates
15 that they view the system as static. I would
16 like NOAA to take the lead in encouraging our
17 coastal communities to become flexibly
18 sustainable.

19 The fishery stocks, we don't know
20 what they're going to do, but they're going
21 to change, and we need fishery management and
22 a fisheries industry that rolls with the

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1 punches and maintains the food supply to the
2 nation.

3 So I don't know if that disaster
4 relief is kind of linked. I would expect
5 that we are going to have a series of ocean
6 acidification disasters. I don't know if we
7 need to provide a way for our infrastructure
8 and our commercial fisherman to move in
9 between stocks without -- part of the problem
10 with the queues as you have a huge outlay of
11 money for a permit for a single species. As
12 species fluctuate, we need to get our fleet
13 and our workforce shifted between the
14 available product. I don't know how we're
15 going to do that. I'm not a sociologist or
16 an economist. I leave that to Dorothy.

17 CHAIRMAN RAFTICAN: Bill, Erika,
18 any comments on that?

19 MS. FELLER: I guess I have one
20 comment on that and then another thing that
21 just sort of occurred to me as I was
22 listening to the presentation this morning --

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1 I guess maybe -- I guess I'll comment on that
2 one first. The thing --

3 MR. WALLACE: Could everyone speak
4 up? There's a fan running here and it's hard
5 to hear.

6 MS. FELLER: Oh, sure. I can talk
7 real loud, but I won't.

8 I guess the thing that strikes me
9 about what Cathy just said is if you take
10 like an ecosystem-based or some type of
11 marine spatial-planning approach, one
12 observation I've seen, especially from
13 terrestrial conservation, is once you have a
14 broader kind of regional framework, it opens
15 up a lot of opportunities in terms of scale.

16 I think that in terms of
17 management of fisheries, in particular, just
18 using fisheries as an example, is a lot of
19 those decisions are made at a really high
20 scale, in a way that they can't consider
21 individuals of different social or economic
22 circumstances that consider that stocks may

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1 be variable, different fisheries may vary
2 between different places. And I think if you
3 have some kind of framework, you end up being
4 able to maybe open up the possibility for
5 more fine-scale management that could do
6 things, like maybe allow the workforce to
7 shift around within a particular place. If
8 you need a regional fishery management
9 council to meet and make a decision every
10 time that happens, it's going to take a year
11 every time it happens, when it's really a
12 decision that probably ought to be able to be
13 made on a month-by-month basis. And right
14 now our system doesn't do that, and so
15 there's part of me that thinks that that's
16 kind of part of the management system that
17 needs to be built in. I know I'm not
18 explaining this very well.

19 But the second thing -- if I could
20 just offer -- that struck --

21 CHAIRMAN RAFTICAN: Sure.

22 MS. FELLER: -- me about what I

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1 heard this morning is maybe I'm just
2 following the trail of bread crumbs that Mark
3 very cleverly laid out in front of me, but on
4 one hand I saw a presentation on ocean
5 acidification. The message I took away from
6 that is if we don't find alternative ways to
7 produce energy for the energy we're going to
8 have a problem with our oceans. We may
9 already have a problem with the oceans that
10 we're seeing that's already manifesting the
11 shellfish industry, which is just going to
12 get worse --

13 MS. FOY: Let me -- let me address
14 that one when you're done.

15 MS. FELLER: -- as this stuff
16 cycles -- but on the -- but related to that
17 we also have this issue of siting of
18 renewable energy facilities. Where do you
19 decide to put those things?

20 So, on one hand, you're kind of --
21 you're either going to lose your fish because
22 they're all going to dissolve in our acidic

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1 oceans or you're going to lose all your fish
2 because you can't go fishing in that place
3 because there's a tidal energy facility
4 plopped right in the middle of it. And so --
5 and then sort of take one more step which is
6 that Americans eat more than 16 pounds of
7 seafood -- you know, what is it, per year --

8 DR. BALSIGER: That's it.

9 MS. FELLER: -- I can't remember
10 exactly what the number is. But Americans
11 are eating seafood. We're importing a
12 heckuva a lot of it from outside the U.S. I
13 sort of like the idea of it coming from the
14 U.S. because we tend to manage it a lot
15 better than a lot of other countries do.

16 You suddenly find yourself with a
17 lot of different pieces that you need to move
18 around the board in balancing and competing
19 -- balancing these different competing
20 priorities for uses in the ocean, to me all
21 points to the fact that you got to have a
22 plan.

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1 CHAIRMAN RAFTICAN: And --

2 MS. FOY: Okay. Let me address
3 that, Erika. My point is that in a
4 biological system nature doesn't like a
5 vacuum. It's not going to be that the fish
6 go away. It's going to go that there is an
7 open niche and some species is poised to
8 exploit it. And we're going to have a
9 fluctuation of the composition of this fish
10 species, but there will still be fish --

11 MS. FELLER: But is it going to
12 fin fish or is it going to be jellyfish?

13 MS. FOY: -- or there will still
14 be some kind of protein -- huh? Is it going
15 to be fin fish that's palatable? I don't
16 know.

17 CHAIRMAN RAFTICAN: We might have
18 to learn to eat jellyfish.

19 MS. FOY: I don't know, but that's
20 what I intended with the flexible
21 sustainability. We don't really know where
22 the opportunities are going to pop. It may

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1 not be on a community-to-community basis. We
2 may have entire sections of our coastline
3 that don't produce on a commercial level
4 anymore. But somewhere we're going to have
5 something. We just need to be poised to take
6 advantage of it.

7 CHAIRMAN RAFTICAN: Bill.

8 MR. DEWEY: Some broad thinking on
9 our task here this afternoon. You know as I
10 look at each of these four things that are on
11 our agenda, none of them are covered in
12 Vision 2020. Not directly, anyhow. So it
13 almost seems like it definitely begs for
14 advice from this body, you know, whether it's
15 an addendum to Vision 2020 or whether it's
16 specific recommendations around these. But I
17 also see it as a pretty big charge this
18 afternoon to try to come up the
19 recommendations in all four of these areas.

20 Then again we've got the resources
21 here. These experts in these areas have been
22 brought and presented to us. So it may be

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1 possible to go through each of these four
2 areas and, with their help, come up with some
3 broad general recommendations. I think it's
4 important that we be prompt because, as we
5 learned, the energy projects are in the
6 queue. I mean things are going on in all of
7 these arenas right now that NOAA would
8 benefit from advice on, more urgently than
9 not. So just some general observations.

10 CHAIRMAN RAFTICAN: Let's go one
11 more time around.

12 MR. SCHWAAB: Well, it just seems
13 to me, I mean you look at some of these
14 issues and I take like some of the climate
15 issues and the ocean acidification, and
16 they're really -- they're global issues. And
17 while they might have sort of localized
18 management implications or localized system
19 implications, dealing with them is not a --
20 dealing with the problem is not a regional
21 challenge. You know, you're sort of a fork
22 in the road.

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1 There's these sort of big global
2 challenges and then there are these numbers
3 of issues that call out for some kind of a
4 regional, a more comprehensive regional
5 planning approach that goes beyond sort of
6 the classic silos of fisheries management or
7 placement of offshore energy facility or
8 location of aquaculture facilities, or
9 whatever. So it sort of begs this question
10 if you -- is there merit in sort of
11 advocating, as you see in like the Joint
12 Ocean Commission recommendations, is there
13 merit in going down this road of some kind of
14 more comprehensive regional governance
15 structures for coastal and ocean areas on a
16 landscape scale, for lack of an aquatic --

17 CHAIRMAN RAFTICAN: Spatial.

18 MR. SCHWAAB: Right. Which is not
19 something that you're going -- and it's not a
20 road you're going to go down to deal with
21 ocean acidification or climate, because those
22 are global challenges. They might be in fact

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1 more important in the big scheme of things.
2 But it's kind of an important fork in the
3 road, I think. And for the purposes of this
4 group, making some headway on some things, we
5 have to choose at least additionally which
6 fork we're going to take.

7 CHAIRMAN RAFTICAN: Cathy.

8 MS. FOY: I guess what I'm trying
9 to say, Eric, is that flexibility needs to be
10 built into the system at this point, before
11 we deal with the -- into the management
12 system.

13 MR. SCHWAAB: The fisheries
14 management system?

15 MS. FOY: The fisheries management
16 system needs to be able to flex as we
17 encounter changes in our stocks --

18 CHAIRMAN RAFTICAN: I think we get
19 into an area -- and this is --
20 ecosystem-based management, again, is a
21 massive shift in the way we approach things.

22 And thank you, Eric, you caught us a little

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1 bit closer on this. When you talk
2 ecosystem-based management we're talking
3 essentially types of regional planning,
4 spatial, defined in terms of aerial
5 definitions as opposed to species
6 definitions. And I think this touches on
7 some of the stuff that Cathy was getting at.

8 I would -- ocean acidification
9 jumps all these boundaries. Does anybody
10 have a problem setting that off to the side
11 today? We're not going to solve all of these
12 issues this afternoon or this month or this
13 year, so --

14 (Laughter.)

15 CHAIRMAN RAFTICAN: -- can we take
16 the worst one and kind of set it off the
17 table right now?

18 MR. CATES: I agree.

19 MS. FOY: Just let it be the 800-
20 pound gorilla --

21 MR. WALLACE: My suggestion is
22 that we agree that it's a problem and then

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1 dispense with it. We have no idea how to
2 solve that problem.

3 CHAIRMAN RAFTICAN: Okay.
4 Alright. We agree, all right. That's good,
5 we start off on agreement here.

6 MS. FELLER: But before we do that
7 there are probably things that this body
8 could recommend that the Secretary do on
9 ocean acidification. I mean I heard some
10 things in John's presentation that were
11 definitely actionable. There's a lot about
12 this problem that we don't understand.

13 MS. FOY: There is not, but a lot
14 of the problem, Erika, is going to come from
15 funding.

16 MS. FELLER: Right.

17 MS. FOY: And right now in this
18 administration funding is not certain, and
19 I'm preaching to the choir because you're
20 sitting next to Jim. So we need money to do
21 it. And we need to start --

22 MS. FELLER: But if it's a

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1 question of priorities then I mean it seems
2 like --

3 MS. FOY: It is, but I really
4 think that the voice for that needs to come
5 from our constituents and not directed to
6 NOAA again. We need to start being very
7 vocal about this issue, so that our senators
8 know what's going on.

9 CHAIRMAN RAFTICAN: Bill and then
10 John.

11 DR. STEIN: I think Cathy's hit a
12 good point. Third party validation, this is
13 important, is good. Perhaps, though, I mean
14 the FOARAM Act was just passed, I mean just
15 an acknowledgement by MAFAC that they
16 recognized that. They would like to see
17 action because we think this is an issue that
18 is important to you and MAFAC and should be
19 addressed. You know, sort of getting in
20 these and then Cathy's right, the other part
21 of building the support then for that.

