

MARINE PROTECTED AREAS
FEDERAL ADVISORY COMMITTEE

COMMITTEE MEETING

OMNI MARINA HOTEL
700 North Shoreline Boulevard
Corpus Christi, Texas

Tuesday, April 25, 2006
8:10 a.m.

APPEARANCES:

LAUREN WENZEL, Designated Federal Official

MARINE PROTECTED AREAS FEDERAL ADVISORY COMMITTEE

Dr. Tundi Agardy - Sound Seas

Mr. Charles Beeker - Indiana University

Mr. Robert Bendick - The Nature Conservancy

Mr. David Benton - Commercial Fishing (Not Present)

Dr. Daniel Bromley - University of Wisconsin

Dr. Anthony Chatwin - The Nature Conservancy

Dr. Michael Cruickshank - Marine Minerals Technology
Center Associates

Dr. Eric Gilman - Blue Ocean Institute

Ms. Ellen Goethel - Fishing and ocean education

Dr. John Halsey - Michigan Department of State

Dr. Dennis Heinemann - The Ocean Conservancy

Dr. Mark Hixon - Oregon State University

Mr. George Lapointe - Maine Department of Marine
Resources

Dr. Bonnie McCay - Rutgers University

Dr. Steven Murray - California State University,
Fullerton

Dr. John Ogden - Florida Institute of Oceanography,
University of South Florida

Terry O'Halloran - tourism industry (Not present)

Mr. Lelei Peau - American Samoa Department of Commerce

APPEARANCES (CONTINUED):

MARINE PROTECTED AREAS FEDERAL ADVISORY COMMITTEE
(Continued)

Dr. Walter Pereyra - Arctic Storm Management Group,
Inc.

Mr. Max Peterson - International Association of Fish
and

Wildlife Agencies (Retired)

Dr. James Ray - Oceanic Environmental Solutions, LLC

Andrew Sansom - (Not Present) Mr. Jeff Pearson
substituted; Texas State University, San Marcos

Dr. Daniel Suman - University of Miami

Ms. Kay Williams - (Not Present) Gulf of Mexico
Fishery Management Council

Mr. Jim Woods, Makah Tribe

Mr. Robert Zales, II - Recreational Fishing

NATIONAL MARINE PROTECTED AREAS CENTER:

Joseph A. Uravitch

Jonathan Kelsey

Brian Jordan

Mr. Charlie Wahle

Dana Topousis, Bunny Sparks

FURTHER ATTENDANCE:

Mr. Randal Bowman

Dr. John W. Tunnell, Jr.- Texas A & M Corpus

Ms. Mary Glackin - Department of Commerce Ex-Officio

Mr. Brian Melzian - EPA

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P R O C E E D I N G S

1
2 CHAIRMAN BROMLEY: Good morning. I think we
3 are ready to reconvene, get on with the business.

4 We have an urgent technological problem.
5 Somebody has a Nokia cell phone whose battery is in
6 danger of being empty and wants to know if there is
7 anyone who has a charger for a Nokia.

8 (Chorus of noes.)

9 CHAIRMAN BROMLEY: Well, Mike Cruickshank is
10 in need of a charger for his cell phone, so if --

11 MR. CRUICKSHANK: Radio Shack.

12 CHAIRMAN BROMLEY: There is our public service
13 announcement for today.

14 Okay. Today we are going to start -- we have
15 an hour-and-a-half with three Subcommittees, so let's
16 just go with 1, 2 and 3 and let us hear what you did
17 yesterday. Ready?

18 (Dr. Bromley motioned for Mr. Peterson to use
19 the microphone.)

20 MR. PETERSON: I noticed yesterday in sitting
21 back there that I couldn't see the board.

22 CHAIRMAN BROMLEY: Right.

1 MR. PETERSON: And now you are telling me to
2 use the mike, too.

3 (Approached microphone.)

4 MR. PETERSON: Okay. Is it on?

5 CHAIRMAN BROMLEY: Yeah, wonderful.

6 MR. PETERSON: Okay. Now, the first thing we
7 did was rewrite the question --

8 CHAIRMAN BROMLEY: Okay. Good.

9 MR. PETERSON: -- because we were having a
10 little trouble with the question.

11 So, if you look at the Key Question under
12 Subcommittee 1 at the bottom of page 1, that question
13 says: "How should planning for the National System of
14 MPAs be coordinated and integrated with broader
15 ecosystem approaches to management at the regional and
16 national levels?"

17 We thought that was a little bit too narrow
18 for what we were trying to do, so we struck the words
19 "broader ecosystem" and say "the different approaches".

20 There's an awful lot of different approaches.
21 Some are strict bay, some are travel bay, some have
22 other approaches.

1 So, we said "the different approaches to
2 management at the regional" -- and several suggested we
3 say "regional, national and international levels". So
4 we recognized that dimension, so we struck again and
5 put "national and international levels".

6 Okay? Is that clear?

7 Well, since we changed the question, that
8 meant we had to change the related questions a little
9 bit.

10 So, if you look up here at the top, that Key
11 Question is now shown on the board here. See the Key
12 Question? Can you read that now that I just read to
13 you?

14 (Committee responded affirmatively.)

15 MR. PETERSON: Okay. We changed a little bit
16 the related questions. We lumped a couple of
17 questions.

18 And the first question: "What are some
19 examples where governments and stakeholders organize to
20 work together at the regional and/or ecosystem level to
21 identify priority areas for enhanced or new
22 protection?"

1 And then the other part of that was: "What
2 coordinated planning approaches are needed to integrate
3 natural, cultural and sustainable production goals into
4 MPA and network design at the Regional and/or ecosystem
5 level?"

6 And I think, John, we did change the word
7 "production" to "use". So, the next time you do this,
8 we will change that one to "use". Okay?

9 We thought "use" was a little -- because
10 cultural MPAs don't particularly have production, so we
11 thought "use" was a broader term.

12 And "What value does an integrated National
13 System of MPAs add to regional and national ecosystem
14 management efforts?"

15 And "How should the National System protect
16 significant examples of submerged cultural resources?"

17 Okay. Move it up. (Referencing slide.) I
18 think we went a little too far.

19 A PARTICIPANT: The last bullet there?

20 MR. PETERSON: Yeah. Now, what we decided we
21 would do then, the first question that we thought we
22 should address is: "What value does an integrated

1 National System of MPAs add to regional and national
2 ecosystem management efforts?"

3 We talked about a National System of MPAs and
4 in order for a National System to have long-term
5 support, we've got to say: "Well, what value does it
6 add to that?" "What do regional efforts add to it?"

7 Because we heard yesterday from Katherine
8 Andrews from State who sort of said: "We are kind of
9 happy with what we have."

10 And, so, the question is: "What do regional
11 and national efforts add to that?" And that is a key
12 question for us to ask.

13 Okay? Are you done? Go to the second now.
14 (Referencing slide.)

15 Now I am going to let Bob Zales, who is the
16 Cochair of Team 1, take the next question: "What are
17 some examples of where stakeholders organize to work
18 together?"

19 We thought rather than just come up with a
20 bunch of conceptual ideas, the first thing we'd do is
21 come up with some examples.

22 So, Bob, let me give you the microphone.

1 MR. ZALES: Thank you, Max. I think we've got
2 it a little backwards here. You all did number 1 and
3 we did number 2. The other one was number 1.

4 So Max and his people did discuss this part of
5 the thing and we've got some examples here of other
6 governments and stakeholders and how they have worked
7 in regional and ecosystem levels and different
8 scenarios. And they have identified the Florida Keys,
9 and then you've got Air Quality Regulations for 39
10 tribes that are based in Oregon, Idaho, Washington, and
11 then the Gulf of Maine Council on how they work with
12 some of their stuff, Great Barrier Reef, California
13 Marine Life Protection Act, North Pacific Management
14 Council effort in the Gulf of Alaska, the Appalachian
15 Trail Conference. These were identified as groups who
16 had worked as groups, I guess, to come to some
17 consensus on how to manage these particular areas.

18 And other case studies to explore is:

19 What agency/government entities are involved?

20 How are stakeholders and users involved?

21 What are the benefits of users in geographic
22 areas? What it is and why?

1 Examples of coordination, working and not.
2 What is the reason and the purpose for the
3 effort?

4 Are there associated monitoring, research or
5 evaluation efforts?

6 How does it relate to historic use?

7 Lessons learned?

8 The principles would be:

9 Cooperation -- giving no new authority, just
10 as a cooperative effort.

11 Sharing of information.

12 Coordination of enforcement, which is critical
13 to especially MPA management.

14 Standardization of information.

15 And more to be identified by case studies. Is
16 that --

17 MR. PETERSON: That's it.

18 MR. ZALES: Is that the thing? Did I get
19 everything in there?

20 MR. PETERSON: That's it.

21 MR. ZALES: So that is kind of where we were
22 as the initial step in this thing.

1 So, I guess if anybody on the panel has got
2 any questions or comments or whatever, we will take
3 them.

4 MS. GLACKIN: I just might comment just to
5 make the point that the Charge that we had laid out,
6 the government, was to kind of immediately ask, you
7 know, "How should the government and stakeholders
8 organize" and all.

9 And I think the panel did a really good job
10 and said: "Well, before we do that, why don't we find
11 some best practices?" "What has worked well in a
12 really diverse area?" And then recognize, too, that
13 we, you know, are better able to articulate the value
14 of somebody coming to the table.

15 So, you know, so it is kind of -- The rest of
16 the Committee might feel like it is significantly
17 different from the questions that were here; but I
18 think it starts at kind of a better place to move
19 forward, to organize these questions.

20 MR. ZALES: Thank you.

21 MR. PETERSON: Let me just say that we
22 recognize that it is probably impossible to do all

1 those case studies. What we thought we would do is to
2 maybe select three or four of these and talk to the
3 people involved and say: "Will you help us answer
4 these questions:"

5 "How did this whole thing start?"

6 "How did you decide the boundaries?"

7 "How did you decide who was involved?"

8 "What kind of public involvement did you
9 have?"

10 "How did you go about this whole thing?"

11 And then "Once it was put in place and started
12 being used:"

13 "How did you let the users know what was
14 happening?"

15 "How were stakeholders involved?"

16 "What has been the reaction to it?"

17 And we have learned in a couple of places
18 people said: "If we had to do it over again, we would
19 do it quite differently. We did learn some things."

20 So, we thought rather than come up, as Mary
21 said, rather than come up with some theoretical
22 principles, we would try to use some exact actual

1 examples of how things might happen.

2 Are you at the bottom of the list? Okay.

3 (Referencing slide.)

4 And what we would do then, as we meet this
5 afternoon, the Subcommittee would try to put together
6 kind of a work program on how we can go about this.

7 So, we are not through. This is our first
8 step in trying to conceptualize how we would start, and
9 then we will actually try to put together a work plan
10 and say what we will do so we will have a product by
11 next year. So this is just step one. Okay?

12 CHAIRMAN BROMLEY: Can I ask a question?

13 MR. PETERSON: Yes.

14 CHAIRMAN BROMLEY: When you do this, are you
15 thinking about "best practices"? I mean is this going
16 to be, when you say "examples", can we think of it as
17 "best practices"?

18 MR. PETERSON: Oh, sure. We would ask one
19 group who might say: "The first time we did it, we did
20 it this way and we found out that did not work very
21 well, so we changed our whole approach -- particularly
22 from the standpoint of users and stakeholders."

1 "And once you decided on these things, how did
2 you let people know about it?"

3 "How did you phase in things?"

4 And we learned from the Florida Keys people,
5 they said: "You know, we really made some horrible
6 mistakes early on and we have now decided, if we were
7 doing it over, we would do it this way."

8 So, yes, we would come up with, hopefully,
9 some "best practices".

10 We would like to get some additional
11 information on:

12 What have they done about monitoring?

13 Do they know that there has been any success?

14 Has anything happened as a result of it?

15 Did they have a lot of adverse publicity?

16 How did they deal with the political side of
17 things?

18 So, yes, out of this will come some
19 recommended approaches.

20 CHAIRMAN BROMLEY: Lessons learned.

21 MR. PETERSON: Lessons learned.

22 CHAIRMAN BROMLEY: Because often we learn more

1 from our failures than we do from our successes.