22 CHAIRMAN RAFTICAN: Right. Any

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1 comments on that --

2 DR. STEIN: Jim can say if I spoke
3 out of turn.

4 CHAIRMAN RAFTICAN: And, Bill, we
5 know this is a big problem. I think that
6 there probably are other committees that can
7 address this more specifically than an
8 ecosystem-based approach. I mean this is
9 something that is going to be very particular
10 to the shellfish industry right from the get-
11 go. Let's highlight it and try and focus on
12 one of the other things you're talking about:
13 How do we sit down, how do you -- we've got
14 eight councils trained on basically single-
15 species management and trying to stretch to
16 ecosystem-based management.

17 What about suggestions on what are
18 the first steps towards moving in that
19 direction?

20 Patty.

21 MS. DOERR: Science.

22 MS. FOY: The same word I was

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1 going to say: Science, science, science.

2 MS. DOERR: I mean there is a huge
3 lack of science when it comes to
4 ecosystem-based management. It's probably
5 more than I can even articulate, but I think
6 you need to have the basic information of:
7 Where is the habitat, what kind is it, what
8 kind of condition is it in, the fisheries
9 that depend on it, what condition are they
10 in, what's the uses. I mean it goes -- it's
11 kind of the whole bottom up from literally
12 the sea floor, what's there and what kind of
13 condition is it in, and what's the impact
14 from above by the users. Anything --

15 CHAIRMAN RAFTICAN: So I hear you
16 talking about an inventory.

17 MS. DOERR: Yeah.

18 CHAIRMAN RAFTICAN: And we start
19 looking at each one of these -- the council
20 basis are a good -- are those the regions
21 that we start with?

22 MS. FOY: No, Tom, to tell you the

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1 truth --

2 CHAIRMAN RAFTICAN: If you make a

3 --

4 MS. FOY: -- that is not my area.

5 I am not a savvy management person, but it's
6 a start there.

7 CHAIRMAN RAFTICAN: Okay.

8 MS. DOERR: I think they play a
9 role in terms of the fisheries aspect of it,
10 but I think it's greater than just the
11 regional councils, the regional fishery
12 management councils. I think it's --

13 CHAIRMAN RAFTICAN: No, I think
14 you make a recommendation. But I'm saying
15 are those the regions that, you know, you do
16 an inventory each --

17 MS. DOERR: Oh, do all of the --

18 CHAIRMAN RAFTICAN: -- each
19 council as an individual region? Does -- is
20 a good -- where is the first step here? I
21 mean we're asking for an inventory, you can't
22 simply say, well, let's inventory everything

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1 across the EEZ.

2 MS. DOERR: So do you mean --

3 CHAIRMAN RAFTICAN: We've got to
4 describe smaller bites.

5 MS. DOERR: So is the question,
6 how do you break it up into an ecosystem and
7 would each -- the jurisdiction of each of the
8 councils count as an ecosystem? Is that --

9 CHAIRMAN RAFTICAN: I'm asking
10 that. I think that would follow --

11 MS. DOERR: Yes.

12 CHAIRMAN RAFTICAN: -- closer to
13 the oceans and Pew Commission's reports.

14 Dave.

15 MR. WALLACE: I can tell you that
16 ecosystems do not follow council
17 jurisdictions and when that councils'
18 jurisdictions were drawn, that wasn't a
19 consideration whatsoever. It's --

20 CHAIRMAN RAFTICAN: Critical
21 boundaries.

22 MR. WALLACE: In New England, for

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1 example, there are a couple of separate
2 ecosystems within its -- that council's
3 boundaries and some of them overlap into the
4 Mid-Atlantic and some of them overlap into
5 Canada, so.

6 CHAIRMAN RAFTICAN: California's
7 got two. I understand, but I'm just saying
8 where do you start with this? I don't see us
9 dividing the councils, making recommendations
10 to divide the areas of the councils again.

11 MS. FOY: Oh, no. I think that
12 would be a bad thing.

13 MR. SCHWAAB: Well, I guess the
14 more basic question is if you decide that
15 ecosystem-based management is your biggest
16 challenge or the councils are the entities
17 that are best equipped to serve as a starting
18 point to deal with that, and let me just --
19 you know, there was a guy at Virginia
20 Institute of Marine Science, Robert Diaz,
21 who's done all the big coastal anoxic zone
22 work back in the '70s and began it very

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1 recently. One of the things he said was
2 really interesting, he said addressing
3 overfishing was the fisheries management
4 challenge of the twentieth century and
5 dealing with habitat decline is the fisheries
6 management challenge of the twenty-first
7 century.

8 And a lot of the habitat decline,
9 which is I mean certainly with respect to
10 anoxic zones and -- you know, start upland
11 and in the coastal inshore areas, and it
12 really begs this question of integration
13 across agencies, integration from the
14 headwaters of these watersheds through the
15 coastal zone and out into the EEZ, at least
16 initially for our purposes. And so -- and I
17 think if you look at the Joint Ocean
18 Commission recommendations, it talks about
19 sort of that kind of an integrated response
20 to ecosystem health and management at the
21 landscape scale.

22 So it seems to me that it's not

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1 the councils, it's maybe going back to that
2 Joint Ocean Commission recommendation and
3 starting to look at some of the pieces that
4 exist there and determining whether, in fact,
5 we think it's a good idea to integrate across
6 agencies to integrate reauthorization of the
7 Coastal Zone Act with some of these
8 interstate governors' commissions that are
9 developing around the country with some of
10 the existing fishery management council work.

11 CHAIRMAN RAFTICAN: And I think
12 actually twice this morning and Mark in
13 particular did a very good job of laying out
14 something on that order of how do you start
15 moving and how do you really start taking a
16 little bit different look at some of this
17 stuff. Maybe not totally in the watershed
18 aspect of it, but really taking a different
19 approach to this than we have from the
20 councils. You know, taking that Joint Ocean
21 Commission approach.

22 Does that seem to make sense to

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1 folks? Why then...

2 MS. FOY: Well, I would turn the
3 question around and ask the NOAA folks here
4 because they know what works in their own
5 system: Is that something that's going to
6 work or by doing that, making a -- are we
7 going to make a recommendation that's going
8 to turn around and bite us.

9 CHAIRMAN RAFTICAN: That's why I'm
10 throwing this out and this is why I'm trying
11 to make sure that before we start moving away
12 from a council-based recommendation, that at
13 least the folks in this room have got a
14 pretty fair idea of the direction that we're
15 going before we even open the door to them.

16 Everybody...

17 MS. FOY: Don't all of you speak
18 at once.

19 CHAIRMAN RAFTICAN: Mark, you want
20 to add something on this?

21 DR. HOLLIDAY: I have been working
22 on ocean acidification, but...

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1 (Laughter.)

2 DR. STEIN: I'll take a whack at
3 it from the science side. Patty brought up
4 two components to this. You're talking about
5 two components to it. There's about building
6 the information and the tools needed, and
7 then there's a governance structure that
8 would then take those tools and information
9 and use and hopefully act upon them. So to
10 me it's a two-part question, but I'm a
11 science guy, so.

12 But I think Patty brought it,
13 there's an inventory, there's that kind of
14 thing, but there's the tools and the
15 ecosystem models that are needed to
16 illuminate these tradeoffs, whether it's
17 meaning spatial planning, energy siting, the
18 larger context of how ocean acidification
19 could interact with any one of these, and an
20 ability to illuminate those tradeoffs could
21 make it apparent to the governance, whatever
22 governance structure, is important. So one

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1 could get started on the science of it as the
2 governance part's being sorted out so that
3 the tools that Charlie's working on and
4 others are working on and we're all working
5 on would be more -- instead, oh, we've got
6 it, now give us something, and we're not
7 there.

8 MS. FOY: Right.

9 DR. STEIN: So but there's more
10 than an inventory. There's a whole component
11 of how you take that information, the things
12 that Charlie's doing, then how do you fit it
13 through a model, illustrate the tradeoffs,
14 evaluate the different management strategies,
15 the successful tools --

16 MS. DOERR: I think there's a slew
17 of layers to it. I mean you also have to
18 look at -- you know, I think healthy coastal
19 -- some people would say healthy coastal
20 ecosystem also include healthy coastal
21 communities. And so within those tradeoffs
22 is, okay, what impact your governance

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1 decision is going to have on the health of a
2 local -- you know, the socioeconomic impacts
3 on a local community. And so it -- and the
4 -- you know, the foundation of all of that is
5 that to have the science and data necessary
6 to be able to make those decisions judge.

7 CHAIRMAN RAFTICAN: Sam.

8 MR. RAUCH: So in terms of the
9 role the councils have in this process, I
10 think that what we're talking about here is
11 more than just the fishery management
12 councils, you know, health of the habitat and
13 everything. And I don't think the councils
14 are well positioned -- they're well
15 positioned to be an input into this process,
16 but not in terms of governance, other than
17 they're dealing with the fishery part of it.

18 That should be an input into the larger
19 governance structure. I don't think the
20 councils will be that large a governance
21 structure.

22 We're going to need to create

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1 something new, and that's what the Ocean
2 Commission has said. I think that's where
3 the administration is likely to go. I don't
4 think the councils will -- they want to be a
5 player, but they're not the structure.
6 They're not the forum for which all these
7 decisions will be made. And so I do think
8 that this group could think outside the
9 council box in terms of -- if that was the
10 question -- in terms of what solutions you
11 might look at.

12 DR. BALSIGER: Specifically don't
13 put council members on this committee. It's
14 against the -- I don't know if it's against
15 the charter or against the standard operating
16 procedure, whatever, but I do believe that
17 the councils will reluctantly be subservient
18 to any larger group. They may not have a
19 choice, but they will fight that if they
20 think that they have control over fishing in
21 the waters.

22 They aren't going to like it if

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1 some bigger group says, you know, the council
2 recommends long-line fishing over here in
3 this area and some larger group that has
4 regional governance says, 'Well, that's nice
5 that you recommend that, but that's where
6 we're going to have the little toxic waste
7 dump' or 'That's where we're going to have'
8 -- what do you call those little machines
9 that drive around on the water. The skidoo's
10 are --

11 MS. DOERR: Live ammunition --

12 DR. BALSIGER: They will fight
13 that, and I don't know where that --

14 (Laughter and multiple comments.)

15 MS. DOERR: Well, and that kind of
16 brings up the larger issue of, you know, the
17 role of the councils and the role of the
18 existing structures, the entities that make
19 decisions when it comes to ocean management.

20 Just use the council as an
21 example. If Oceans 21, whatever, goes
22 through and we have a whole new regional

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1 governance structure, does this new regional
2 -- does a new regional governance structure
3 have veto power over councils and management
4 decisions when the councils -- when they're
5 the ones that have the expertise when it
6 comes to fisheries management? You know, can
7 they go and overrule a decision to have a
8 toxic waste dump where there's prime long-
9 line fishing opportunity?

10 It's kind of -- in looking at a
11 larger regional governance structure, just
12 how much power does that structure have and
13 are you then therefore limiting the power of
14 the entities that have the expertise in the
15 councils?

16 CHAIRMAN RAFTICAN: Sam.

17 MR. RAUCH: So I will share with
18 you some of my thoughts on this exact point,
19 about how you would deal with it, because
20 right now you've got a lot of agencies in
21 states that have jurisdictional authority.
22 And they're not going to get rid of it. I

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1 don't think it's politically -- I don't think
2 that's likely to happen, that you completely
3 overhaul the structure and make everybody
4 answer to some central command.

5 What I think is possible is to
6 have this regional group, whatever it's
7 called, come out with the plan have the
8 states and the federal government participate
9 and it's maybe something like a CZMA coastal
10 plan where it reaches from the shore out into
11 the ocean. And they do the plan and in the
12 plan they make decisions about that. And the
13 plan gets blessed, maybe by Congress, but
14 somehow it gets blessed. And then you send
15 it back to the council and say: You can
16 allow fishing anywhere you want, but it's
17 going to be consistent with that plan.

18 And you go to the Corps and you
19 say: You can allow development anywhere you
20 want as long as it's consistent with that
21 plan.

22 And so you don't have that

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1 Commission involved in the day-to-day
2 allocation decisions. They set up the plan,
3 they did the zoning, and then they're out of
4 it unless the plan needs to be periodically
5 be readjusted. But then you go back to the
6 jurisdiction of the agencies or states that
7 originally had that jurisdiction, and they
8 still should have it. They just have to be
9 consistent with some broader regional group.

10 I think that's -- that would be a
11 difficult lift in Congress, but I think that
12 is possible. I don't think it's possible and
13 it will die on the vine if you have a central
14 agency that everybody has to answer to and
15 that will make all the decisions.

16 CHAIRMAN RAFTICAN: Randy.

17 MR. CATES: Can I shift gears for
18 a second? You have four topics here.
19 Specifically to the energy and the 2020 plan,
20 can we make amendments to the Vision 2020 --
21 that would be a question, because you said
22 that these aren't really listed in there.

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1 So one of the recommendations I
2 would have for this MAFAC and for NOAA and
3 the Secretary is: Take a leadership role
4 with respect to energy and fisheries, we
5 should find ways to ally and find mutual
6 benefit with energy projects. We should be
7 proactive in that and not adversarial.

8 CHAIRMAN RAFTICAN: Randy, I think
9 you're right on the money, but I want to
10 follow up where Sam was going because what it
11 does is allow us to do something like that.
12 If you set up this regional -- you said a
13 regional plan, a regional group, regional
14 governance.

15 MR. CATES: But in reality how
16 long will that --

17 CHAIRMAN RAFTICAN: Part of the
18 deal is --

19 MR. CATES: I mean we're talking
20 about a major change. Well, we have a
21 document right now that we could just --

22 CHAIRMAN RAFTICAN: This is -- I

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1 didn't go around the room a couple times by
2 accident. This is a new group. You know
3 we're coming to recommendations that are
4 significantly different than the terrain that
5 has been there for 30 years. So I understand
6 that when you're breaking ground you better
7 to be on fairly solid ground.

8 And I think where Sam's coming
9 from is you could set up a structure to do
10 that. And what you've got is one of those
11 parts within the structure. At the same time
12 what Cathy's saying is another part that fits
13 nicely within the structure. We're trying to
14 design that big structure. Energy is one of
15 the parts of it.

16 Does that make any sense?

17 MR. CATES: It doesn't seem
18 practical to me in a timely manner that
19 that's --

20 CHAIRMAN RAFTICAN: We got to
21 start somewhere and I think if you -- Dave.

22 MR. WALLACE: It's not going to be

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1 timely because it's going to take legislation
2 that is going to be considered because
3 there's no way that the administration can
4 just arbitrarily set up these regional groups
5 without some authority. The only way that
6 they can get -- they probably can't regulate
7 the authority, so they're going to have to
8 have legislative support in that authority.
9 And then there going to have to get all the
10 states to buy into it to make it a cohesive
11 plan.

12 And so there's no way you can do
13 it quickly. It's -- I think that what we
14 need to do is enunciate an overarching policy
15 that we would support this, whatever it is,
16 these regional entities which literally set
17 up the designations of different areas in the
18 ocean for different functions and they would
19 have to have the authority to do that. And
20 that's going to take --

21 CHAIRMAN RAFTICAN: Well, that's
22 what -- yeah, --

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1 MR. WALLACE: That's going to take
2 legislation. And Randy's right, you know it
3 would be great to do it quickly, but there's
4 no way that's going to happen.

5 CHAIRMAN RAFTICAN: I think we got
6 a strategic plan coming down the line, and I
7 feel very bad that we didn't spend more -- I
8 didn't spend more time doing homework on
9 Mark's paper and actually Paul's paper
10 before, but the keys are there. And, again,
11 this is not putting -- I'm not proposing,
12 this is not AB 4422. This is how do you put
13 together a -- what does it look like from a
14 distance.

15 MR. WALLACE: Yeah, from 30,000
16 feet.

17 CHAIRMAN RAFTICAN: So -- from
18 30,000 feet.

19 MR. WALLACE: Right.

20 CHAIRMAN RAFTICAN: Mark, you were
21 going to say something?

22 DR. HOLLIDAY: Yeah. I was trying

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1 to sort of synthesize what I've been hearing
2 and I think you might break some of this down
3 into shorter-term --

4 CHAIRMAN RAFTICAN: Yes.

5 DR. HOLLIDAY: -- and longer-term
6 actions or recommendations. So I think in
7 the short term the administration does have a
8 tool through executive order that they can
9 make policy statements and implement changes
10 that govern under these limited authorities,
11 actions that the executive branch can carry
12 out. So I think there are some things that
13 could be done without a long, protracted --
14 not a whole new regime for management in the
15 regional oceans, clearly, but there are
16 things that in the short term that the
17 administration could react to.

18 So you might look at things with
19 respect to ocean acidification and energy and
20 baseline work for marine spatial planning
21 that you'd want to make a finding or
22 recommendation, depending on what your

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1 consensus view is, that could be taken
2 forward and provide advice. Because these
3 things -- I mean clearly these are activities
4 that are on the train that has left -- almost
5 left the station of the administration.
6 Regional ocean governance, marine spatial
7 planning, these are clear signals that these
8 are things that they're going to do. And so
9 your opportunity as MAFAC is to say, you
10 know, what do you think of those things and
11 how would you want to influence some of the
12 more details of how that would be carried
13 out.

14 And John was saying earlier he
15 made some findings and recommendations in his
16 ocean acidification briefing about we've got
17 this new legislation that's passed, there are
18 some missing gaps in research that are a
19 priority, and how does the knowledge that you
20 gain today about the impacts of ocean
21 acidification impact this longer-term view
22 you have about ecosystem-based management.

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1 On the longer term, the regional
2 governance perspective, you know, Sam's --
3 share his model of how this might work. And
4 NOAA teams have looked at this in the past
5 and we called this first thing that he's
6 talked about, this regional marine ecosystem
7 strategy, where there is a federal strategy
8 that all of the different players who bring
9 together their turf and their authorities and
10 they develop this framework. You know, you
11 call it a framework, call it a strategy. But
12 then they go back and they implement through
13 their existing authorities at Corps of
14 Engineers or EPA or Fisheries, or whatever,
15 the execution of that, so they can do their
16 business but it's within that overall
17 strategy or framework. And we call that a
18 Regional Marine Ecosystem Implementation
19 Plan.

20 So there are models out there
21 that, you know, we have talked about in the
22 past about how this might work and it's in

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1 between. It's not hard governance and it's
2 not soft governance. It's someplace in
3 between on that continuum I talked about
4 earlier.

5 So depending on how you feel about
6 some of these ideas, I think what we'd be
7 looking for from the advice from MAFAC is not
8 necessarily, you know, now are you going to
9 come up with the end point, but what things
10 could you contribute to or that are important
11 to you or that you're fearful of or that when
12 you say you would want to avoid, you know,
13 you can look at -- things that you'd like to
14 see encouraged, see done, and the
15 implementation of things in the short- and
16 long-term, things you want to see avoided in
17 the short- and long-term about these four
18 issues.

19 And if the four issues don't make
20 sense to you, you can pick the three issues.

21 I mean these are not the only four things.
22 You know, we came up with this agenda to try

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1 to highlight the range of here's a big drive
2 around the ecosystem, right, that I have the
3 long-term health of ecosystems, ocean
4 acidification, across is anybody's who's got
5 an interest in the ocean is affected by that,
6 not just fish, right.

7 Then we had a specific topic on
8 alternative energy. You know, it's a hot
9 button issue, it's in the press. A lot of
10 action is taking place now. So we use that
11 again as a case study of what's going on, but
12 there's nothing saying that these are the
13 four things you have to include in your
14 report now. Those that make sense to you.
15 So --

16 CHAIRMAN RAFTICAN: Get Randy on
17 that --

18 DR. HOLLIDAY: -- just to
19 summarize, the long-term, short-term view of
20 things might be one way to wrap your head
21 around what we're talking about. You know,
22 if it's missing from 2020, Randy, I think you

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1 don't have to modify it. You could modify
2 2020, you just come out with an addendum and
3 say here are some more recent issues that
4 have come up that we want to provide advice
5 and counsel on that weren't in that document.

6 Don't worry about trying to blend it into
7 that 2020.

8 CHAIRMAN RAFTICAN: Yeah.

9 DR. HOLLIDAY: It's just an
10 amendment to 2020 and here's what we say.

11 MR. CATES: Well, the reason I'm
12 highly encouraged that we produce a document
13 that is being used and was mentioned that
14 this is a good tool.

15 DR. HOLLIDAY: Right.

16 MR. CATES: We should highlight on
17 that. The recommendations on all these
18 issues, we need to find a vehicle to make
19 that recommendation. My opinion, it would be
20 an amendment to 2020 which would also
21 highlight to the Secretary of Commerce: Here
22 we did this document, we made an amendment,

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1 NOAA's using this as a tool, it's a good
2 avenue.

3 So to go back to these issues, I
4 think MAFAC should take a position on
5 fisheries and energy and what we think as a
6 leadership role would be.

7 In my experience in Hawaii there
8 have been three energy projects. All three
9 had a huge direct benefit to fisheries. But
10 when I hear about wind energy projects in
11 Oregon and there's this big fight to prevent
12 it, it doesn't make sense. OTEC, upwelling,
13 and currents, huge benefit to fisheries.
14 Everything we've done out there has been
15 benefitted the fishery. So my recommendation
16 is we should come up with a recommendation;
17 how we insert it, one avenue would be an
18 amendment to 2020. It could be a stand-
19 alone, whatever it is.