2 MR. PETERSON: Right, right.

3 CHAIRMAN BROMLEY: So you would stress the
4 lessons that were learned?

5 MR. PETERSON: Right. And we would also,
6 hopefully, come up with some, if somebody is going to
7 do something like this, we give them a contact with
8 somebody who has actually done it so that they can
9 maybe talk to them directly to get some more
10 information.

11 So, rather than come up with a bunch of
12 theoretical principles, we thought this was better.

13 MR. URAVITCH: Yeah. Joe Uravitch. Please
14 remember to identify yourselves to help out our court
15 reporter who is having a tough time seeing the name
16 tags.

17 A possible good source of information about
18 this kind of work was last year' White House Conference
19 on Conservation --

20 MR. PETERSON: Yes, m'hmm.

21 MR. URAVITCH: -- where there were several
22 thousand people convened in St. Louis to basically

1 examine just this whole idea of how the government and
2 the private sector and other levels of government could
3 work together.

4 MR. PETERSON: M'hmm. Okay. Any other
5 comments? Yes, Bonnie McCay.

6 VICE CHAIR McCAY: Hi. Bonnie McCay. Also,
7 in looking at case studies, there is quite a rich
8 literature now on forestry studies of this kind that
9 might be considered.

10 MR. PETERSON: Yes. Right. Thank you.

11 Yeah. In fact, just to go along with that a
12 little further, people are asked in kind of a peer
13 thing to rate companies or others that are the best in
14 the business, and then rate the people on the other
15 end. It is kind of a high-low analysis to try to find
16 out what the difference is between the "high" and the
17 "low". And you find out there is some very -- very
18 much difference; but that way you get some real life
19 things.

20 Yes, Bob Bendick.

21 MR. BENDICK: Just to be clear that last year
22 one of the Subcommittees did some case studies on

1 individual MPAs and these are regional case studies
2 where regions have come together in one way or another
3 to have some sort of regional coordination. And since
4 we don't have -- we are not going to put a set model in
5 there, we're trying to look at places where that has
6 worked, you know, from the bottom up.

7 MR. PETERSON: Thank you, Bob. Any other
8 members of the Subcommittee 1 who would like to --

9 The whole Subcommittee worked on this.
10 Anybody else like to chime in?

11 I think we have a question here.

12 DR. SUMAN: No, I pass.

13 MR. PETERSON: You pass. Yeah, Mark. Mark
14 Hixon.

15 DR. HIXON: Thanks, Max. A couple of things.

16 One: For case studies, a really good source
17 of information, I believe, is MPA News. It is
18 published by the University of Washington. Because
19 there is more and more case study analyses being
20 published regionally, which is good.

21 The other point was: In your earlier slide,
22 you had a statement that spoke to the interdependency

1 of MPAs. What was the particular concept in mind
2 there?

3 MR. PETERSON: Well, one of the concepts was
4 that if we are going to have regional approaches, one
5 of the questions is: Is there interdependence and what
6 kind is it? Is it biological interdependence? Is it
7 user interdependence? Is it interdependence in terms
8 of enforcement questions? Is there interdependence in
9 terms of navigation? You know, there's all kinds of
10 interdependence.

11 So, we didn't try to define what it was; but
12 we said: If you are going to have regional, where you
13 are going to put a whole bunch of MPAs together,
14 there's going to be -- synergism is one of the ideas
15 and interdependence and you should pick that up. That
16 is the idea.

17 DR. HIXON: And this is probably one place
18 where Subcommittee 1 and Subcommittee 3 will overlap
19 because we are grappling with both natural science and
20 social science needs.

21 MR. PETERSON: Yes. In fact, we are
22 overlapping a little bit with Subcommittee 2 on the

1 whole business of values. So, when we put this
2 together, we are going to have to recognize that there
3 are some of that kind of overlap.

4 DR. HIXON: And I think that is a good thing,
5 actually.

6 MR. PETERSON: I hope so. Yes, John Ogden?

7 DR. OGDEN: Max, one other example that I find
8 interesting is the State of Massachusetts had a
9 comprehensive effort to plan their coastal ocean and it
10 is really based on human contact as the primary goal;
11 but, then, a lot of other things fall out of it.

12 MR. PETERSON: Good. Thank you. I think we
13 did mention Alaska has an ongoing effort to identify
14 all the shipwrecks off the coast of Alaska for over 100
15 years and they are looking at how they can interpret
16 those, and so on, and there's going to be some
17 interdependence and interpretation on how you mark
18 them, how you allow access to them and all this type of
19 thing. And our friend from Indiana is in that area.

20 Yes, Bob?

21 MR. ZALES: In going over the "value" part of
22 this, in the past few years -- and I can't remember if

1 it was Subcommittee 2 or Subcommittee 3 that kind of
2 worked with that question -- we are going to ask Lauren
3 to kind of research some of that so we can see what is
4 in that, bring it more on the table.

5 The value, obviously, is not just dollars.
6 You are looking at values of the cooperative
7 enforcement and stuff like that and educational use
8 things and how the various MPA regulations for one are
9 a little different from another, to get outreach out,
10 to save us a little time, also.

11 MR. PETERSON: Thank you, Bob. In fact, one
12 of the bigger challenges we talked about is to put
13 together several MPAs in the region that are managed by
14 different organizations, how are you going to have some
15 level of consistency so that users will be able to use
16 the area without continuing to run into different
17 boundaries out there in the ocean that they don't maybe
18 understand. So that is even maybe a tougher question
19 than the "natural resource" question.

20 Yes, Daniel?

21 DR. SUMAN: Daniel Suman. I probably -- I
22 wasn't sure whether your Florida Keys example was more

1 of a traditional example of the regional planning and
2 the sanctuary; but also following on your last
3 statement, I think Florida Keys -- yes, South Florida
4 would be an excellent example of the last issue which
5 you mentioned -- three national parks, national
6 wildlife refuge, sanctuaries, state-protected areas as
7 well, and the overlap of all of these areas and all of
8 these management types in one geographical area.

9 MR. PETERSON: Yeah. In fact, that one
10 appealed to us because they have been through it and
11 they have had some years of experience. And in talking
12 to them, they were quite willing to say: "If we had to
13 do it over, we would do it this way. We have made some
14 mistakes. We did not envision this. We didn't quite
15 do our job of public involvement and enforcement the
16 way we should have." Yeah. Thanks.

17 Back over here to Tundi, Tundi Agardy.

18 DR. AGARDY: I just wanted to mention two
19 other examples that are not very well-known. Some of
20 them are in progress.

21 The Mediterranean Barcelona Convention led
22 process to identify sites for the SPAM, which is the

1 Specially Protected Areas of Mediterranean Ports. It
2 is very, very useful because they are experimenting
3 with both top-down and bottom-up approaches, very
4 high-tech approaches versus kind of delphic approaches
5 of getting experts together to identify sites. So,
6 that is an interesting one.

7 And the other one that I would look at is the
8 example of Tanzania, which is trying to develop a
9 National Network, actually an interconnecting network
10 of MPAs as opposed to a National System, looking at the
11 biological linkages between sites and they are trying
12 to do a gap analysis to see what is missing from the
13 working network.

14 MR. PETERSON: Can you give us something at
15 least on the Mediterranean one so we could write it up
16 a little bit?

17 DR. AGARDY: Yeah.

18 MR. PETERSON: Thank you. Jim Woods?

19 MR. WOODS: No. I'm sorry.

20 MR. PETERSON: Okay. Mark Hixon?

21 DR. HIXON: Thanks, Max. Another example just
22 dawned on me that would be very useful. Here in the

1 United States, on the Big Island of Hawaii there is
2 actually a designated network of marine fisheries areas
3 for the aquarium trade, which was very bottom-up in its
4 origin and has been very well-monitored statistically.
5 I think it's an excellent case study. Thanks.

6 MR. PETERSON: Thank you. Wally?

7 DR. PEREYRA: Wally Pereyra. I don't know
8 where this should fall; but I know through hard
9 experiences in life that one of the things that is very
10 important is to make certain that all of the
11 coordinates and so forth relating to these MPAs are
12 integrated into the mapping systems that various
13 companies put out, software and so forth, because most
14 of the boat users have gotten this software nowadays
15 and it really facilitates the recognition of where the
16 boundaries are and so forth, the additional information
17 that could be included in there as to all the various
18 parameters in the areas and operations within those
19 areas.

20 MR. PETERSON: Thank you, Wally. We agreed
21 yesterday that all kinds of people have UPS's and even
22 a few of them know how to use them. We hope that

1 changes.

2 DR. MURRAY: I just wanted to say again on
3 this case study and also on your item number 1 up
4 there, where government and stakeholders come together
5 in regional processes, I think you will hear a little
6 bit more about that tomorrow; but the California Marine
7 Life Protection Act effort has, of course, been ongoing
8 for quite some time and that is a very heavy
9 stakeholder-based process. There's a whole lot of
10 information being generated from the science side and
11 the social science side to assist stakeholders in
12 essentially identifying sites using different kinds of
13 modeling software, and so on, and so forth.

14 MR. PETERSON: That young man is Steve Murray
15 from Southern California.

16 DR. MURRAY: Sorry about that.

17 MR. PETERSON: Yeah, Charlie.

18 MR. WAHLE: Charlie Wahle from the MPA Center.
19 I think this is probably imbedded in your bullet "F -
20 What is the purpose and the reason of the process?"
21 But the one idea that seems to be emerging from some
22 processes that have been going on in the past few years

1 is the degree to which the driving mandate sets the
2 tone and maybe, ultimately, the outcome.

3 And what I mean by that is if you start the
4 effort with: "We will set up marine reserves in this
5 area and there will be five of them and they will cover
6 X in the area" or whether you start with the discussion
7 of "Do we have a problem that needs fixing and what are
8 the possible ways to fix it?" And those take you down
9 two very different pathways.

10 And some of these examples are examples of
11 those two extremes. I believe it would be good to keep
12 that in mind as we go through this.

13 MR. PETERSON: We did talk about it yesterday.
14 See, some people have a vision that the whole country
15 be covered by regions; but others think, well, maybe
16 that is one of these grandiose ideas and maybe we
17 should just look at building an area where we think
18 there is either a problem or a reason to have it there
19 or something, so we don't get too far downstream and
20 make too many commitments without funding, and so on,
21 have what we call a "paper MPA" without any management.

22 So, you are right. The question on how you

1 approach them is a basic question, yes.

2 Any other comments? Yeah, Bonnie.

3 VICE CHAIR McCAY: In my notes here, I had
4 taken down an earlier question that you had, and then I
5 put this one right next to it. So, I was looking at
6 the two together.

7 The first question was: "What value does an
8 integrated National System add to regional and national
9 ecosystem management efforts?" I think that was the
10 statement.

11 MR. PETERSON: Right.

12 VICE CHAIR McCAY: So, in looking at this, and
13 now we are looking at the examples, so presumably these
14 examples will help us answer that first question about
15 value or not?

16 MR. PETERSON: Well, our thought was if we
17 look at these regional approaches and we see some
18 synergism, we see some exchange of information and
19 monitoring, then that begins to say: "If you had a
20 National System, you could exchange information in a
21 broader basis."

22 And Bob wants to comment, too.

1 But we thought that unless the local people
2 feel there is some benefit to this thing, the whole
3 idea of a National System is not acceptable -- and
4 science is not immediately appealing to a lot of
5 people. It is a new start, it's a new commitment of
6 resources, and do we really need this thing?

7 And right now we can talk about it in theory,
8 but we don't have much in terms of actual facts. And
9 that was a problem.

10 VICE CHAIR McCAY: So, presumably, then,
11 looking at these cases, regional cases, will help
12 identify where a National System may be helpful.

13 MR. PETERSON: Of course, our bias is we think
14 we probably need a National System; but we need to have
15 some proof of that, an example.

16 Bob, do you want to attack this?

17 MR. ZALES: Yeah, Bob Zales, the Second. And
18 part of this, too, has to do with -- and I'm going to
19 use the State of Texas and I'm going to be real careful
20 how I do this.

21 MR. ZALES: In dealing with Texas like we
22 have -- they have protection of wildlife, et cetera --

1 they feel like they are the country and everybody else
2 should join in.

3 So, if you have a situation where Texas has
4 their own MPA systems, obviously the question would be:
5 "What value is it for us to be involved in the National
6 System?" "What do we get out of it?" "Because, you
7 know, we do everything the best anyway in Texas."

8 So, the thing there is, like I pointed out
9 earlier, like enforcement, you know, the outreach to
10 stakeholders and things like this -- which Texas
11 obviously is going to be spending time and money in
12 doing it.

13 But in being involved in a National System
14 that can be expanded and how likely these -- it is kind
15 of like these enforcement agreements the fishery
16 service has or NOAA has with various state enforcement
17 people. Maybe some things like this can be done, but
18 don't wear yourself out in doing this.

19 Because if they see a value in that -- and
20 that is where that "value" question kind of comes in
21 there, too -- and the others, like the stakeholders
22 themselves --

1 Obviously, one of the big problems with MPAs
2 that we have discussed over the past couple of years is
3 that people on the water -- and dealing with people on
4 the water as much as I do -- when you tell somebody "We
5 are going to do an MPA," the question is "Why?" And
6 immediately "MPA" is taken as "no fishing".

7 So, if you involve people from the bottom up
8 and you explain to them what the purpose is for, my
9 experience has been, more often than not, people accept
10 it and work with it -- rather than saying: "We are
11 just going to do this" for whatever reason and really
12 don't explain it to them or give them some reason that
13 is really not the real reason for doing it, like a
14 hidden agenda.

15 People, when it comes to government,
16 especially federal government, people tend to be very
17 leery of what federal government tells them.

18 MR. PETERSON: We are not assuming we are just
19 going to put that on the shelf entirely because we do
20 have some ideas right now -- as many of you do -- of
21 what the value of the National System would be; but we
22 felt that going this way would really give us some data

1 to work with.

2 VICE CHAIR McCAY: Let me follow-up then. It
3 seems to me, then, that this would be enhanced by
4 having clearly a question for the case studies about
5 that -- you know, "In these cases, where would a
6 National System help?"

7 MR. PETERSON: Okay. That's good. We ought
8 to add that as a question. Yes, I agree. We should
9 add: "What benefit would a regional or a national
10 system be to this?"

11 Okay. Thank you very much. Appreciate the
12 work of the Subcommittee and your questions. They are
13 all good.

14 CHAIRMAN BROMLEY: Thank you, Max.

15 Okay. We are ready for Subcommittee 2, whose
16 Charge is "Incentives and Implementation for an
17 Effective National System."

18 Yeah, Tony.

19 DR. CHATWIN: Do you want me to go up there?

20 CHAIRMAN BROMLEY: Are you going to have stuff
21 on the screen? I think that might be better.

22 (Dr. Chatwin approached the microphone.)

1 DR. CHATWIN: Good morning to everybody.
2 Thanks to Subcommittee 1 because they have taken over
3 our Charge.

4 No, no. That is in jest.

5 Our theme or topic of discussion was:
6 "Incentives and Implementation for an Effective
7 National System of MPAs," and then the Key Question
8 is --

9 Good way to start, huh?

10 (Microphone replaced.)

11 DR. CHATWIN: So the Key Question is: "How
12 can the National System of MPAs be used to add value to
13 the efforts of existing MPA sites, systems and programs
14 to conserve natural and cultural resources?"

15 So, there's a lot to rope around. It's a huge
16 topic.

17 In fact, we started our session and spent an
18 hour discussing incentives and implementation and it
19 became clear that we need to be clear about:

20 What is an "incentive"?

21 What is an incentive for?

22 What is a "benefit"?

1 What falls under "implementation"?

2 What we have agreed is that over the next
3 couple of days -- we are going to be talking in a lot
4 more detail about incentives this morning, and then
5 tomorrow about implementation, and come up with a work
6 plan of what we are going to do about them.

7 But I think we do have to think about how not
8 to duplicate efforts. I like what Committee 1 is doing
9 with the case studies. There's a lot of good
10 information to inform our discussion, so we want to
11 think about that.

12 We have the task of reviewing the questions
13 and addressing whether these were the right questions,
14 whether we were going to answer all the questions or
15 whether there were questions missing.

16 And, so, we decided the Key Question was a
17 good question to ask and that would be a major focus of
18 the work of the Subcommittee.

19 Then, when you go to the related questions,
20 the first related question was: "What are the short-
21 and long-term costs of implementing and operating the
22 National System?"

1 We had a discussion about it and the group
2 felt we could address this qualitatively, but that we
3 wouldn't have the information that would be needed or
4 the time or resources that we would need to do a
5 quantitative analysis on the cost.

6 And the next question was: "What steps can we
7 take to improve the linkages between and effectiveness
8 of existing MPAs to meet the goals of the National
9 System?"

10 We all agreed this is something we were going
11 to spend time discussing, what steps and efforts.

12 CHAIRMAN BROMLEY: I'm sorry. Did you say
13 that you were not going to?

14 DR. CHATWIN: We were going to.

15 Next one is: "How can we support the
16 development of an integrated approach to monitoring the
17 ecological and social effects of the MPAs in the
18 National System, working with ongoing local, regional
19 and programmatic monitoring and observing efforts?"

20 We felt -- We had a discussion and we think it
21 is important; but we did think that Subcommittee 3 was
22 going to be developing this regional approach to

1 monitoring and that what we would do is take whatever
2 they -- we would discuss how to implement what they
3 come up with.

4 So, I don't know if that is the case. We will
5 hear in the next presentation if that is indeed what we
6 are going to do. We all are operating on our beliefs
7 of what the evidence is going to be. But that is an
8 important component of "implementation", so we will be
9 approaching that matter.

10 "How do we evaluate the relative contribution
11 of existing MPAs and MPA programs to the goals of the
12 national system at a regional and national scale?"

13 We feel that there was quite a bit of overlap
14 between this question and the Key Question; and, so, we
15 are going to be talking about these issues. And it
16 became clear that we needed to think about the criteria
17 for -- what other criteria for inclusion in the
18 National System.

19 If we could see the Framework, that will shed
20 some light on this and we would then discuss whether we
21 need to be more inclusive or less inclusive.

22 We had an interesting discussion. I think we

1 are going to talk a lot more about this -- about, you
2 know, whether the National System should be just the
3 crown jewels or the crown with all the jewels. So that
4 is something else that we are going to be talking
5 about.

6 "Monetary and non-monetary incentives that
7 should be considered," this is something that there was
8 a lot of interest in the Committee. There seemed to be
9 a lot of support for talking about non-monetary
10 incentives and there was concern about talking about
11 monetary incentives, although recognition that they are
12 very important, because of the current budgetary
13 reality. But we are going to address both in the
14 Subcommittee.

15 And then other issues that came up. In the
16 Charge document under the title for our work, it says:
17 "Guidance for implementing the National System for
18 existing sites that meet the selection criteria." And
19 we felt that we should be thinking about incentives
20 more broadly, both for existing sites to be
21 incorporated and then incentives for future sites,
22 because under existing authorities they contemplate

1 creating new sites. So, we thought that should be
2 inclusive and we'd incorporate that, too.

3 So, we would ask for blessing to do so from
4 the Committee.

5 And that was it.

6 We used the full time allocated to us and just
7 wanted to address those three issues, whether these are
8 the right questions, whether we are going to address
9 them or not.

10 And I think we need to have a good discussion
11 about how we proceed from here, given that some of this
12 is being -- is going to be covered by Committee 1.

13 And I would invite anyone on the Subcommittee
14 to add if I left something out.

15 We have outlines of the sorts of things we
16 discussed on incentives and implementation that are
17 going to guide our discussions today and tomorrow; but
18 I didn't think it was necessary to bring it up because
19 it is very preliminary.

20 Anything from my fellow panel members? Tundi?

21 DR. AGARDY: Tundi Agardy. I would just like
22 to add that -- You mentioned that we talked about the

1 crown jewels versus the whole crown and all the jewels;
2 but it is a discussion that I think is best placed
3 before the whole Committee as to what the true vision
4 is in terms of what this thing looks like ultimately.

5 Is it all of the 1400 MPAs that exist
6 currently in the United States plus some future MPAs
7 that fill the gaps, if there are any gaps?

8 Or is it, you know, a marine national park
9 system equivalent with some of the best and brightest
10 marine areas that we have around?

11 So, that is a discussion that I think we ought
12 to have; but just so you know, we intend to talk about
13 incentives and disincentives at all levels. So, we are
14 kind of thinking through -- I don't think a "higher
15 oracle" is the right way to talk about it; but almost a
16 matrix of possibilities.

17 So, if we think about it in terms of a very
18 small but select group of MPAs in some regions that
19 would constitute the National System, these are the
20 kinds of incentives that would be available for site
21 managers to nominate their sites and so forth. Or if
22 it is a much grander thing with everything included,

1 everything including the kitchen sink, then these are
2 the kinds of incentives.

3 So, we intend to think about the whole
4 universe of options; but at some point I think the
5 Committee has to come to some consensus over what this
6 collective vision is and how it ultimately looks
7 because that is going to color our recommendations that
8 we give to both NOAA and DOI at the end.

9 DR. CHATWIN: Anyone else? Bob? Bob Bendick.

10 MR. BENDICK: Bob Bendick. I think that we
11 should not, in doing what you are doing, not have the
12 current financial or fiscal situation be like an
13 absolute, like "We have no money, so we can't do X and
14 Y."

15 You know, in the middle of the Civil War when
16 they created Yellow Stone National Park, if somebody
17 had said: "Well, we have this war going on. We have
18 no money. We can't have a national park system," that
19 wouldn't have been good. So, you know, that is
20 probably a really bad example.

21 CHAIRMAN BROMLEY: Other than being a few
22 years off in your history. Yellow Stone is 1872.

1 MR. BENDICK: Well, it is an even worse
2 example. Let me start over.

3 CHAIRMAN BROMLEY: I think the Civil War was a
4 little earlier.

5 MR. BENDICK: Not a good way to start the day.

6 CHAIRMAN BROMLEY: We will give you some time
7 to recover, Bob.

8 MR. BENDICK: Anyway, the kinds of incentives
9 would be good without limiting it to the amount of
10 money available today because that would constrain the
11 thinking of what would really work over time. Thanks.

12 CHAIRMAN BROMLEY: Yes. Sorry I was piling on
13 you, Bob. I should be quiet now.

14 But I do agree with your basic point; and that
15 is, about funding. It seems to me -- I would hope that
16 this group would keep track of the idea -- that the
17 States have more money than the Feds do. Okay?

18 We keep talking about how broke the Feds are
19 and how there is no money; but the States,
20 surprisingly, are in better fiscal shape than the
21 Federal Government is in many instances and the coast
22 is sort of theirs. And, so, I would hope that you, as

1 you do your work here, you think of that connection as
2 kind of a National/Federal story.

3 DR. CHATWIN: Max?

4 MR. PETERSON: Just an added history lesson,
5 the National Park System was not created until 1960 --
6 National Park System.

7 CHAIRMAN BROMLEY: As a system. Yellow Stone
8 was 1872.

9 MR. PETERSON: There were all kinds of parks
10 created earlier.

11 So, one of the real questions -- I think you
12 have hit the nail on the head -- is, in looking at this
13 whole value and incentives, I think the extent to which
14 the region or local managers figure being a part of the
15 system is to their advantage.

16 However you spell "advantage" is going to be
17 critical, because I don't -- our whole concept so far
18 has been that this is going to be a voluntary system.
19 It's not going to be a federalized system -- at least
20 at this point. It may never be.

21 So, I think your emphasis on incentives and
22 synergism and all kinds of things that make this thing

1 work is important.