20 MR. JONER: Mark, if we --

21 CHAIRMAN RAFTICAN: Go ahead.

22 MR. JONER: We do that, more of an

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1 addendum, not an amendment, right. What's
2 the mechanism for that and what's the timing,
3 what advantage would we gain -- or what's our
4 best advantage timing-wise? Too late now for
5 --

6 DR. HOLLIDAY: I think -- because
7 there's -- I think there's a window of
8 opportunity. Again, Dr. Lubchenco hasn't sat
9 down with MAFAC. She hasn't been briefed on
10 Vision 2020 yet. Okay. We've briefed -- Tom
11 Billy went and Tony via phone briefed Mary
12 Glackin, who was the Acting NOAA
13 Administrator, last December on the contents
14 of 2020 and the notion was that we'd get in
15 front of the new NOAA Administrator when she
16 or he was appointed, so we haven't done that
17 yet.

18 Tom's name was on the list of
19 people to -- you know, early people to be
20 briefed -- briefing Dr. Lubchenco of
21 important stakeholders and other
22 representatives of advisory groups, so I

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1 think there is -- if you were able to get
2 something together sooner and brief her on
3 these topics that are in high importance to
4 her, I think it would support the long-term
5 relevance of MAFAC to the NOAA Administrator,
6 as opposed to -- we took a good 18 months to
7 put out 2020. And I would hope that we could
8 get together something in a much different
9 time scale in order to take advantage of that
10 window of opportunity.

11 CHAIRMAN RAFTICAN: But 45 minutes
12 is a bit brief.

13 DR. HOLLIDAY: I know, but you've
14 got to decide what the way forward is for the
15 brief --

16 DR. BALSIGER: I would suggest
17 that rather than --

18 CHAIRMAN RAFTICAN: No, I -- and
19 that's what I was trying to do, is -- yeah.

20 DR. HOLLIDAY: -- and we can do --
21 we can do work between meetings and it's not
22 -- but we have to have the intellectual

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1 contribution of what you want to accomplish.

2 CHAIRMAN RAFTICAN: Patty.

3 MS. DOERR: I have a question for
4 Mark, in terms of kind of procedurally. Dave
5 mentioned kind of the legislative efforts and
6 what all really would have to go into a
7 larger regional governance structure. Our
8 role on MAFAC would not be -- would we have a
9 role in commenting on legislative initiatives
10 or do we just comment and provide advice to
11 the Secretary?

12 DR. HOLLIDAY: In providing advice
13 to the Secretary, if there's legislation that
14 is pending or to be developed, I mean
15 obviously you've taken positions on
16 aquaculture legislation and -- collectively
17 MAFAC is allowed not to lobby for
18 legislation, but you can have opinions about
19 the direction this legislation's taking you
20 as part of your advice, consensus advice
21 under FACA to the parent -- to the Department
22 of Commerce.

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1 MR. RAUCH: You can lobby the
2 Secretary on legislation, not Congress. But
3 that's part of your job is to say: We think
4 we need legislation or we think it needs to
5 be changed.

6 DR. HOLLIDAY: Right.

7 MS. DOERR: Okay. Thank you.

8 CHAIRMAN RAFTICAN: Randy, what
9 did you have in mind for the addendum to the
10 2020?

11 MR. CATES: I think it would be
12 specific to energy, just some language that
13 we think NOAA and the National Marine
14 Fisheries should take a leadership role in
15 finding synergies with energy projects. Pure
16 and simple. There -- we can coexist. For
17 example, aquaculture and wind farms -- it
18 would make sense to put them together and not
19 have that adversarial position that is
20 clearly the case today. As soon as an energy
21 project comes in, fishing groups and the
22 environmental groups all team up and they go:

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1 No.

2 CHAIRMAN RAFTICAN: Sam, who's
3 lead energy -- the lead agency on an energy
4 project? Would it be Department of Energy?

5 MR. RAUCH: We are on OTEC.
6 Everything else is in probably Interior or
7 depends on where it is.

8 MR. BIGFORD: MMS issues leases.
9 If it's in state waters, FERC then has the
10 issue of license. So they lease the space,
11 but then they have to get a license for the
12 machine.

13 MR. RAUCH: Okay.

14 CHAIRMAN RAFTICAN: And maybe
15 instead of lead, partner with MMS, FERC. You
16 know you want -- I don't see them turning
17 over the driver's seat of energy projects to
18 NOAA.

19 MR. CATES: No.

20 CHAIRMAN RAFTICAN: But the thing
21 is I think that you could get to a point --
22 is that sounding close?

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1 MR. BIGFORD: Yeah, just that NOAA
2 doesn't want the lead, so --

3 CHAIRMAN RAFTICAN: Okay. Well,
4 all right, and obviously --

5 MR. BIGFORD: -- and they won't
6 get --

7 CHAIRMAN RAFTICAN: -- we don't
8 want to recommend it then.

9 MR. BIGFORD: Right.

10 MR. CATES: What I meant by a
11 leadership role is NOAA should take a
12 leadership role in finding synergies.

13 CHAIRMAN RAFTICAN: And that's
14 what I'm trying to get to, that we should get
15 to a point that we can partner with --

16 MR. CATES: Exactly.

17 CHAIRMAN RAFTICAN: -- FERC, MMS.

18 MS. FELLER: Tom, can I ask a
19 clarifying question?

20 CHAIRMAN RAFTICAN: Sure.

21 MS. FELLER: NOAA doesn't want the
22 lead on permitting or NOAA doesn't want the

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1 lead on planning?

2 MR. BIGFORD: I was thinking in
3 the lead regulatory role here. If we were to
4 pursue basically taking someone else's
5 mandate away from them, it's going to tie
6 this all in knots --

7 MS. FELLER: Oh, yeah.

8 MR. BIGFORD: -- for decades.

9 MS. FELLER: Okay. That -- yeah.

10 No, that makes sense.

11 MR. BIGFORD: I just think we
12 could live within the existing authorities.
13 And if we want -- if we want to pursue some
14 sort of a lead role on forcing a discussion,
15 which is what I hear from Randy, that'd be
16 good. I don't know whether MMS would be
17 receptive. I think they're trying to narrow
18 their charge so they can move forward on
19 energy rather than thinking about alternative
20 uses. But in a year or so or six months when
21 they're ready to get back to the alternative
22 uses, we can be poised.

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1 I think it should be more than
2 commercial fishing since we have interests
3 beyond -- or beyond aquaculture.

4 CHAIRMAN RAFTICAN: Yeah.

5 MR. CATES: Here's the problem we
6 have today. It makes absolute common sense
7 on some of these projects to team up seafood
8 production with energy projects. The
9 environmental groups do not want, for
10 example, aquaculture partnering up with
11 energy. They've done everything they can do
12 to fight that. The energy projects don't
13 necessarily want the baggage of aquaculture,
14 so there is this tendency to keep it apart.
15 But when you take a step back you go, well,
16 this just makes sense.

17 If you're going to take a square
18 of the ocean and say you're going to do
19 energy and you can do aquaculture too, why
20 not. We need to get away from that. It's
21 really politics. They tell you they don't
22 want this thing to work and become stronger

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1 and then create more. So somehow we got to
2 get beyond that.

3 CHAIRMAN RAFTICAN: Yeah, and the
4 other thing is putting these two things
5 together makes an awful lot of sense. you
6 look at -- when I look at marine protected
7 areas, and essentially the same thing is true
8 of marine managed areas, you look at National
9 Academy of Sciences, and the biggest thing
10 they bring up is, bring your stakeholders and
11 get them together upfront and all of a sudden
12 you have less problems in the long run. And
13 that's really what we're trying to do here,
14 is how do we put something together
15 partnering.

16 Mark, could you help me wordsmith
17 this out and put something together on
18 putting energy together with MMS, FERC, and
19 looking for a partnering agreement coming in
20 on siting, anything else that you'd want to
21 throw into this, of new projects.

22 MR. CATES: One other thing that

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1 might make sense is we need to find a way to
2 use energy projects to enhance our fishery,
3 and I'll give you a quick example. In Hawaii
4 they want to bring cold seawater up and use
5 it for air conditioning. We know cold
6 seawater upwelling is a benefit to our
7 fishery. But instead of putting it back in
8 the ocean in an appropriate spot that would
9 benefit the fishery, they're going to pump it
10 underground.

11 Somehow we need to say wait a
12 minute, we have a resource here that could
13 benefit our fishery. How can we do that?

14 CHAIRMAN RAFTICAN: Can we -- I
15 think if we put "to the benefit of both."

16 MR. CATES: Yes.

17 CHAIRMAN RAFTICAN: Mark, can you
18 help us with the wordsmithing on that?

19 I want to tackle a couple more of
20 these issues and we're running out of time.
21 I mean we're beyond out of time. If we can
22 do this and wordsmith this overnight, I will

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1 run it by everybody tomorrow morning before
2 we get out front and make sure that we're
3 okay with everybody.

4 Charlie, you got a question?

5 MR. WHALE: Yeah. An observation
6 I guess on the marine spatial planning front.
7 I think Sam's vision of the governance side
8 of it, it sounds like mine, that it's likely
9 the way it will turn out in the near-term.
10 So I think that that's sort of a distinct
11 issue that NOAA could use some advice or
12 affirmation on.

13 But there's the other tract of how
14 do you build the capacity to do it once
15 you're given the authority or the venue to do
16 it. And that's the world that I'm living in
17 right now. You know there's a reason why we
18 haven't done this up till now, and it's not
19 entirely because nobody thought of it. It's
20 because information either doesn't exist or
21 it's really complicated or we don't have
22 simple tools to make it so that it isn't too

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1 complicated.

2 And I think NOAA and all the other
3 agencies would benefit from some input on the
4 need for speed in this issue and to maybe not
5 go down the rabbit hole of every last bit of
6 information about ecosystem function and
7 structure, every last bit of information
8 about what fishing means to the local tourism
9 economy. But instead some simple metrics and
10 some simple decision support tools, because
11 we're going to need to use this stuff within
12 a few years. And the nature of those
13 questions that are so far unanswered are ten-
14 year questions. They're multi-million dollar
15 questions. And so it would be useful to
16 hear, I think, from the outside, start simple
17 and start soon. And then here are the issues
18 that you need to build up over time.

19 Our own advisory committee has
20 just begun to think about these very things,
21 and that's what we hope to engaging them in,
22 is sort of a tiered approach to advice to the

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1 agency about what to focus on in the very
2 early days.

3 CHAIRMAN RAFTICAN: Charlie, I
4 think we heard an awful lot of that, although
5 the problem is that when you start throwing
6 something like this out in the air, everybody
7 goes, all right, and we need to fix all the
8 corners on it. And what I was trying to do
9 was get something out there in general, you
10 know, just an umbrella that covers it like
11 that.

12 Sam put together very quickly
13 throughout a project, a description of
14 something that would cover a lot of bases.
15 And I think if we sit down and start worrying
16 about the bases right now, we're not going to
17 get it done this afternoon. And even though
18 Mark's very good, I'm going to ask him to
19 start wordsmithing something on that also if
20 that's the view of the Committee.