2 Let me say one other thing. There are three
3 major National Systems in place today -- the National
4 Parks System, the National Forest System, the National
5 River System and the National Trail System. Most of
6 the people don't consider being part of the National
7 System as any big deal except meeting once in awhile
8 and talking about standards and lessons learned and so
9 on. Ninety percent of the time they are operating on a
10 local or a regional basis with potentially some
11 technical or financial assistance.

12 So, I, personally, think we need to be careful
13 that we don't overemphasize the idea that if you are
14 part of the National System, somehow that is a bonanza
15 from heaven. I'm not sure that is realistic. Thank
16 you.

17 DR. CHATWIN: Anyone else?

18 (No audible response.)

19 DR. CHATWIN: All right. Thank you very much.

20 CHAIRMAN BROMLEY: Thank you, Tony.

21 Group 3, Steve Murray?

22 DR. MURRAY: We, at group 3, I think had a

1 real good discussion that focused largely on the
2 questions in the Charge. I think we made some good
3 progress and I think we have a number of things that we
4 are going to be working on today to really focus more
5 finely our effort particularly around the "Related
6 Questions" section that came with the Charge.

7 So I'm speaking here as the Chair of this
8 group along with Ellen Goethel. Ellen will say a few
9 words in a moment and kind of walk through some of the
10 things that we went over.

11 First, we had a discussion about how whatever
12 we do can make the largest impact in terms of how we
13 spend our time. If you look at the Charge and the
14 questions that are provided for us -- and you can go to
15 your Charge and look at the bullets on that -- I think
16 you can see that the first step is basically two
17 pieces:

18 What about the design implementation of a
19 National System?

20 The second piece is: How about managing,
21 monitoring and evaluating the National System?

22 So there's two pieces there. And the "Related

1 Questions" are going to fall out in terms of how they
2 address either the first piece or the second piece,
3 either the design and implementation or the adaptive
4 management, long-term adaptive management relating to
5 monitoring, managing, evaluating.

6 Second consideration that we made was that we
7 need to realize that we are working with limited
8 resources. And I think this has some bearing because
9 when we started out a couple of years ago, one of the
10 considerations that we had before us was the ability to
11 bring in or to interact with outside experts. And when
12 we get into some of these issues that we are seeing
13 here, probably bringing in some outside experts would
14 be very valuable for us, to form sub-groups with other
15 people who have expertise and who are actively engaged
16 in some of these issues.

17 So, I think we decided clearly that, given the
18 limitation of resources, that we are going to be
19 functioning as synthesizers of the available
20 information and we are not going to be able to easily
21 enjoin others to help us out with this effort -- other
22 experts.

1 Okay. Let's go to the next one, please.

2 (Referencing slide presentation.)

3 So we made several decisions. The first is
4 that we asked ourselves: "What kind of products should
5 we produce for our efforts?"

6 And, of course, we had a dichotomy here
7 between working on a long lengthy-type of report or
8 essentially tackling in a focused way issues. And we
9 decided on the latter.

10 So, we are looking at our Subcommittee coming
11 forward with small targeted reports as our products.
12 We envision these to be short and to the point.

13 Second, we had some discussion about what our
14 audience should be. "Who are we writing these reports
15 to?"

16 Again, this comes back to the issue of "What
17 kind of impact are we looking to have?"

18 Obviously, this Committee is essentially
19 moving its findings on over -- its recommendations on
20 over to the DOC, the Secretary's agencies, but we also
21 thought that we should be producing reports now that
22 have the ability to reach also the politicals and the

1 broader public.

2 We had some discussion about whether the same
3 report could serve both purposes or whether we might
4 want to be looking at a different version of a report
5 for a different faction. I'm sure we are going to be
6 discussing that as time goes forward.

7 We did decide on what our priority assignment
8 should be and we believe that there is a Key Question
9 that we can make an impact and a contribution towards
10 answering; and that is, this relationship between
11 marine protected areas and ecosystem-based management.

12 We began the process of identifying what we
13 should be putting into our thinking as we began to
14 address this relationship. And the first is that, as
15 called out in the Charge, the issue of finding areas
16 where there are synergies with regard to the
17 information needs between ecosystem-based management
18 processes that might go on and between the information
19 needs that would be there for us to move forward in
20 building a National System.

21 We think that our report and what we produce
22 should be able to clearly articulate the connection

1 between MPAs and ecosystem-based management. So, one
2 of our challenges as we move forward in our report will
3 be to attempt to achieve that objective.

4 We also believe that we do not want to see a
5 separate item between natural sciences and social
6 sciences as we address this connection. Our challenge
7 will be to integrate natural and social sciences and
8 particularly the human dimension as we develop this
9 articulated connection between MPAs and ecosystem-based
10 management.

11 We also know that different regions have
12 different takes and perspectives, so the third
13 challenge will be to give due consideration to
14 regionality as we develop this document.

15 And, lastly, we hope to be able to contribute
16 towards answering the last question up there, which is:
17 "How will a National System advance ecosystem-based
18 management?"

19 So, this is where we went with our discussions
20 yesterday and we will be working on it.

21 Next one, please.

22 Okay. So we actually had, I think, some

1 really spirited and I think intellectually satisfying
2 discussions as they went yesterday, which is nice to
3 see before a group like this -- at least I felt that
4 way -- and that had to do with looking at these
5 Related Questions.

6 And like Group 1, I think, you know, in some
7 ways we wanted to rewrite all those. In fact, I think
8 we made some comments that maybe it would be good to
9 put them aside and generating our own, spinning our own
10 up.

11 But, nevertheless, if you look at the Charge
12 and you look at the Related Questions -- and I didn't
13 produce those for you because you couldn't read them up
14 here anyway, but you can in a document in front of
15 you -- I think those Related Questions fall into two
16 categories.

17 Bullets 1, 2 and 3 are all about information
18 needs, methods, tools, which you might use in designing
19 and evaluation. In many ways, that information is
20 being generated as we sit here in various kinds of
21 processes and efforts that are going on, actual MPA
22 efforts such as the NLPA in California, but also we

1 have science colleagues who are out there who are
2 writing papers about designs, methods, approaches, and
3 the literature is beginning to grow in that area.

4 So, if we tackle bullets 1, 2 and 3, what we
5 would be doing would be accumulating and rephrasing and
6 organizing whatever is existing, and whatever is
7 existing is going to be changing as we go.

8 Now, bullets 4, 5 and 6 actually are a little
9 more loaded with particular concepts that present
10 challenges not only to members of the science
11 community, but also to members of the management
12 community in terms of how you would actually look at
13 and interpret words like "resilience", "vulnerability",
14 "recovery" and, of course, "people use" and "values".

15 So we had some nice discussions about this
16 and, again, if we are going to try to make the largest
17 impact with our time and effort, I think the tail end
18 of our discussions are pushing us towards trying to
19 tackle some of the bullets 4, 5 and 6 ideas. I don't
20 know that this is going to be easy because there's a
21 lot of ecological literature, for example, that
22 surrounds "resilience", a term like "resilience" -- How

1 do you measure it? How do you parameterize it? How do
2 you incorporate it into a concept of ecosystem
3 structure and functioning and so on? And terms like
4 "vulnerability" and "recovery" have many of the same
5 kinds of issues associated with them.

6 So, what we hope to do today is to clarify
7 where we are going to be going on these other topics, I
8 think prioritize our time line for addressing the
9 various questions -- that is, developing a work plan --
10 talking about, I think, some assignments and attempting
11 to get things in order so that we have a work scope
12 sorted out.

13 And with that, I would like to turn it over to
14 Ellen and ask Ellen if she has anything she would like
15 to add.

16 Now, Ellen is one of our new members and one
17 of the things that happened is Ellen came right in and
18 made some really great remarks right from the
19 beginning, very contributory. She looked the other way
20 and the next thing she knew, somebody had her in there
21 as a Co-Chairman. So, Ellen welcome aboard.

22 MS. GOETHEL: This is from the frying pan into

1 the fire. Steve did a really nice job.

2 And, yeah, I did. I looked the other way. I
3 just sat for the rest of the committee meeting going:
4 "Did that just happen?"

5 I think a lot of the discussion we had
6 yesterday dealt with how we are going to try to
7 integrate the social, cultural and natural sciences
8 into the data that we have and the scientific and the
9 social science data. And I think that is going to be a
10 major part of our final document is how those things
11 need to be integrated together into the final document.

12 DR. MURRAY: Anybody from the Subcommittee
13 like to comment? Bonnie?

14 VICE CHAIR McCAY: Bonnie McCay. Yeah, it was
15 a great discussion and you summarized it really well.

16 I want to point out that "integration" is a
17 major issue for us. And the concepts of "resilience"
18 and "vulnerability" as they have evolved in the last
19 decade or so actually have been the focus of a great
20 deal of integrated work.

21 So, although they have all of their charge and
22 they pose all kinds of problems, they really have

1 proved to be a way that social scientists and natural
2 and unnatural scientists can work together.

3 DR. MURRAY: For the rest of our Subcommittee
4 members, it sounds to me like we have our leader for
5 working on that particular part of the effort.

6 VICE CHAIR McCAY: No.

7 CHAIRMAN BROMLEY: Everybody hear that? Did
8 everybody hear that the same way I heard that?

9 I think when we get into our session this
10 afternoon, we will have some more additional
11 discussions.

12 Mark tells me he had an epiphany last night,
13 so that will leave us in a good place.

14 DR. HIXON: I had what? I had an epiphany?

15 DR. MURRAY: It is okay.

16 VICE CHAIR McCAY: He has amnesia over there.

17 DR. HIXON: I'm sorry. I didn't hear what you
18 said.

19 CHAIRMAN BROMLEY: Unnatural science.

20 DR. MURRAY: So, any other questions. Tony?

21 DR. CHATWIN: Steve, I'm sure you are covering
22 it; but, you know, we made the assumption in

1 Subcommittee 2 that you guys were going to be
2 developing a monitoring system. Is that within those
3 methods and tools?

4 DR. MURRAY: That we would be developing a
5 monitoring system?

6 DR. CHATWIN: Maybe the question should be
7 framed as: What are you guys going to be discussing in
8 terms of monitoring?

9 DR. MURRAY: I don't know that we have decided
10 what we are going to be discussing in the way of
11 monitoring. I think we are going to have to sort again
12 what we are going to do and not going to do.

13 And I would say -- I will just throw this
14 out -- but I would say that from the standpoint of the
15 Committee, I would say that contributing to how
16 monitoring might go would be a lower priority than in
17 tackling the issues of vulnerability, resilience,
18 recovery, and how to articulate that.

19 Would anyone else like to comment on that?

20 DR. OGDEN: Yeah. I think one of the problems
21 with being involved in a couple of these efforts is
22 that we define -- we plan for protection or MPAs, we

1 implement various strategies, we monitor; but we
2 actually do not, because we haven't clearly articulated
3 where it is we are trying to get to, we don't know
4 whether we are making progress.

5 So, I have heard Tundi say many, many times
6 that, you know: "When you do this kind of activity,
7 you have to have some kind of goal in mind." Is it
8 reversal of the decline in fishes, for example, or
9 recovery of the coral benthos or whatever it might be.

10 So, I think one of the things, I think rather
11 than the sort of techy aspects of monitoring which
12 everybody can trod along endlessly about, is really
13 "What is the goal" and "How do we know when we reverse
14 a trend because of some action we have implemented?"
15 And I think that is where these various terms -- where
16 people are sort of striving to try to come to grips
17 with this.

18 We are very good at planning. We are not very
19 good at really implementing the plans and knowing when
20 we are on the right track.

21 That is all I have.

22 DR. MURRAY: I think Wally has his hand up.

1 DR. PEREYRA: As a follow-up with John's
2 statement, I think this is a very important issue
3 because trying to understand the possible benefits that
4 might flow from the MPA or any management measure or
5 whether it is due to some other factors that you have
6 not even considered or you might consider, but have no
7 way of measuring, can have a much more profound effect
8 and be influencing the way in which you view the
9 results of this particular action which was taken.

10 And I don't have a ready answer as to how one
11 goes about that; but I think it is very important, a
12 very important issue in looking at the efficacy of some
13 of these measures and trying to improve upon them in
14 the future, trying to integrate them with other
15 measures that are being taken to deal with the whole
16 issue of ecosystem-based management, which is kind of
17 the overall process that one is involved in.

18 I don't know if your Committee is going to
19 look at how those linkages might be best dealt with in
20 evaluating, prioritizing, and so forth.

21 DR. MURRAY: Any other questions? Jim?

22 MR. WOODS: I just wanted to point out -- make

1 a quick statement. Tony kind of sparked this. I think
2 sound science is very important in the decisions that
3 we need to make; but if we don't measure, we don't
4 know.

5 DR. MURRAY: Tundi?

6 DR. AGARDY: No offense to Subcommittee 2; but
7 I want to be on Subcommittee 3. You guys are having
8 the intellectually challenging discussions you've
9 talked about and it sounds like great fun. Anyway, I
10 wondered if --

11 DR. OGDEN: I object.

12 DR. MURRAY: "Intellectually challenged" or
13 "challenging"?

14 DR. AGARDY: No, I think it is "challenging".
15 I wondered if you were going to talk about
16 thresholds. It is kind of implicit in what you list in
17 "resilience" or "vulnerability".

18 But just based on the experience with the
19 Millennium Ecosystem Assessment, where we tried to
20 grapple with these questions of "How do you separate
21 management intervention effects from other things that
22 are going on" and "How do you deal with not really

1 knowing what the common vision is for what the ultimate
2 outcome is," "Do you want to go back to a pristine
3 state devoid of human beings or do you want to achieve
4 some kind of sustainable" -- you know.

5 So, but in that particular exercise involving
6 thousands of researchers, the one thing that people
7 understood as a kind of common objective in terms of
8 the analysis was to try to identify thresholds and the
9 points of no return and how you could actually design
10 your monitoring to determine whether you are
11 approaching a threshold.

12 And I think in marine sciences that is
13 something that is being written about quite a bit right
14 now. So, if it is implicit, that is great.

15 DR. MURRAY: Good point. And I think as we
16 develop our discussions, we are clearly going to get
17 there.

18 DR. HEINEMANN: Dennis Heinemann. I want to
19 pick up on something that John Ogden had said. I think
20 that something that is missing from many of the
21 formulations of ecosystem-based management is a goal
22 other than the various simplistic goal of "Let's just

1 try to consider everything so we can do a better job of
2 managing." And I wondered about what your vision of
3 the EBM was when you were thinking about "Where do MPAs
4 fit in EBM?"

5 The reason I ask that is that it's been my
6 experience, if you were to go to a conference, a
7 scientific conference, and then went to a fishery
8 council and listened to discussion of EBM and how it
9 could be used in fishery management, and then if you
10 went to D.C. and listened to a bunch of federal policy
11 people talk about EBM, you would think they were
12 talking about three different things, these groups.
13 And Khaki told us yesterday that the States would not
14 have a clue as to how any of those three would apply to
15 their needs in the States.

16 So, I'm wondering, the EBM that MPAs have to
17 fit into that you are going to be looking at, which one
18 is it or is it going to be some synthesis?

19 DR. MURRAY: Well, I think you should come and
20 join Subcommittee 3 because I think that is exactly one
21 of the main challenges that we have. I think that we
22 need to point out and articulate the connection; and to

1 do that, we are going to have to look at the different
2 views that may exist out there with regard to EBM.

3 I think this is what this is, in part, all
4 about -- Do you guys agree with that -- to put into a
5 document an articulation of EBMs and MPAs and there are
6 going to be some different slants and takes on it. I
7 think what you said is right on target.

8 DR. CHATWIN: For a follow-up, this is a
9 question of clarification to you or John. Is
10 Subcommittee 3 going to be tackling the issue of goals,
11 refining goals for the National System?

12 DR. MURRAY: Well, go ahead, Mark.

13 DR. HIXON: Mark Hixon. Yes. To elaborate,
14 Tony, I think a very important role of both natural and
15 social science in this committee is going to be to come
16 up with specific performance indicators underlying
17 specific concepts that are articulating goals.

18 So, for example, the issue of the resilience,
19 for example, sort of a thorny problem, one is going to
20 have to decide what is the specific state of the system
21 that one wants to head towards -- and there's a whole
22 gamut there. But those kinds of issues have to be

1 clarified before one can then implement a monitoring
2 design to test effectiveness.

3 Getting back to monitoring, the statistics and
4 design of monitoring are very well established. What
5 is not particularly well-established is "What are the
6 specific national goals and how do we measure whether
7 we are approaching these goals or not." I think that
8 is where this Subcommittee can do some fairly new work
9 that has not been clearly articulated in the literature
10 already.

11 DR. MURRAY: I think also in Khaki's talk
12 yesterday, one of the points I pulled from it was the
13 States sort of issue of performance standards, what
14 would they be, and that gets back to this as well.

15 DR. CHATWIN: Cool.

16 DR. HIXON: Cool.

17 DR. MURRAY: Anything else?

18 (No audible response.)

19 CHAIRMAN BROMLEY: Okay. Thank you.

20 At 9:30, we will go into our subcommittee
21 meetings. I see that there's a couple of people who
22 would like to join Subcommittee 3.

1 Unfortunately, they have the smallest room and
2 they have about as many chairs as they have people.
3 So, they would be happy to take on more, but they don't
4 have room for you. So, I'm afraid you are stuck with
5 where you are. And if you are envious of their
6 innovative approach, make sure your own group comes up
7 with something really innovative.

8 Let me try to summarize some things. I would
9 hope that all groups give some thought to work products
10 and timing. One of them, I believe it was the third
11 one, was very explicit about how they had thought about
12 their work products. I don't mean that the other two
13 haven't thought about it, but I don't think I heard
14 very much about it.

15 So, as we go forward, I think it is very
16 important for you, when you come back to us the next
17 time, to give us a sense as to what work products you
18 envision, what audiences you think they speak to and a
19 time line. That would be very nice.

20 I would also ask the three groups to report
21 back to us with ideas about speakers and panels at our
22 future meetings. One of the frustrations that we have

1 is that we don't have money for very much in the way
2 of -- well, no extra meetings. We don't have money to
3 bring in a large realm of experts.

4 But our regular FAC meetings do have panels.
5 We have speakers come in. And, so, one of the things
6 that would help us would be for the three subcommittees
7 to identify themes or panels in your own areas.

8 So, don't forget that. That is a nice way to
9 double up on our regular meetings with that kind of
10 sort of outside help.

11 What else? Any other comments you might want
12 to throw in the hopper here? Yes, John Ogden.

13 DR. OGDEN: Don Garza used to say to me: "You
14 are a man, so go ahead and say it three times."

15 And I think you remember that, Lauren, in one
16 of our subcommittee meetings.

17 Anyway, I said this once yesterday and the
18 subcommittee would have heard it; but I had an
19 epiphany. At Pelican Island, the first National
20 Wildlife Refuge in the country, the other day I was
21 walking up a boardwalk to an observation point where
22 the dates of each of the implementation of the National

1 System of Wildlife Refuges was noted over 100 years --
2 and that is a "system". That is as much of a system as
3 we've got in our sum of MMAs.

4 And it occurs to me that the secret of that
5 wonderful system, which is a significant percentage of
6 the U.S. land area and some 500-odd or close to 500-odd
7 units, was established in a remarkable cooperation
8 between people whose interest were the environment,
9 preservation and conservation and people whose interest
10 were using those resources in an intelligent and
11 managed way.

12 And, you know, it strikes me that somehow -- I
13 think it is not our Committee's fault -- that as a
14 society we have gotten off on this wrong foot. And I
15 think we ought to be able to recover it.

16 And it is worth thinking, just keeping in the
17 back of your mind, that we have the people on this
18 Committee and the points of view that could recover
19 this and sort of turn this around -- because it is not
20 getting any better. So, enough said.

21 CHAIRMAN BROMLEY: That's fine. We have a
22 sign-up sheet over here for people who have epiphanies.

1 We have checked Mark and John. That leaves at
2 least 22 others that have not come forward.

3 The window closes at 5:00 o'clock tomorrow.
4 So, those of you that are epiphanous, please let us
5 know.

6 Did you have one or two epiphanies?

7 MR. BOWMAN: Neither. Just I wanted to
8 follow-up that the next meeting is scheduled for Oregon
9 or Portland or the Coast. Portland is where the Fish &
10 Wildlife Service's Regional Office is located. This
11 might be a good opportunity to bring those folks in,
12 maybe some other folks from that part of the country,
13 to offer how they have established their refuges and
14 interview them on their interaction on the coast and
15 with the States and tribes and all that.

16 CHAIRMAN BROMLEY: Good. Thank you.

17 MR. BOWMAN: I'd really like to see that
18 happen.

19 CHAIRMAN BROMLEY: Yeah. We have had some
20 preliminary conversations with our Oregon
21 representatives and some ideas are being floated
22 around; but I think the most pertinent idea is that if

1 we go to Oregon, we dare not be in Portland. We better
2 do it within about 100 meters of the water. Portland
3 is close to the water, but it's the wrong salt for the
4 city contents.

5 So, you are right. That is wonderful. But
6 our thinking is we need to do it at the coast for what
7 those themes are.

8 Yes, Max.

9 MR. PETERSON: Two comments. One, we have
10 some members of our Committee who could probably make
11 some good presentations. I was thinking about Mark
12 Hixon, who has done a lot of looking at literature on
13 MPAs, do a presentation on what is happening on the
14 evolution and the science of MPAs. And there are other
15 members, too.

16 Second, just to fill in a little bit on the
17 Wild Refuge System, it actually has had quite a stormy
18 history. It was not actually a National Wildlife
19 Refuge System until 1997. There were refuges before
20 that, but the whole system was not a matter of Federal
21 Law until 1997.

22 And to the great credit of the Fish & Wildlife

1 Service, it turned out that the ability of individual
2 refuge managers to reach out to people around the
3 refuge is what made the difference. It was not the
4 political creation of the system, but it was the good
5 work of a lot of refuge managers who saw that having
6 people use the refuge was critical to the future
7 success.

8 MR. BOWMAN: Well, actually, the system was
9 created in '66, the refuges' proper standards for
10 management, and it was expanded and it was much more
11 extensive and federally-funded in '97.

12 MR. PETERSON: The 1966 version was before
13 that, yes. But, anyway, there was no "system" for a
14 long, long time.

15 DR. OGDEN: A system in name or a system in
16 fact, you know, is as much of a system as a bunch of
17 MMAs are in the Inventory. Anyway, that -- (Threw
18 hands up.)

19 MR. PETERSON: Just historical. Historical.

20 DR. OGDEN: I know. I get one more time,
21 though, Max.

22 CHAIRMAN BROMLEY: Good. Okay. Thank you.

1 All right. Just kind of looking ahead a
2 little bit, subcommittees have now until noon. We will
3 meet again this afternoon from 3:15 until 5:00, and
4 then tomorrow morning at -- I'm sorry -- tomorrow
5 afternoon at 1:15, and then you report back at 3:00.

6 So, we have three opportunities now for the
7 groups to focus in, tie down a bit what they plan to
8 do, and get ready to report to us tomorrow afternoon.

9 So, yes, Tony, do you have an epiphany?

10 DR. CHATWIN: No, not really. There's a lot
11 of overlap between the work of Subcommittee 1 and 2.
12 Are there any suggestions from the Committee as a whole
13 on how we should proceed so we don't duplicate efforts?
14 I mean it could be as simple as getting together with
15 the Co-Chairs of the other Subcommittee.

16 CHAIRMAN BROMLEY: Let me propose the
17 following: This first period right here, between now
18 and noon, that each of you -- you can do it however you
19 wish -- but each of you might try to pin down those
20 areas of connectivity -- I won't say "overlap" --
21 connectivity and get those specified in your own mind,
22 and then use the time this afternoon to figure out how

1 you want to interact with the others.

2 But I guess I would start by making sure you
3 have these articulations clearly specified in your own
4 mind. And if you would like, maybe we could squeeze in
5 some time before the Subcommittees meet this afternoon
6 for a brief expression from all three of you about
7 where you believe those connections are.