21 But what we're talking about here
22 is how do you implement, instead of looking

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1 ecosystem, this is basically spatial
2 planning, but taking spatial planning in and
3 saying, all right, we're going to integrate
4 this with the fisheries management. And
5 we're having a difficult time. How do you
6 put this together and recognize that the
7 councils will still exist and play a role in
8 it. And I think if we sit down and try and
9 define these roles, we're going to be here
10 for a long, long time.

11 This will have to be done some
12 time down the line, but I did get the feeling
13 that everyone was going: Yeah, all right,
14 it's time to look at spatial planning.

15 Could we talk to that quickly for
16 a second? I think this is to kind of follow
17 up on where Charlie was going.

18 Randy, you got your arms crossed.

19 MR. CATES: Is there funding to do
20 it? Means --

21 CHAIRMAN RAFTICAN: If we get into
22 funding or the actual, you know, how we're

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1 going to do it, I don't -- but I like the
2 idea of just making the broad statement that
3 we're looking at -- you know, we believe that
4 this is the way to pursue it. It's looking
5 at some type of --

6 MR. CATES: Well, I'll tell you my
7 position. All information is valuable, even
8 bad information is valuable. That's
9 something I learned the hard way with the
10 intelligence agency. All information is
11 valuable. There's no doubt that spatial
12 planning is a valuable tool.

13 CHAIRMAN RAFTICAN: What I see,
14 the tool that we are here is by putting
15 forward a recommendation. We give impetus to
16 the Secretary to move forward in this
17 direction. And it's clear that this is the
18 direction the administration wants to take.
19 It looks like this is something that, you
20 know, its time has come. We've got a choice
21 of either being on the bandwagon or being
22 under the bandwagon. And I prefer getting

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1 there. And if you get on the bandwagon, the
2 thing is you got a good chance of grabbing
3 one of the reins along the line and help
4 steering where this thing's going. And that
5 was the reason I think that we get out of in
6 front of something like this.

7 And, again, if we sit down and try
8 and design the thing right now we're dead or
9 worry about the funding, we're dead. But I
10 think the thing is if we can at least put
11 forward something and go, yeah, hey, this is
12 kind of what it looks like, let's move in
13 that direction. And that's kind of where I'm
14 coming from on this.

15 MR. CATES: Can I ask a quick
16 question?

17 CHAIRMAN RAFTICAN: Sure.

18 MR. CATES: What would this group
19 think of a priority on spatial planning? Is
20 it a high priority? Do people think it's a
21 high priority?

22 MR. DEWEY: I think it is,

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1 personally. I think it's part of how you
2 grapple with the energy issue and the
3 aquaculture siting issue and ecosystem-based
4 management. I think it's fundamental to it,
5 personally.

6 CHAIRMAN RAFTICAN: Forage fish, a
7 ton of stuff.

8 Erika.

9 MS. FELLER: I think it's
10 incredibly important for rationalizing a lot
11 of different information about different uses
12 and trying to find -- I mean I don't disagree
13 with you that there are places where there
14 are synergies between different ocean uses,
15 but I think there are places where there are
16 legitimate conflicts and places where you
17 have to make a judgment call. A marine
18 spatial plan can help reveal those places and
19 really focus decision-makers on where the
20 problems are.

21 MR. CATES: I'm not against
22 spatial planning. I think it's a useful

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1 tool. It seems to be an easy statement to
2 make to the Secretary of Commerce: MAFAC
3 thinks it's important, move forward.

4 CHAIRMAN RAFTICAN: Patty, spatial
5 planning.

6 MS. DOERR: Put it out. I mean I
7 think --

8 (Laughter.)

9 MS. DOERR: I think -- I mean it's
10 where everything's going. Not that I am
11 against it, because I'm not. That's where
12 everything is going. I think it's a very
13 useful tool -- it can be a very useful tool
14 when done right and the information is there
15 to be able to do it right, to be able to
16 identify the conflicts and make an education
17 decision as to --

18 CHAIRMAN RAFTICAN: Okay.

19 MS. DOERR: -- as to what should
20 be placed somewhere, what shouldn't, identify
21 the complementary activities. We have some
22 oil rigs and recreational fishing at the same

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1 time or aquaculture. I think --

2 CHAIRMAN RAFTICAN: Okay.

3 MS. DOERR: I mean I think that's
4 where it's moving and I think it's important
5 for this group to have some sort of statement
6 on it.

7 CHAIRMAN RAFTICAN: Dave.

8 MR. WALLACE: It's imperative that
9 we move that forward.

10 CHAIRMAN RAFTICAN: Okay.

11 MR. CATES: Tom, I'll add one
12 thing to that. In Hawaii we did GIS which
13 is, to me, spatial planning. It's looking at
14 all the user conflicts. We looked at all the
15 state waters in the state. Out of five
16 potential projects for aquaculture, we use --
17 none of them use it. It didn't matter,
18 because at the end of the day they had to go
19 through and look at what best place was for
20 them. And we had a government agency that
21 did elaborate GIS studies and said this is
22 will be the best place for aquaculture, but

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1 it just didn't work. I'm not against it --

2 CHAIRMAN RAFTICAN: Randy, what
3 I'm trying to do is make sure that we're one
4 of the stakeholders that gets into the mix
5 and can say this makes sense or this doesn't
6 make sense. I'm just trying to make sure
7 that we're at the table.

8 Cathy.

9 MS. FOY: I can agree with that, I
10 guess.

11 CHAIRMAN RAFTICAN: Eric, are
12 you...

13 MR. SCHWAAB: Yeah. And I mean
14 I'm with Sam with respect to mechanism to a
15 point. And I think what you're suggesting is
16 consistent with the Joint Ocean Commission
17 recommendations that they established, sort
18 of federal interagency teams, but I would
19 just add two things.

20 One, which is also in the Ocean
21 Commission's recommendations, that there be
22 explicit direction to the federal agencies to

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1 coordinate with state and local government
2 entities, number one. And, number two, that
3 you not lose sight of the opportunity in CZMA
4 reauthorization to essentially direct the
5 state agencies to do the same thing. Now
6 you're establishing a spatial framework
7 geographically and you're putting in place
8 mechanisms that dictate the kind of
9 coordination that's needed to effect what
10 we're getting at.

11 CHAIRMAN RAFTICAN: And probably
12 in that same vein work with the councils --

13 MR. SCHWAAB: Yes.

14 CHAIRMAN RAFTICAN: -- I don't
15 know that --

16 MR. SCHWAAB: Yes.

17 CHAIRMAN RAFTICAN: Okay. Bill.

18 MR. DEWEY: I would just like to
19 support Eric's comments. I think they're
20 right on. You know, trying to incorporate
21 states' concerns --

22 CHAIRMAN RAFTICAN: Absolutely.

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1 MR. DEWEY: -- but also
2 emphasizing that this is federal water, state
3 waters, and near-shore ecosystem.

4 CHAIRMAN RAFTICAN: I think we can
5 put broad guidelines on that without having
6 to find each one individually yet, but, yeah.
7 No, I -- Eric's comments on it.

8 Erika, you're comfortable with the
9 direction we're going?

10 MS. FELLER: I am -- I mean we
11 talked a little bit about the role of the
12 councils and a little bit about lines and
13 stuff like that. And I know we don't want to
14 get into making a statement on that because
15 that's a rabbit hole. But just one
16 observation is I think you can draw lines a
17 lot of different ways. I think it's
18 important to be effective, that you find a
19 way to make marine spatial plans relevant to
20 the boundaries in which people make
21 decisions, like whether that's state
22 boundaries, you know.

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1 Just as an example, the Nature
2 Conservancy does a lot of eco-regional
3 planning. We do these big, gigantic
4 landscape blobs. You have to take them back
5 apart and fit them to a state boundary
6 because if you go talk to a state agency
7 about this big, gigantic blob that includes
8 five states, they're like, 'Yeah, that's
9 great. We don't really care what's going on
10 in Connecticut.'

11 CHAIRMAN RAFTICAN: Right.

12 MS. FELLER: So you really do have
13 to make it relevant to the people who are
14 making the decisions, whether they're state
15 agencies. Or, frankly, even the councils,
16 packing it into a form that they make
17 decisions on, because -- making it management
18 relevant I guess is a good point.

19 DR. HOLLIDAY: I can't help -- I
20 can't let that comment go without commenting,
21 --

22 MS. FELLER: Oh, God, why.

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1 DR. HOLLIDAY: -- if you don't
2 mind. I think you need to be multi-
3 directional because to look at things only
4 across managerial lines makes no sense
5 either.

6 So part of this principles of this
7 ecosystem approach is it has to be on
8 ecologically-relevant scales. If you have to
9 break it down in order to get the different
10 constituents to understand how it's -- but
11 those people who are in Rhode Island next to
12 Connecticut are part of that same ecosystem,
13 so it really doesn't matter what Connecticut
14 does if Rhode Island's not going to be
15 onboard across that ecosystem. So I think it
16 has to work in both directions.

17 MS. FELLER: But this is what I
18 was getting at before, too. Ecosystems
19 function at different scales. I mean they
20 function at the large marine eco-region scale
21 all the way down to the watershed --

22 DR. HOLLIDAY: Of course. But

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1 that's where you need to --

2 MS. FELLER: -- to the wetlands
3 scale and --

4 DR. HOLLIDAY: -- tailor it -- to
5 tailor the information to the scale of the
6 decision that you're making, but you can't
7 just -- the unifying principle can't be
8 jurisdictional boundaries if you're going to
9 do an ecosystem approach because they don't
10 apply. Ecosystems don't obey those lines.

11 MS. FELLER: Right. I'm just
12 saying you need to be able to deliver the
13 information in a way that is relevant to
14 those jurisdictional boundaries. I mean you
15 do the analysis of whatever's --

16 DR. HOLLIDAY: Okay. As long as
17 that's the underlying premise.

18 MS. FELLER: Yeah.

19 DR. HOLLIDAY: I didn't think that
20 was, but --

21 CHAIRMAN RAFTICAN: That's okay.
22 Sam's going to fix that after --

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1 MS. FELLER: Yeah. No, yeah.

2 DR. HOLLIDAY: If I'm supposed to
3 be writing some of this is therefore, I'm
4 trying to clarify what your intent was.

5 CHAIRMAN RAFTICAN: Steve.

6 MR. JONER: Yeah. I'm comfortable
7 with where we're headed. You know, as long
8 as it's recognized as a tool, limited to use
9 as a tool and not a life of its own and
10 somehow becomes the law determining what is
11 compatible and what isn't.

12 MS. DOERR: Shouldn't be the end-
13 all, be-all.

14 MR. JONER: The final solution for
15 fisheries, or whatever.

16 CHAIRMAN RAFTICAN: I think we
17 still have got the councils involved in this,
18 so I don't see it as the final be-all, do-
19 all, and end-all, but I think --

20 DR. HOLLIDAY: I had a question
21 for you, Tom.

22 CHAIRMAN RAFTICAN: Yes.

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1 DR. HOLLIDAY: A clarification, if
2 I could. You started before you went around
3 and said this is in lieu of ecosystem
4 management because we can't get a handle on
5 that?