8 That is just a thought -- okay -- if you wish
9 to do it that way. I will leave that up to you.

10 Any other comments?

11 (Dr. Bromley conferred with Ms. Lauren
12 Wenzel.)

13 CHAIRMAN BROMLEY: For Subcommittee 3, I think
14 now you have been moved from the room you were in
15 yesterday to the Duval Room. Am I saying that right?
16 Duval? Is that okay? Duval on the third floor.

17 You know, I had an epiphany. I was thinking
18 about my epiphany. I flew to San Antonio and drove
19 down the other day and I passed all these signs "Don't
20 mess with Texas" along the side of the road and I
21 thought that, "Yeah, that's the way Texans are."

22 And then I saw another one, "Drive clean

1 across Texas," and I thought: "Right, I always knew
2 they didn't know the English language."

3 And then this morning it finally hit me that
4 these are very clever anti-littering signs and I
5 thought: "Boy, the Texans are okay."

6 You know, "Don't mess with Texas" and "Drive
7 clean across Texas," isn't that wonderful? So, Duval
8 Room for Group 3. Okay?

9 And then you go to lunch and we will see you
10 back here at 1:00 o'clock. The program has changed.
11 We were going to have a brief little thing about energy
12 that was not able to be organized, so at 1:00 o'clock
13 we are going to start back here with the panel.

14 (Proceedings continued as specified above, but
15 were not reported, from 9:30 a.m. - 1:07 p.m.)

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A F T E R N O O N S E S S I O N

1
2 CHAIRMAN BROMLEY: Let me introduce our
3 guests: Dr. John Tunnel from the Harte Research
4 Institute and G. P. Schmahl, Sanctuary Manager from the
5 Flower Garden Banks National Marine Sanctuary.

6 Dr. Tunnel, do you want to go first?

7 DR. TUNNELL: M'hmm. (Nodded.)

8 CHAIRMAN BROMLEY: Okay. It is all yours.
9 Thank you so much for being here. We are honored and
10 happy to have you.

11 DR. TUNNELL: Thank you. It is a pleasure to
12 be here.

13 I would like to give you a
14 regional-international example, not just a regional
15 one, and encourage you to consider the international
16 aspect. And as I go through this, you will see why I'm
17 saying that.

18 I'm going to present a little bit to you about
19 the Harte Research Institute, which is a new mechanism
20 that we have for making this happen for the Gulf of
21 Mexico and a little bit of characteristics about the
22 Gulf of Mexico and how it would fit into kind of a

1 Marine Protected Areas network including the U.S.,
2 Mexico and Cuba. And I will mention a couple of my
3 colleagues that are along, also, as we go through this.

4 We are at Texas A & M University - Corpus
5 Christi, which is about seven miles down the same
6 street out in front of the hotel here on an island to
7 the east of here. We have about 8500 students there.

8 We had this wonderful gift, endowment to the
9 University, in September of 2000, a \$46 million dollar
10 gift, to establish the new Harte Research Institute for
11 the Gulf of Mexico studies.

12 We basically had a blank white sheet of paper
13 to make this design. Our President of the University
14 at that time and Mr. Ed Harte, who made the gift,
15 decided they wanted six endowed chairs within the
16 institute, 12 endowed graduate research assistantships
17 and an endowed operating budget.

18 My friends who are in marine labs usually
19 drool at that last one because nobody has ever heard of
20 an endowed operating budget.

21 Then he said: "Make a difference." And that
22 is what comes out of our motto -- to make a difference

1 in trying to take care of the Gulf of Mexico.

2 So, let me tell you a little bit about it.
3 When the gift was given to us, the University had been
4 growing so rapidly that we didn't have space to put the
5 Institute. So, our President at that time, who is now
6 Director of the Institute, went to the Texas
7 Legislature and told them that we needed a place to put
8 them. So, he got \$18 million from the Texas
9 Legislature to build the building, kind of the artist
10 rendering that you see here, an outside and inside
11 view, plus \$300,000 a year extra in developing the
12 Institute. And we started that in 2001.

13 The leadership for the team is Bob Furgason,
14 who was the President at that time and is now Director
15 of the Institute, Sylvia Earle, who most of you know,
16 doesn't need introduction, and myself. We put together
17 a stellar Advisory Council during that first year and
18 it has continued to grow. It had maybe 10 or 12 people
19 on it to start with and it is a cross-section of
20 academia, industry, conservation and agencies.

21 So, it has quite an array of people on it from
22 all three countries surrounding the Gulf of Mexico.

1 And you can see some strong leaders there, the C.E.O.
2 with Kerr McGee. The Mexican man there, Clariond, is
3 the C.E.O. and Chairman of the largest industry within
4 Mexico. It's also all throughout South America. So,
5 some very good leaders on our Advisory Council.

6 You even see one of your members here, driving
7 a sports car there, John Ogden. John was one of our
8 founding members to the Advisory Council.

9 Well, let me back up to that one just a
10 moment. Also down there on the bottom, in the picture,
11 anyway, is former Admiral of the Mexican Navy, has his
12 Ph.D. in Physical Oceanography from Texas A & M in
13 College Station, so a good connection for us.

14 The man in the upper right is the Director of
15 the National Aquarium of Cuba, so we have strong
16 connections there.

17 We have had Advisory Council meetings in all
18 three countries, even in Havana, as you can see there
19 in 2002.

20 We developed the Mission after about a
21 year-and-a-half or so of work, as you see here: "A
22 Research Institute of Excellence to support and advance

1 long-term sustainable use and conservation of the Gulf
2 of Mexico."

3 Most research institutes won't show you a
4 Mission like that, so it is somewhat different in that.

5 Some of our main characteristics, obviously,
6 as a research institute, we will generate and
7 disseminate knowledge; but we strongly will be pushing
8 this tri-national responsibility for understanding and
9 managing the Gulf of Mexico with all three countries
10 involved. And then as Max Peterson pushed the other
11 day, yesterday, with Khaki asking about collaboration,
12 that is one of our key issues -- cooperation and
13 collaboration with varied partners in all three
14 countries.

15 We started several different programs early on
16 in 2001 so that we wouldn't wait until we opened the
17 doors of the building and moved in, which we did this
18 last October. And I will tell you just a little bit
19 about some of these, but not all, because of the time
20 constraints.

21 GulfBase I will show you in just a moment. We
22 have had exploration in various areas in the Gulf. We

1 have ongoing projects in Cuba, on the north coast of
2 Cuba that faces the Gulf of Mexico. We have been to
3 the Vera Cruz Reefs.

4 The biodiversity of the Gulf is one of our
5 major projects, one of the first times in the world
6 that a large marine ecosystem has had an inventory of
7 the whole system.

8 Bulletin 89 I will show you in just a moment,
9 also.

10 Many of you have already heard mention of the
11 Gulf of Mexico Summit that we just had here in Corpus
12 Christi a few weeks ago.

13 And the Gulf of Mexico Alliance was actually,
14 early on, our idea in 2001; but we were happy to give
15 it to the State of Florida that Governor Bush came up
16 with and spread it around -- so, having an impact in
17 that sense.

18 GulfBase is one of the things that has
19 connected us around the Gulf of Mexico. It is a
20 research database. You can see the web site there at
21 the bottom. I'd encourage you to go to it if you are
22 not aware of it. It has over 1,500 researchers and

1 other people working in the Gulf, over 400
2 institutions, and it's searchable and sortable for all
3 the different kinds of people that are working there in
4 all three countries.

5 This "Bulletin 89", as we fondly refer to it,
6 is a publication in 1954 by the U.S. Fish and Wildlife
7 Service on the Gulf of Mexico. We decided that with
8 our new institute and the beginning of a new century
9 and millennium that it would be a good thing to update
10 that. It has gone from one volume to five, as you see
11 here, actually six if you count the split-out. At the
12 Summit, we actually added a sixth on the Economics of
13 the Gulf of Mexico. So this will be quite a series
14 once they are out. They are in various stages of
15 development now.

16 We will have the six chairs that I mentioned
17 earlier. We are planning to hire two of those last
18 year, two this year and two next year. You can read
19 those. I won't go through it with you.

20 The Marine Policy & Law and Biodiversity, the
21 first two we hired, these two gentlemen are actually
22 here with us. Dr. Richard McLaughlin is our Policy &

1 Law up there, and Dr. Tom Shirley is in Biodiversity
2 and Conservation Science out at the Institute with us.

3 So, once we get everybody on board by next
4 year sometime, it will still take us a few years to get
5 everything up and running; but this little presentation
6 will give you kind of an idea of where we hope to go
7 with the institute.

8 The Gulf of Mexico, many of you are aware of
9 it, it is a regional sea, Mediterranean-type basin with
10 the three countries around it; very wide continental
11 shelves in the east off Florida and off the Yucatan,
12 but fairly narrow ones in the west.

13 Major drainages from four different countries
14 into the area. Of course, the Mississippi dominates
15 that; but the Luca Macinta down in Mexico from
16 Guatemala is very large, also. The Loop Current is the
17 main current system. Biologically it is tempered in
18 the north and tropical in the south.

19 Major resources in the Gulf that many people
20 have not paid too much attention to in the past -- and
21 this is one thing we hope the Harte Institute will do
22 also -- is to elevate the knowledge about the Gulf of

1 Mexico and kind of put it on the radar screen of the
2 U.S.

3 Some people have called it the "Third Coast"
4 for many years. And many people are unaware, for
5 instance, that the oil and gas revenues and leases
6 there are second only to the income tax in the United
7 States for revenues to the United States.

8 So, there's a huge amount of value in the Gulf
9 of Mexico -- not to say there are not problems. We
10 hear those addressed around the world in the oceans
11 today and many of the things that we are having
12 problems with elsewhere are found in the Gulf of
13 Mexico, also.

14 The habitats -- this slide shows you why we
15 need to work internationally. The fish and the
16 habitats that do not show political boundaries that are
17 connected and that connectivity tells us that we need
18 to be working together with the other countries.

19 See the various coastal kinds of habitats
20 listed there, and then those along the shoreline.
21 Mainly sandy beaches along the way, but there are some
22 rocky shores, actually volcanic rocky shores that most

1 people are not aware of, kind of looks like Hawaii, and
2 then some limestone rocky shores off the coast of the
3 Yucatan. These are the limestone and these are the
4 volcanic rocky shores.

5 And coral reefs and continental shelves, there
6 is over 37 emergent coral reefs in the southern Gulf of
7 Mexico, an area that we definitely need to be linked
8 together while we are looking at those that are in
9 South Florida, for instance, and the connections that
10 go from Cuba and through the Straits of the Yucatan.

11 These reefs in this area are some of the most
12 degraded in the world; but, yet, these are in quite
13 good shape. And some of those are already declared
14 protected areas and some are not, but they are being
15 worked on for that sense.

16 This gives you an idea of the drainage aspects
17 of the four countries -- Canada, the U.S., Mexico and
18 Guatemala; and then Cuba, of course, also, would be
19 five.

20 The Nature Conservancy has been really good in
21 ecoregional planning on the land and they started some
22 of this in the sea, in the Caribbean. They are doing a

1 really interesting GIS for managing that area. And we
2 are going to try to do that same sort of thing for the
3 Gulf of Mexico; but, as you see, we don't have any of
4 these kinds of little drawings for ecoregions within
5 the sea. So, it is a huge component for us to work
6 towards.

7 As you look at the population around the Gulf
8 of Mexico, it is kind of scary to project this out over
9 the next 100 years, which we've had our economist work
10 with the GIS people to look at the kind of ring of
11 people that would live along the shores of the Gulf of
12 Mexico almost continuous except for the places where
13 land has been set aside.

14 Interestingly, a publication last year in the
15 Nature Conservancy's magazine showed similar to what
16 I've just showed you; but this is the major bird
17 habitat, the bird landings and migrations going across
18 the Gulf, and look how they correspond to the same
19 areas and some of the densities and situations that we
20 have to deal with.