6 CHAIRMAN RAFTICAN: No. I think
7 we went back to saying this is spatial
8 management, this is working. I think we
9 started off on that and went off in a couple
10 different rabbit holes and then came back.
11 And I think everybody's pretty comfortable
12 with basically marine spatial planning,
13 throwing it back on with some of the stuff
14 that same came up with and that you came up
15 with, and using that as a broad basis, a
16 broad-brush basis, not to put -- I don't want
17 to design the whole thing, but say that we're
18 looking at marine spatial planning on a
19 regional ecosystem basis.

20 I'm still looking around to make
21 sure everybody's onboard.

22 DR. BALSIGER: So the statement

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1 will contain a recommendation for MAFAC, and
2 I understand the whole body has to --

3 CHAIRMAN RAFTICAN: Yeah.

4 DR. BALSIGER: -- approve it, but
5 that it includes Sam's idea or Sam's -- I'm
6 not sure it was his idea -- the way he --

7 CHAIRMAN RAFTICAN: Sam -- it was
8 a suggestion.

9 DR. BALSIGER: The suggestion that
10 some larger regional group be set up that has
11 the authority to do the spatial zoning and
12 then the fisheries council work underneath
13 that umbrella. So that's appropriate of the
14 recommendation. I said that awkwardly, but
15 --

16 CHAIRMAN RAFTICAN: That was
17 awkwardly and probably a little stronger than
18 I would actually have put on, but I think
19 that's the direction. I think that was where
20 I felt that we were on.

21 MS. DOERR: I even think the
22 councils should be working with a regional

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1 structure, not necessarily for a regional
2 structure.

3 DR. BALSIGER: I'm happy for your
4 recommendation, for the work that you do, but
5 I'm not sure that other alternative forms
6 have been thought about here and whether
7 you're choosing one -- that may be the only
8 one that works, but there certainly have been
9 other ideas that have circulated that didn't
10 have discussion. And Patty's would be sort
11 of one to make the fishery management
12 councils part of that thing instead of
13 underneath it. I'm not sure that would work,
14 but just...

15 (Laughter.)

16 MR. DEWEY: Related to that, if I
17 may?

18 CHAIRMAN RAFTICAN: Yeah.

19 MR. DEWEY: Is that there's, in my
20 opinion that coordinating planning to be
21 effective needs to go beyond fisheries
22 issues. And that's why I think it's broader

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1 than just the council.

2 CHAIRMAN RAFTICAN: And I think
3 the good and bad of this is the energy issues
4 that are important to Randy are also
5 contained within this. You know, this is how
6 you actually do spatial planning that's going
7 to make sense. I mean how do you integrate
8 energy and fishing at the same time. And
9 let's try and get it under the same roof.
10 And the thing is to think that we're going to
11 put the thing in a place that's going to
12 override --

13 (Cellphone tones.)

14 CHAIRMAN RAFTICAN: -- MMS on
15 energy issues, I don't think it's going to
16 happen, but the thing is if you -- at least
17 we can get here and get a framework where we
18 can put some guidance on that.

19 MR. CATES: A quick question. Who
20 has that authority over the councils? I mean
21 does NOAA have the authority to reorganize
22 and change it?

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1 MR. RAUCH: The councils were set
2 up by statute.

3 CHAIRMAN RAFTICAN: Well,
4 authority on the councils. The other thing
5 is councils basically make recommendations
6 and that NOAA, you guys, actually put the
7 rules in place.

8 MR. RAUCH: That's correct.

9 CHAIRMAN RAFTICAN: They're a
10 recommending body. They try to set policy,
11 but it has to clear with you guys before you
12 put it in place.

13 DR. BALSIGER: Well, in order to
14 put Sam's idea in place -- to be once again
15 to help -- is it would take legislation -- I
16 presume.

17 CHAIRMAN RAFTICAN: I suspect
18 anything --

19 DR. BALSIGER: And if there was
20 legislation, I hope that the Mineral
21 Management Service has a say in requirements
22 to fit under the regional group as does the

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1 fisheries, so I'm not sure that did

2 MR. RAUCH: So if I could just be
3 clear on what my idea was. I think that you
4 could do a federal-only sort of supervening
5 structure through executive order and just
6 require all the agencies to use whatever
7 policy discretion they have.

8 If you wanted to incorporate the
9 states, and I think you absolutely have to do
10 that, you would need some sort of
11 legislation. And the CZMA might be a part to
12 do that because you can't really bring the
13 states to the table without that and give
14 them sort of a decision-making role.

15 MR. DEWEY: Sam, are you
16 suggesting since CZMA's up for reapplication
17 that maybe it's an opportunity to assert
18 that?

19 MR. RAUCH: It is a potential
20 opportunity. I also don't think that the
21 councils or anybody else, you know, the
22 Corps, I don't think any of these people

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1 would be actually under this group. They
2 would all consult with the group. The group
3 would do the plan and then everybody,
4 councils, Corps, states would have to act
5 consistently with that plan, but structurally
6 none of them would actually be -- in my view
7 at least -- officially under that regionally
8 structure. I think the Ocean Commission had
9 at some point thought about that idea, but I
10 don't think it would be that staggered in
11 terms of -- or structured toward
12 jurisdictional.

13 MR. SCHWAAB: Or politically
14 possible.

15 MR. RAUCH: Yeah, and I don't
16 think that would be politically possible. I
17 do think you could have them where the
18 council may have something that can
19 coordinate. The people who do the -- they
20 might even be on the group that may write the
21 plan, but ultimately whatever they recommend
22 or whatever the Corps decides to permit has

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1 to be consistent with that plan, but they
2 don't answer to one another. At least that's
3 how I take it.

4 CHAIRMAN RAFTICAN: Is everybody
5 comfortable with -- Patty, go ahead.

6 MS. DOERR: Two things. One, I'm
7 looking at the Vision 2020 document here and
8 there's -- Appendix 6 is on management and
9 ecosystem-based approaches. I would just
10 suggest that we all take a look at that with
11 this discussion in mind in terms of is
12 anything worth saying here this afternoon
13 change what's in 2020.

14 And then also support Randy's idea
15 of using 2020 as kind of a...

16 MR. CATES: Conduit.

17 MS. DOERR: ...conduit or
18 foundation for any sort of recommendations on
19 -- further recommendations on ecosystem-based
20 management and marine spatial planning.

21 And my second thing is to play
22 devil's advocate just a little bit on Sam's

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1 ideas on kind of -- not -- the things that
2 ocean governance in general, I mean we're
3 kind of in terms of fisheries just one aspect
4 of this whole big thing. So is it really our
5 place to suggest what a regional governance
6 should look like or is it more our place to
7 suggest the role of fisheries management
8 within any kind of larger governance
9 structure?

10 I just toss it out there as
11 slightly devil's advocate.

12 CHAIRMAN RAFTICAN: I think as our
13 role, making recommendations to the
14 Secretary, we get the luxury of doing that.
15 This is addressing your second point.

16 MS. DOERR: Um-hum.

17 CHAIRMAN RAFTICAN: We've got the
18 opportunity to make those recommendations and
19 those recommendations will carry weight with
20 the Secretary. And we've got the opportunity
21 to do this. This is a broader scale. And
22 we're dealing with all living marine

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1 resources. And each one of these spatial
2 entities within there are going to have an
3 effect on living marine resources, whether
4 it's just fisheries or whether it's, you
5 know, pinnipeds, turtles, whales, you name
6 it. There are enough interactions that I
7 think that our recommendations would be
8 highly relevant on that.

9 So the 2020 document, I'm trying
10 to go back because I put a lot of the stuff
11 in there on spatial management going back on
12 2020. And we probably would have to --

13 MS. DOERR: This is -- I mean not
14 necessarily today, but, you know, if we work
15 between now and the next meeting, --

16 CHAIRMAN RAFTICAN: We want to
17 come out of here with some type of a
18 recommendation I think that we take a
19 recommendation to the entire MAFAC tomorrow.

20 Because our recommendation here is simply a
21 subcommittee recommendation and what we have
22 to do is we have to get the entire Committee

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1 behind us before we can take the
2 recommendation to the Secretary.

3 So while we may walk out of here
4 okay comfortable with it, we've got to put
5 down and -- actually Mark and I are going to
6 have a long night together -- put together
7 something that the entire Committee, we
8 present it to the Committee tomorrow, the
9 Committee will vote on it. And then it goes
10 forward from there.

11 MS. DOERR: Would we be
12 recommending to the full Committee tomorrow a
13 way in which to proceed on these four issues
14 or specific recommendations on these four
15 issues?

16 CHAIRMAN RAFTICAN: I think we got
17 two things that we're trying to put down
18 right when that we're going to deal with:
19 Spatial planning and I think energy was the
20 other one.

21 MS. DOERR: Because I would -- I
22 mean I don't know -- I mean is it fair to you

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1 and Mark to come out with specific
2 recommendations on energy --

3 CHAIRMAN RAFTICAN: We're not.

4 MS. DOERR: -- and spatial
5 planning --

6 CHAIRMAN RAFTICAN: Mark and I are
7 doing. That's what we're trying to do right
8 now, is contribute --

9 MS. DOERR: -- or a way in which
10 to proceed, you know, to provide a larger
11 more in-depth recommendation to the
12 Secretary?

13 I'm just trying to clarify as to
14 what you guys are going to bring forth for us
15 to recommend to the Committee --

16 CHAIRMAN RAFTICAN: We're not
17 going to bring forth -- we're going to bring
18 forth to you, the committee members, first
19 thing tomorrow morning, so you each are going
20 to get to look at it individually. We won't
21 put the recommendations in unless you check
22 the box.

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1 But I think the thing that we're
2 dealing with here is that the time is short
3 on this. I don't know how short it is, but,
4 Charlie, you know, how soon would you say
5 recommendations like this have to come
6 forward?

7 MR. WAHLE: Frankly, I think the
8 phone could ring any day saying, okay, what
9 are we going to do next week. I think
10 clearly there's a series of phases, but I
11 think there will be pressure and direction
12 and opportunity to get moving on this very
13 soon.

14 CHAIRMAN RAFTICAN: Mark.

15 DR. HOLLIDAY: So I mean we
16 haven't talked about how to convey this
17 information and so the recommendation coming
18 out of the group was could be something like
19 you're going to see to brief Dr. Lubchenco on
20 issues coming out of the MAFAC meeting. You
21 send your delegation to her and between now
22 and then you can flesh out some of the more

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1 specifics. You have an outline I think of
2 what you were trying to do, but I think it
3 might be a disservice to try to drill down to
4 very specific recommendations without giving
5 it the benefit of even sleeping on it.
6 You'll be waking on it.

7 So I would be a little bit
8 sensitive to how far you want to go into the
9 details. I think we have the framework of
10 what you're trying to say, but you may buy
11 yourself some time. That you know what
12 you're trying to do and the way that you're
13 going -- you're not going to send the letter
14 to the NOAA Administrator tomorrow afternoon,
15 but you need to get yourself positioned to
16 what are you going to do between now and the
17 time that this information's conveyed.

18 MS. DOERR: Yeah, I mean I feel
19 like these are big issues.

20 DR. HOLLIDAY: You want to get
21 them right.

22 MS. DOERR: And we want to get

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1 them right and don't want to bite off more
2 than we can chew in one night. And so I was
3 under the impression -- I'm just confused and
4 trying to clarify in my head -- I was under
5 the impression that we're trying to figure
6 out a way, a process in which to move forward
7 to provide recommendations to the Secretary
8 and Dr. Lubchenco, not necessarily provide
9 the recommendations and the details tomorrow.

10 So --

11 DR. HOLLIDAY: I think --

12 MS. DOERR: So I'm just trying to
13 clarify --

14 DR. HOLLIDAY: It's this middle
15 ground of I think you want to be able to --
16 before you leave here, because the benefit of
17 having the group together is that you can
18 reach consensus on the concept that you're
19 trying to convey, right, but we can't
20 wordsmith for four or five hours on the exact
21 wording of it. So I think that would be your
22 goal.

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1 One of the principles that should
2 be in the recommendation that you could agree
3 to while you're here, we could polish that
4 over time and make sure that that's -- the
5 words beneath it are consistent with what
6 your intent was prior to your sending
7 anything forward as a finding or
8 recommendation. So it's more than just a
9 plan. We'll do that in the future, but you
10 want to get consensus while you're here and
11 get out on the table people's objections or
12 contributions so that we know in principle
13 what it is that you're trying to recommend.

14 CHAIRMAN RAFTICAN: Randy.

15 MR. CATES: It seems to me what
16 I've heard is that we have -- we have
17 agreement on two of the four issues. We have
18 consensus on spatial planning is an important
19 issue. I haven't heard anybody say that we
20 shouldn't move forward with that. I haven't
21 heard anybody express any concern about
22 trying to find synergies with energy.

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1 The governance is a big issue that
2 I don't know that we've had consensus on, and
3 ocean acidification we've kind of put aside.

4 DR. BALSIGER: Can I just make one
5 comment?

6 CHAIRMAN RAFTICAN: Sure.

7 DR. BALSIGER: Randy keeps
8 focusing on synergies with energy, that's a
9 good example if we have to have synergy with
10 energy, but should have synergy with
11 everything. Maybe a sanctuary is exactly the
12 right place for an energy development. You
13 look at all of those kinds of things.

14 MR. CATES: I agree whole
15 heartedly.

16 DR. BALSIGER: So put energy as an
17 example.

18 MR. DEWEY: That's what spatial
19 planning is in my view.

20 MR. CATES: I agree whole
21 heartedly.

22 MS. FOY: You could just say to

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1 optimize use.

2 MS. FELLER: Actually I think
3 Randy brought up a good point. I think -- I
4 want to understand what Patty's saying, but
5 it strikes me that there is agreement on
6 marine spatial planning. I mean marine
7 spatial planning is like you said, it's
8 information. You know, information is
9 helpful, organizing information in a way to
10 be relevant, to make decisions is a useful,
11 helpful, easy thing to agree on. Regional
12 ocean governance starts to become a much
13 harder thing to agree on. I have no -- I
14 have a lot of opinions about what I don't
15 like, I have absolutely no idea what I do
16 like.

17 But maybe it strikes me that if we
18 could come to some type of agreement on
19 marine spatial planning as something -- you
20 know, it's an important short-term action
21 that we would encourage the Secretary to
22 take, maybe one thing that the committee

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1 could do through -- you know, doing work
2 between now and the next MAFAC meeting, is
3 start to at least think about what we think
4 are some principles to inform regional ocean
5 governance might be, because that -- you
6 know, I think Mark gave us a really good
7 framework for having a discussion like that,
8 but we don't have the time to have that
9 discussion here.

10 So I'd be really wary about
11 putting something out there about regional
12 ocean governance. I think it would be good
13 for say marine spatial planning. And then,
14 frankly, if Dr. Lubchenco can come to the
15 next MAFAC, if it's in D.C., how cool would
16 that be, this would be a really interesting
17 conversation to have with her.

18 DR. BALSIGER: I actually think
19 she will look forward to meeting with you.
20 She's just so busy. She implied, she
21 intended no disrespect for not showing up
22 here.

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1 CHAIRMAN RAFTICAN: Oh, I'm sure.
2 This old neck of the woods, too.

3 I hear what you're saying and I
4 also hear what Mark's saying. I'm going to
5 rely on Mark in, you know, seeing a basis to
6 put this stuff together. And the time line
7 is short.

8 My suggestion might be, why don't
9 we take this and put this together and work
10 on this. And, again, bring tomorrow to the
11 whole group the fact that short-term action
12 on marine spatial planning is critical and
13 that the committee, and with your indulgence,
14 can we meet by over a conference call? Let's
15 give -- Mark, does this work for you? Say we
16 put this stuff together, take a week, we get
17 it out to everybody in print within a week,
18 we get a chance to take a look at it, and
19 then have a conference call to make sure that
20 we're all still onboard with the document on
21 that? Does that make sense?

22 MR. WALLACE: I thought that we're

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1 trying to put together some kind of an
2 outline and then look at it tomorrow morning?

3 CHAIRMAN RAFTICAN: Well, I was
4 going to try and do that, but I heard Mark
5 saying that, you know, Patty wanted longer.

6 Mark, what do you think?

7 DR. HOLLIDAY: I think the outline
8 is the principles and the direction that
9 you're trying to go, --

10 MR. WALLACE: right. right.

11 DR. HOLLIDAY: -- but to flesh out
12 the --

13 MS. DOERR: The details.

14 DR. HOLLIDAY: -- details of it
15 would take more than an overnight exercise.

16 MR. WALLACE: Right. Yeah, and I
17 agree. But, you know, we are going to
18 address the outline tomorrow, so that we'll
19 end up being essentially on the same page.

20 DR. HOLLIDAY: Right, so then we
21 have agreement then to send people off to try
22 to do the detail work, --

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1 MR. WALLACE: Precisely.

2 DR. HOLLIDAY: -- the staff work
3 behind that.

4 MR. WALLACE: Okay.

5 CHAIRMAN RAFTICAN: But I think,
6 again, the detail work is going to have to be
7 done in a fairly timely manner, do this, and
8 then possibly -- and we just send email
9 around to the entire Committee to look at
10 after they get our recommendation on. Does
11 that -- I'm afraid that the train's going to
12 leave. And I think that we've got a chance
13 to take some real guidance on this. And the
14 thing is I would love to have Dr. Lubchenco
15 here now. But the other thing is I would
16 hate to have that train leave the station
17 with us still sitting on the platform.

18 MS. DOERR: I think -- I agree
19 with what you're saying. Get the outline,
20 have a couple conference calls, flesh out the
21 details, and convey to her our position via a
22 letter or --

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1 CHAIRMAN RAFTICAN: Yeah. No, --

2 MS. DOERR: -- which I --

3 CHAIRMAN RAFTICAN: We can come to
4 that further down the line, --

5 MS. DOERR: Yeah, so we don't have
6 to wait --

7 CHAIRMAN RAFTICAN: As long as --
8 I'm just trying to lay out a general scenario
9 to make sure that everybody agrees with the
10 scenario. Are we good with that?

11 Mark, can you give me a hand and
12 get some stuff together? We'll get enough
13 together that we can bring it to you, first
14 of all, tomorrow morning and then from there
15 we'll bring it to the full Committee, not for
16 a final vote, but to give you a rough idea of
17 where we're going on this. And then we'll --
18 yeah, Randy.

19 MR. CATES: Just a quick question,
20 Jim. If we were meeting in D.C. right now,
21 do you think she would be here?

22 DR. BALSIGER: I think she would

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1 have found an hour probably to come see us.
2 That's just a guess, but I think she would
3 have.

4 MR. CATES: And I'm not asking
5 this for future ref- -- you know, where she
6 we have meetings. How important is it to be
7 in D.C. versus -- I mean we're trying to make
8 ourselves more relevant, I think. And is it
9 absence?

10 DR. BALSIGER: Well, I think it's
11 more likely that you'd get time with her at
12 the next meeting if you were in D.C. On the
13 other hand, if the meeting was here and she
14 came -- she got it on her schedule, she'd
15 probably spend a day with you instead of an
16 hour. So I don't know how you play those
17 probabilities.

18 MR. JONER: So we can have five
19 meetings away, get her there on the sixth
20 meeting, we're still ahead.

21 DR. BALSIGER: Right.

22 CHAIRMAN RAFTICAN: Mark.

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1 DR. HOLLIDAY: This is not the
2 Agency's position or anything. Just my
3 thought would be that, again, having Dr.
4 Lubchenco here is good in front of the entire
5 group because it makes everyone feel relevant
6 and important. But in terms of substantial
7 participation with her on policy issues, I
8 think there's every reason to think that
9 members of MAFAC could meet with her outside
10 of a meeting and representatives of either
11 the subcommittees or the chairs could be
12 briefing her on specific topics that would
13 then have more of a one-on-one dialogue that
14 would then encourage that kind of an
15 exchange, versus it is very difficult to have
16 a conversation with 25 people around the
17 table.

18 CHAIRMAN RAFTICAN: Sure.

19 MR. RISENHOOVER: There's a lot of
20 posturing, there's a lot of protocol. And so
21 I would just encourage that you continue to
22 seek to gain audience. The chair of the

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1 Science Advisory Board met with the last
2 Administrator and continues to meet with the
3 new Administrator outside of the actual
4 meetings. And I think that's an unused
5 technique for MAFAC.

6 CHAIRMAN RAFTICAN: Mark, I'm fine
7 with that. Like I said, I want to get the
8 general protocol moving in the right
9 direction so that we move the document
10 forward. Once we've got the document, we can
11 figure out how to do that.

12 And the other thing is I do think
13 it's important to meet with Dr. Lubchenco,
14 probably not in our debating mode, but, you
15 know, --

16 MR. CATES: Did I hear you right,
17 Bill, to say that we could call up and say
18 we're a MAFAC member, we'd like a meeting
19 with Dr. Lubchenco and get in there?

20 DR. BALSIGER: You of course can
21 do that. Likely she will say go meet with
22 Jim Balsiger. But, nonetheless, when -- we

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1 have a couple of opportunity -- have had a
2 couple of opportunities to tell her people
3 that we thought she should meet with in the
4 first week she was there, and then now into
5 her second month. And we put the MAFAC chair
6 and vice chair on of us both times, and so
7 we've gone over that list, she agrees, that's
8 the people she needs to meet with, she just
9 hasn't gotten around to it.

10 She is going to make time to go to
11 see the council -- the council chairs and
12 executive directors meet next week in Boston.