21 Protected areas. This is on the land. Many
22 of you are aware, probably more so than I, some of the

1 numbers of the World Parks Congress in Johannesburg a
2 few years ago pointed out that about 12 percent of the
3 land was protected now, but less than one percent of
4 the ocean was set aside.

5 And, so, we had our GIS students actually go
6 in and gather as much data as they could to put this
7 together for us. This is North America. As you see,
8 the red is protected areas or managed areas of various
9 kinds.

10 And then look at the blue and the red. This
11 is supposed to be the marine or ocean protected areas.
12 Quite a contrast from the land to the sea and
13 graphically shows the work that needs to be done.

14 This was the Gulf of Mexico, a little bit more
15 of a close-up. You can see some of the areas. Again,
16 you guys know more about the areas in the U.S. than I
17 do; but in Mexico there are some very distinctive
18 areas.

19 This is the largest coral reef in the Gulf of
20 Mexico. It is called "Alacran Reef". It is 15 miles
21 long, about six or seven miles in width. That's very
22 important in their National System of Protected Areas.

1 But there are also a string of coral reefs
2 that go around here that are not protected.

3 This is another area that is protected; but as
4 somebody mentioned yesterday, it is only a paper park.
5 It is not really protected.

6 These are very important wetlands here, the
7 Sentinel Wetlands. These are established because of
8 the coastal areas for the flamingo population that
9 migrates back and forth here, and then major population
10 of water fowl, migrating water fowl, to there.

11 In Cuba, they have 28 percent of their land
12 and water set aside -- one of the strongest protected
13 area programs in the world, surprisingly.

14 Some of the other interesting notes of
15 collaboration that we have to work with, there's a
16 whole series of institutes and organizations working in
17 the Gulf of Mexico and you see that the U.S. obviously
18 dominates that.

19 Then I will close with this "Federal Alphabet
20 Soup", as I've named it here. Many of you are very
21 aware or completely aware of all of the both land- and
22 aquatic- or marine-based acronyms that we need to learn

1 if we are going to work in these areas of protecting
2 areas.

3 But I just wanted to show you this. It is the
4 same in Mexico and Cuba. It is kind of a learning
5 experience, somewhat different there. Whereas we are
6 trying to push for kind of regional aspects in the Gulf
7 of Mexico with the Ocean Commission Report, and then
8 many of the States here --

9 Texas is a good example. Texas does not like
10 to be told to do anything, as most of you are aware, so
11 they prefer kind of the State approach; and, so, they
12 joined in, though, the Gulf of Mexico Alliance, the
13 northern part, which we've invited people from Mexico
14 now to join with us.

15 But in Mexico, it is mainly dominated from the
16 federal component as to how they are going to do the
17 managed areas there, not from the State area.

18 In Cuba, it is totally different than that. I
19 will just close with this slide that shows you some of
20 that. In Cuba, well, obviously you know that just one
21 person makes a decision there, basically. We
22 experienced that in a visit a couple of years ago. We

1 got to visit the Former Comandante Gomez Farrias, who
2 was one of the Comandantes with Fidel when he invaded
3 many years ago. And his friend is the head of what is
4 called "Flora y Fauna", which is one of the protected
5 areas. And when Castro says they would like to protect
6 an area, they don't have any community meetings or
7 committee meetings for a few years. He just signs a
8 piece of paper and it is done. So, that is probably
9 why there is so much protected area there.

10 This is the main federal agency there. It's
11 the Secretary of the Environment and Natural Resources,
12 and then there is one Commission that is set aside for
13 protected areas, and it is both on the land and in the
14 ocean together.

15 And then Cuba is the same way. This is the
16 Commission or Ministry of Science, Technology and the
17 Environment. And they have one organization, also, the
18 National Center for Protected Areas, that operates on
19 decrees or laws for establishing these protected areas
20 in Cuba.

21 And, so, we found that working with our
22 colleagues in Mexico and Cuba and learning about them

1 and their system has really opened the doors for us to
2 work there.

3 And, so, I think I will close by saying that
4 we are going to try to make a difference by
5 facilitating and assisting with our national plan
6 within the U.S. with those in Mexico and Cuba.

7 And I would invite you, if you have time
8 later, to visit with Tom or Rich, who will be working
9 with us in this process, and our other four chairs as
10 we hire those down the road as we continue to grow the
11 Institute. Thank you.

12 (Applause at 1:24 p.m.)

13 DR. TUNNELL: Questions? Yes, sir.

14 DR. HALSEY: Yes. I'm John Halsey from
15 Michigan. I notice that there is absolutely no
16 recognition of cultural resources in any of your
17 activities. Is this deliberate?

18 DR. TUNNELL: No, it is just that we are still
19 in the beginning of our process. No, we intend that to
20 fully be a part -- particularly with Rich now joining
21 us. Rich and Tom came on board last summer. And as we
22 continue to develop our programs, we will get more and

1 more. It's been a small operation where as now we will
2 be ramping up and, yes, that will be a part of it.

3 Yes, sir.

4 DR. CRUICKSHANK: How do you interface with
5 the oil and gas industry?

6 DR. TUNNELL: Excuse me?

7 DR. CRUICKSHANK: How do you interface with
8 the oil and gas industry?

9 DR. TUNNELL: Oh, okay. With the oil and gas
10 industry, since we have some leaders from oil and gas
11 on our Advisory Council, that's been the main way that
12 we have been interfacing so far and we hope to continue
13 doing that.

14 It's been more difficult for us in Mexico with
15 PMEX, which is the national oil company. It is a real
16 concern in Cuba as we cannot be involved there -- I say
17 "we" in the sense of being the United States -- with
18 the oil companies there.

19 And there's been a huge discovery on the north
20 shore continental shelf of Cuba that many of you are
21 aware of and there's several company that have already
22 been exploring in that area and they've made the large

1 find and they are fixing to start drilling or maybe
2 they are already drilling, so that is concern for us in
3 that area.

4 But we do plan on collaborating with the oil
5 and gas industry. We have many friends in industry.
6 Jim Ray and I went to school together a few decades ago
7 and we have a number of friends like Jim that are
8 assisting us with this and we have four Board Members
9 that are in majors.

10 John?

11 DR. OGDEN: John Ogden. This is an MPA
12 Advisory Committee. I wondered if you'd care to
13 comment from your side and your experience on the Gulf
14 of Mexico Alliance Report signed by all the States
15 Governors makes no mention of Marine Protected Areas.

16 DR. TUNNELL: Right. And, John, as you are
17 aware, and maybe for the rest of you, the Gulf of
18 Mexico Alliance was a gathering of the five States in
19 the northern Gulf of Mexico, not the six in the south
20 and Mexico, although we have invited them to become a
21 part of that.

22 And as they started that, there was a time

1 line to try to hurry and get something done by the
2 Summit, which occurred a few weeks ago. And, so, each
3 of the States picked a single item -- as you have heard
4 the phrase "low hanging fruit" -- something they could
5 achieve within a short period of time and each State
6 picked something that would be appropriate to their
7 State to move forward with.

8 And, so, I think that it is going to be --
9 that is a good system in that the pressure will be on
10 those States to perform; and if one of them performs,
11 the rest will be embarrassed if they don't perform.

12 But I think MPAs were such a -- maybe a
13 difficult issue, as all of you know and as I have heard
14 you talk about for the last two days, that they didn't
15 want to jump into anything difficult to start with. I
16 think it definitely has to be on the list once they get
17 going.

18 Joe?

19 MR. URAVITCH: Joe Uravitch with the MPA
20 Center. I know you are right at the beginning of your
21 process for establishing the Institute. Have you
22 identified specific projects that you see as your

1 priorities for both short and longer term?

2 DR. TUNNELL: In some cases, the smaller ones
3 that I listed for you up there will continue to grow.
4 Biodiversity of the Gulf is going to become -- we have
5 been asked to join the Census of Marine Life and have
6 done so. And, so, because we are going to be one of
7 the few "all tax" inventories of a large marine
8 ecosystem, that is going to continue to be one of ours
9 that will be put up on the web eventually that all
10 people can use. This Census will have habitats,
11 distribution of all species in the Gulf.

12 Rich has become very interested in his policy
13 arena at looking beyond the 200 mile EEZ and what is
14 known as the "Western Gap", an area that is the High
15 Seas and something that was established in 2000, given
16 a ten-year treaty to make a decision about that between
17 Mexico and the U.S. and oil and gas drilling.

18 And, so, he is working towards that. Now that
19 five years, six years almost have passed, nothing has
20 been done, he wants to get involved in that to see if
21 he can't make a difference in that arena.

22 So, I see that there are going to be a number

1 of areas that we will pick. We would actually like to
2 get all six of our endowed chairs on so they can help
3 us build a strategic plan for the future. So, we are
4 slowly adding the things that we know need to be done,
5 but we will do a lot more once we get all six of them
6 on board by next year.

7 Bob?

8 MR. ZALES: Bob Zales, the Second. On your
9 advisory panel, do you have any representation for the
10 fishing industry or recreational, a hired person?

11 DR. TUNNELL: No, we don't. And that came up
12 last week at the Summit. And, so, we are going to try
13 to rectify that pretty soon.

14 MR. ZALES: Yeah. This is a problem. Because
15 when you are talking about the economic impact of oil
16 and gas, recreational fishing just in the five states
17 of the United States made billions of dollars in
18 business, and commercial you can add another \$800
19 million to that. So, it is pretty significant.

20 DR. TUNNELL: Yeah. We have people who are
21 ancillary, so to speak, in the Texas Parks & Wildlife,
22 the Gulf of Mexico program of the EPA have people on or

1 aboard that are aware of those kinds of things; but we
2 don't have a representative directly with that. So, I
3 may talk to you later about this.

4 MR. ZALES: Okay.

5 CHAIRMAN BROMLEY: Why don't we turn it over
6 to Mr. Schmahl; and then if there is time, we can ask
7 questions.

8 (Mr. G. P. Schmahl approached the microphone
9 at 1:30 p.m.)

10 MR. SCHMAHL: Okay. Thank you. I'm G. P.
11 Schmahl. I am the Manager of the Flower Garden Banks
12 National Marine Sanctuary. We are headquartered out of
13 Bryan, Texas, right now. We are moving our office to
14 Galveston pretty soon.

15 I appreciate the opportunity to be here today
16 to talk about an area that I'm very interested in.

17 (Slide presentation.)

18 The original title was "Planning For a Network
19 of Marine Protected Areas in the Northwestern Gulf;"
20 but I changed it to "characterization" because there
21 actually is a network or at least there are a bunch of
22 protected areas in the broad sense in this area and I

1 think the challenge is to actually make a true network
2 out of them.

3 I thought I would start, since the people on
4 this Committee are from all over, that I have always
5 been struck by the fact that, when I talk to people
6 from other parts of the country, that the Gulf of
7 Mexico, at least the northern Gulf of Mexico, usually
8 gets a bad wrap.

9 People have sort of a negative idea or opinion
10 about this area of the Gulf of Mexico. If they know
11 anything, they know about the "Dead Zone". You know,
12 you go to the coast, some parts of here, and the water
13 is kind of muddy and brown and a lot of industrial
14 development and that sort of thing.

15 But I would like to talk to you about the part
16 of the Gulf of Mexico that I know. And those of you
17 that work in this area know that you get off about 15
18 or 20 miles and the water is exceptionally clear, fed
19 by the Loop Current that Wes talked about, tropical
20 blue water, and supports a number of marine biological
21 communities there that are extremely productive and
22 very important.

1 I work with the Flower Garden Banks National
2 Marine Sanctuary. It's one of 13 national marine
3 sanctuaries around the United States and it is the only
4 one in the Gulf of Mexico. It's located about 100
5 miles offshore of the coast of Texas and Louisiana,
6 directly south of the Texas/Louisiana border.

7 It is comprised of three components: The
8 West and East Flower Garden Bank, which was designated
9 as a sanctuary in 1992, and the Stetson Bank which was
10 added to the sanctuary in 1996.

11 It lies right at the edge of the continental
12 shelf edge, right before it slopes off into the deep
13 waters of the Gulf of Mexico. And as you can see from
14 this chart, the geology of this area is extremely
15 complex.