13 It's the CCC meeting, so she's going -- she
14 now has made time to go up and see them, so I
15 think she's getting around to some of the
16 advisory groups. And it won't be long before
17 she needs to see somebody.

18 CHAIRMAN RAFTICAN: Dave.

19 MR. WALLACE: I'm just going to --
20 there are so many issues that we have that we
21 need to convey to the Administrator that to
22 think that we could do that with this whole

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1 group is highly unlikely. You know she would
2 give us -- she met with the MPA Committee,
3 and Trey and I were there, and she gave us
4 her philosophy. We were able to ask her some
5 questions, but we didn't have -- and she was
6 there half a day, and we didn't have time to
7 get into any of the details. We were just
8 talking about major issues.

9 And so I think that the best thing
10 we can do is formulate good ideas, get them
11 in writing, and send them to her, and then if
12 she has any question she'll be sure to ask us
13 and she'll just bring it back through the
14 channels to the OA. And that will come back
15 to Mark and then we can address them that
16 way.

17 CHAIRMAN RAFTICAN: And invite her
18 next time, too. That sounds good.

19 Any other suggestions on this?

20 Alright. Well, good. We're good
21 on energy, we're good on spatial planning.
22 We'll have a document to you folks tomorrow

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1 morning that will be in very rough draft.
2 And we'll make a presentation to the whole
3 MAFAC on the rough draft of where we're
4 going. And then fine tune that within the
5 next week or so thereafter and get back to
6 you first, you as the committee, and then
7 from the committee to the entire MAFAC.

8 Are we good with that?

9 MS. FELLER: And -- I'm sorry.
10 Just to clarify. Would we want to keep
11 working on regional ocean governance; is that
12 --

13 CHAIRMAN RAFTICAN: I want to get
14 these two out of the way first. And, yeah,
15 hey, look at, next time -- first of all, I
16 was very honored to be chosen as chair, and I
17 hope I can do a good job. And I'm really
18 wondering after this meeting.

19 MS. FELLER: You're doing great.

20 CHAIRMAN RAFTICAN: But the next
21 time I will be much more prepared to come
22 through with a set agenda that we've got a

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1 little bit of background on.

2 And, again, these guys have done
3 great work. They've got the documents
4 together. And, to be honest, I hadn't read
5 through them -- one time, and that's simply
6 not enough. We need to take a closer look
7 down the line and make sure that we've got
8 our ducks in a row coming in. And next time
9 we'll do that.

10 Go ahead.

11 MR. JONER: You didn't look this
12 way when the agreement was -- or when the
13 decision was made to table ocean
14 acidification. I even folded my arms, and
15 you still didn't --

16 (Laughter.)

17 CHAIRMAN RAFTICAN: Okay. Hey,
18 does anybody have to leave right out of here
19 right now? Because if you don't, you know,
20 we're taking our issue --

21 MR. JONER: Oh, no, I don't want
22 -- I don't want that.

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1 CHAIRMAN RAFTICAN: -- of
2 governance and bring in the candlelight.

3 MR. JONER: But I just think there
4 are some things we could do. I mean we're
5 not going to solve it now. We certainly need
6 to get a handle on it. And I think there's
7 some -- you know, we need to get some
8 dedicated system monitoring going because
9 that's going to affect a lot of the other
10 things.

11 DR. HOLLIDAY: So along those
12 lines, did you know that ocean acidification
13 is an overarching threat to the continued
14 functioning of a healthy, resilient ecosystem
15 that's essential to the accomplishment of
16 food security and economic objectives of the
17 nation? Did you know that?

18 MS. FOY: Oh, I'll second that.

19 DR. HOLLIDAY: By the end of this
20 decade --

21 CHAIRMAN RAFTICAN: Does anybody
22 have a problem --

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1 DR. HOLLIDAY: I'm not done.

2 By the end of this decade, pH
3 could decrease by as much as 0.3 to 0.4 pH
4 units. Time is critical to conduct research
5 on impacts and vulnerabilities and create an
6 observational network for ocean
7 acidification. That's a priority for NOAA
8 and any Agency mission related to healthy
9 oceans, and MAFAC supports early resources to
10 implement FOARAM, as recommended in the
11 legislation.

12 Something like that.

13 CHAIRMAN RAFTICAN: Bill, did I
14 hear a motion?

15 MR. WALLACE: I'll move that --

16 MR. DEWEY: Well, wait, hang on a
17 second now. I like that.

18 DR. HOLLIDAY: No, this is --

19 MR. DEWEY: That was good.

20 DR. HOLLIDAY: -- to get you guys
21 started.

22 MR. DEWEY: At the beginning of

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1 the meeting you put the 800-pound gorilla in
2 the closet and unfortunately I'm in the
3 closet with it. So I was typing --

4 MR. JONER: Halfway in the door.

5 MR. DEWEY: I was typing a
6 recommendation over here while everyone was
7 working on everything else. And I wasn't
8 going to let it go before we left the room.

9 MS. FOY: So what you're saying is
10 you're coming out of the closet.

11 MR. DEWEY: So it's close --
12 actually close to what Mark came up with
13 independently across the room. Mine was just
14 -- I had a draft recommendation:

15 Due to the dire potential effects
16 of ocean acidification on marine resources,
17 MAFAC urges appropriation of the funding
18 authorized by the FOARAM Act of 2009, HR 146,
19 to establish an interagency committee to
20 develop an ocean acidification research and
21 monitoring plan and to establish an ocean
22 acidification program within NOAA. Once

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1 established, the NOAA ocean acidification
2 program should prioritize interagency
3 coordinated monitoring and research on the
4 consequences of ocean acidification and
5 marine ecosystems. Research should include
6 adaption strategies for fisheries and
7 aquaculture, and techniques for effectively
8 conserving marine ecosystems as they cope
9 with increased ocean acidification.

10 And I was just --

11 CHAIRMAN RAFTICAN: Was that --

12 MR. DEWEY: I was paraphrasing
13 mostly from the PowerPoint slide.

14 CHAIRMAN RAFTICAN: Okay.

15 MR. JONER: And I need to take
16 just a little bit of what Mark read and put
17 it in there, just at this hour of the day my
18 brain's not in full gear, but I just think it
19 could use a little bit of that.

20 MR. DEWEY: Mark provided more
21 background on the dire consequences.

22 MR. JONER: Right. Yeah, I don't

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1 like the dire consequences.

2 MR. DEWEY: I want --

3 MR. JONER: I like the detail.

4 CHAIRMAN RAFTICAN: Could I have a
5 second on the motion, including Mark's dire
6 consequence?

7 DR. HOLLIDAY: You don't need to
8 move any of it. I mean you can look at this
9 tomorrow morning.

10 CHAIRMAN RAFTICAN: Okay.

11 DR. HOLLIDAY: But it's a way
12 forward if you do want to consider ocean
13 acidification tomorrow morning. If Bill
14 sends me an email I can huddle this together
15 for you to consider in the morning, and you
16 can take a motion if you want to use it or
17 not.

18 MS. FOY: I would be much more
19 comfortable with that than simply closeting.

20 CHAIRMAN RAFTICAN: So all in
21 favor cross their arms.

22 (Laughter.)

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1 CHAIRMAN RAFTICAN: Thank you.

2 Anything else?

3 MS. DOERR: To get back to Erika's
4 question about regional governance, could the
5 outline that we're going to look at tomorrow
6 morning include just saying that we're going
7 to continue work on a recommendation
8 regarding regional ocean governance and we'll
9 work on it -- you know, it will be a conflict
10 we'll work on between now and --

11 CHAIRMAN RAFTICAN: I think that's
12 fair enough and I think we're going to try
13 and put forward three distinct things that
14 we're going to deal with. That is clearly
15 understood as the fourth, and I'll include it
16 in the report to the full Committee tomorrow
17 -- if that's okay with everybody.

18 Okay. Heather.

19 MS. McCARTY: Chairman, I just
20 wanted to tell you real quickly what we
21 discussed in relation to these issues over
22 there.

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1 CHAIRMAN RAFTICAN: Okay.

2 MS. McCARTY: We discussed taking
3 the 2020 document and updating it to include
4 these challenges that we were told about in
5 the last day and a half and talk about some
6 of the ways that NOAA might respond to it.
7 And so we included that in our strategic
8 planning discussion, but just on a real
9 surface basis we just made those
10 recommendations. So we're going to write
11 that up and have it for the full Committee
12 tomorrow.

13 CHAIRMAN RAFTICAN: I think Randy
14 actually brought precisely that same thing
15 up, that we -- we're looking to amend the
16 2020 with the stuff that we're going --

17 MS. McCARTY: Yeah, so that's what
18 --

19 (Multiple comments.)

20 CHAIRMAN RAFTICAN: Anything else?

21 MR. JONER: So we have synergy.

22 DR. BALSIGER: But no energy.

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1 CHAIRMAN RAFTICAN: How about
2 dinner -- no, seriously. Any other things on
3 the agenda?

4 MR. DEWEY: Tom, I guess I'm not
5 personally comfortable not trying to grabble
6 with the governance issue, because, quite
7 honestly, I think that we're going with
8 spatial planning. And I think that is --
9 Erika made a great remark or last comment
10 there. That is a tool for governance. We
11 may not have the answer for governance, but
12 we may want to suggest that that regional
13 governance structure evolve and we'll work on
14 it. But immediately a tool to help develop
15 that is the spatial planning.

16 CHAIRMAN RAFTICAN: I suspect that
17 when we take a look at the document we're
18 probably going to have some of the pieces of
19 governance sitting there, not in concrete but
20 sitting there. And if we're all comfortable
21 with that spatial planning moving forward
22 like that and take a look at it in the

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1 morning, I would be comfortable saying this
2 is the first step towards a governance
3 system. I just don't -- again, at six
4 o'clock --

5 MR. DEWEY: I definitely -- I
6 definitely understand --

7 CHAIRMAN RAFTICAN: -- at night I
8 absolutely agree with you. Just the thing is
9 we got the stuff late and we're getting into
10 difficult, difficult areas, and how do we get
11 -- I want to make sure that we take as much
12 from here as we possibly can.

13 And what would your suggestion be?

14 MR. DEWEY: Well, it's just I'm
15 not trying to suggest that we're going to
16 arrive at a recommendation for governance.
17 But we need to acknowledge it's an issue.
18 And I think that as we make the spatial
19 planning recommendation, we link it to it by
20 saying that this is a vital tool. We see a
21 need for regional governance for
22 ecosystem-based management and this spatial

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1 planning is a critical tool for that as it
2 evolves.

3 CHAIRMAN RAFTICAN: Are we
4 comfortable with that?

5 MR. DEWEY: I am.

6 CHAIRMAN RAFTICAN: Anything else?
7 Motion to adjourn?

8 MR. DEWEY: So moved.

9 MR. CATES: Second.

10 CHAIRMAN RAFTICAN: See you in the
11 morning.

12 MR. DEWEY: Nice job.

13 (The Ecosystem and Climate
14 Subcommittee meeting was adjourned at 5:54
15 p.m.)

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