16 The geology of the slope is, as you can see
17 here, is dominated here by the action of salt deposits.
18 The salt was laid down millions of years ago, 165
19 million years ago, and then laid over with thousands of
20 feet of sediment.

21 Over time, the salt masses become compressed
22 and they start moving around. I have heard them

1 described as being like toothpaste when they are done
2 under pressure that deep. And as they move up, they
3 push up the geology that is overlying them and make
4 surface expressions on the sea floor.

5 This is a 3D representation of one of these
6 salt dome masses. And the sea surface expression here
7 is one of Alderdice Bank, which I will talk about again
8 in a few minutes.

9 So the East and West Flower Gardens are
10 typical salt dome expressions on the sea floor. And
11 this is some bathymetry of the East and West Flower
12 Garden Banks. And you can see it's very active
13 geological zone on the East Bank. You can see the
14 Poseidon feature here. There are many fault zones and
15 rocks that have been pushed up from deep below the sea
16 floor.

17 Both the East and West Flower Garden Banks are
18 shallow enough to have development of a coral reef
19 there. This is a true coral reef. It is not really an
20 outlier. It is at the northern most range of the coral
21 reef development in the Caribbean, but it is in very
22 good health.

1 There is only about 23 coral species that
2 occur there, so it is not as diverse as many other
3 coral reef areas in the Caribbean, but it is extremely
4 healthy and supports a whole variety of fish and
5 invertebrate species that are typical Caribbean species
6 that associate with coral reefs.

7 Everyone here, I know, knows about the plight
8 of coral reefs worldwide. This is especially true in
9 the Caribbean. Recent studies have shown the decline
10 of coral reefs in the Caribbean, if you look at hard
11 coral cover, for example, reduced by 80 percent over
12 the last 30 years.

13 It is interesting, though, that the Flower
14 Garden Banks, going against that grain, has maintained
15 a very high level of coral cover. The average coral
16 cover of the Flower Garden Banks is over 50 percent
17 living coral cover and that has been maintained
18 relatively the same since the first studies that were
19 done in the early 1970s.

20 As a comparison, if you look at live coral
21 cover to other coral reefs in the Caribbean region, you
22 will see that the Flower Garden Banks have as high

1 coral cover as probably anywhere, you know, including
2 Bonaire and places like that; whereas in the Florida
3 Keys, for example, the living coral cover is down 3 up
4 to 20 percent range.

5 The deeper areas of the sanctuary are also
6 very important and provide an important habitat
7 especially for fish species of recreational and
8 commercial importance. Some of these perhaps are
9 spawning aggregation sites. We have seen, as you can
10 see here from some ROV footage, some Scamp Grouper in
11 the reproductive phase. We also have aggregations of a
12 relatively rare, but beautiful species of Grouper
13 called "Marble Grouper" around the Flower Garden Banks.

14 It surprises some that this very productive
15 and healthy habitat is located right in the middle of
16 one of the most intensely developed areas for oil and
17 gas exploration in the world. This is the map of
18 infrastructure in the northern Gulf of Mexico. Over
19 4,000 oil and gas platforms as well as pipe line
20 infrastructure.

21 This is the East and West Flower Garden Banks
22 and Stetson Bank. Within a 25 mile radius, there is

1 about 150 oil and gas platforms within that zone.

2 What is remarkable about this, though, is that
3 our studies have shown -- we have a long-term database
4 now, like I mentioned, since 1970s -- that there is no
5 documented detrimental impact that can be attributed to
6 the presence of oil and gas development in this area.

7 So, that's a good thing. It's a good thing
8 for us. It's a good thing for the oil and gas industry
9 and they can point to the Flower Garden Banks as an
10 area where they have documented that they can coexist
11 in very close proximity to a very sensitive marine
12 resource without impact.

13 This talk really is not about the Flower
14 Garden Banks, though. In some sense, it's about an
15 area called "Bright Bank".

16 Bright Bank is located about 12 miles east of
17 the East Flower Garden Banks and it is another
18 topographic feature formed by salt dome activity. It
19 only has one very small area, this little red dot right
20 there, that comes up to about 100 feet from the sea
21 surface.

22 So, most of it is not within diving range; but

1 the deeper areas of this bank supports a whole variety
2 of important fishery habitats and there is some coral
3 communities associated with the shallow parts of this
4 bank.

5 It is named after a professor at Texas A & M
6 University, Tom Bright, who is shown in this historical
7 photograph here, who led a series of studies in the
8 1970s and 1980s which resulted in the publication of
9 this book, "The Reefs and Banks of the Northern Gulf of
10 Mexico."

11 What he showed in that study is that the
12 Flower Garden Banks were just two of dozens of reefs
13 and banks that parallel the continental shelf edging
14 this part of the Gulf of Mexico.

15 And this chart shows a little bit of this area
16 that I'm talking about. This is probably about 150
17 miles or more range from east to west. And like I
18 mentioned, there is essentially over 100 features that
19 have been identified in this area, many of which have
20 been named as prominent reefs and banks.

21 I'll also mention that literally right off the
22 beach off of Corpus Christi is another area of interest

1 called the "South Texas Banks" that are of a completely
2 different geological origin, but also some of the
3 studies that Bright and his colleagues did also looked
4 at some of those bank features.

5 But this is the area that we are primarily
6 looking at right now and we became interested --
7 because here is the Flower Garden Banks, the East and
8 West Flower Garden Banks. We know that many of these
9 other reefs and banks have very similar biological
10 components located there. Beside the coral reef part,
11 the deeper areas of the Flower Garden Banks are very
12 similar to many of these other reefs and banks in this
13 region.

14 So, with the help of Minerals Management
15 Service, with other parts of NOAA, we were able to get
16 some funding together to do some detailed multi-theme
17 bathymetric mapping of a number of these reef and bank
18 features which are located here. The preceding
19 bathymetry information is shown in the gray scale and
20 the colored areas were areas that we have recently
21 added since 1997, most of which have been added since
22 2001, to give a more detailed view of the bathymetry of

1 these areas.

2 I mentioned that there already are a number of
3 protected areas in this region -- and that is true. In
4 fact, beginning in the 1970s, the Minerals Management
5 Service designated a number of these areas as "No
6 Activity" zones, which put them off limits for direct
7 oil and gas development.

8 It's a little bit hard to see, so I will back
9 up and show these areas around the top of most of these
10 prominent features were known to harbor some very
11 significant biological communities, and, so, they were
12 put off limits early on to the oil and gas development.
13 In fact, there's buffer zones around many of these
14 areas as well where additional restrictions on certain
15 aspects of oil and gas production are also put into
16 effect.

17 More recently, in fact, very recently, last
18 year the Gulf of Mexico Fishery Management Council also
19 designated a number of these areas through their
20 Essential Fish Habitat process as "Habitat Areas of
21 Particular Concern" or HAPC's. And a number of these
22 are shown in the blue boxes and they correspond very

1 well with the original areas that were designated by
2 the Minerals Management Service and they benefitted
3 greatly from the bathymetry that was provided by the
4 recent surveys that were done out there.

5 It's a little bit hard to see on that scale,
6 so I wanted to kind of zoom in on the Flower Garden
7 Banks area. You can see the original "No Activity"
8 zones that are prescribed in red here. In the
9 beginning, these areas were thought to be sort of
10 individual islands of life in some senses.

11 In fact, in our early brochures about the
12 Flower Garden Banks, we called them "Oases in the
13 Desert", you know, of the Gulf of Mexico. And we
14 realized that that is not true at all and we don't say
15 that anymore.

16 Sanctuary boundaries were added in 1992 and
17 all they did was basically round off those boundaries
18 that were prescribed by Minerals Management Service as
19 "no activity" zones for those important areas.

20 And then with the bathymetry that was added
21 over recent years, we get to know these areas much more
22 thoroughly. The differences in colors is because of

1 different data sets; but if you smooth them out and
2 show them all in one plane, you can see some very
3 interesting things -- they are not individual features
4 at all. In fact, they are connected both physically
5 and, as we are finding, biologically to each other.

6 And you can see with Bright Bank and Rankin
7 Bank a series of hard bottom ridges that run and
8 connect between those two areas and we have come to
9 call these "habitat highways" because we are pretty
10 sure that a number of fish and other species utilize
11 these areas, these hard-bottom areas, and travel from
12 one area to another.

13 You can also see this whole complex, that the
14 Rankin complex is actually part of the same feature as
15 the East Flower Garden Banks. This whole feature
16 caused by salt dome activity is not separate features,
17 but all part of one larger geological structure.

18 So, you have to start thinking about these
19 areas in a much broader sense, I think. And, so, what
20 we have been doing in the last few years is taking a
21 look at a number of these features, the deeper water
22 areas especially, when we can get access to ROVs and in

1 some cases even submersibles.

2 We have conducted over 177 ROV surveys now,
3 most of which has been done at the East and West Flower
4 Garden Banks, but a number of them have been done at
5 some of these other reefs and banks as well.

6 The primary thing we were trying to do within
7 the sanctuary was to come up with a habitat
8 classification map. And these are some of the ROV
9 transects that are laid over the top of the bathymetry
10 of the East and West Flower Garden Banks and from that
11 information, from the video, from the still-camera
12 images, we have developed preliminary habitat maps,
13 which are improvements on the original ones that were
14 done in the 1970's and 1980's, showing the primary --
15 in this case, the five primary habitat zones within the
16 sanctuary. And this is the kind of thing that we are
17 trying to develop for many of the other reefs and banks
18 as well.

19 I just wanted to highlight a few of these
20 recent banks because they are pretty interesting. This
21 is one called "McGrail Bank". It has an area that
22 comes up within about 40 meters of the surface in this

1 area, so it is almost dive-able. There have been some
2 scuba dives done in this area, but not too many. Even
3 though it is quite deep, though, for corals, there is a
4 very well-developed coral reef community at McGrail
5 Bank. It is primarily dominated by one species in
6 particular, *Stefanicenia* or the Blushing Star Coral;
7 but much of that top area of the bank covers up to 26
8 to 28 percent living coral cover, which is, as you saw
9 from the previous chart of coral communities in the
10 Caribbean, very high. And, of course, it support a
11 large community of fish and other invertebrates.

12 Another interesting one is Alderdice Bank for
13 a couple of different reasons. This is the bathymetry
14 of this area. You can notice these two real prominent
15 spires right here, which this is actually exaggerated
16 in the vertical there, but just to highlight it.

17 But it turns out that these spires are made of
18 basalt. And basalt, of course, is a volcanic rock.
19 And there has not been volcanic activity in the Gulf of
20 Mexico for a long time, so these volcanic rocks have
21 obviously been pushed up from underlying salt dome to
22 become exposed in this area and it is one of the very

1 few places in the Gulf of Mexico where basalt is
2 exposed.

3 And you can see a shot from the video. It is
4 not very good; but this is a picture of the basalt
5 spire and Alderdice Bank.

6 This is a little bit deeper than diving depths
7 and there is a very nice community of deeper water
8 corals associated with Alderdice Bank and a number of
9 these other features as well.

10 Sonnier Bank is another one that we've been
11 getting a lot of interest shown in because it is
12 dive-able. This is, again, it is kind of a typical
13 salt dome surface expression, this circular pattern
14 here, and the fault lines with the rocks being pushed
15 up, you know, along those fault lines to become exposed
16 at the surface.

17 And a number of these peaks are within
18 dive-able range and there has been a lot of
19 recreational diving activity on these areas recently
20 and we have had people come to us asking that, you
21 know, to put in mooring buoys and things of that sort
22 because people are starting to anchor there and damage

1 some of these communities.

2 You couldn't really call it a coral reef,
3 although there is a very high cover of the Fire Coral,
4 Millepora, at this location and dominated primarily by
5 sponges and, again, very healthy and activity fish life
6 and invertebrate communities there.

7 So, I mentioned at the beginning of this talk
8 that this is sort of about Bright Bank -- and this is
9 why. Bright Bank is -- this is just another view of
10 the shot that I showed you before, you know, showing
11 that you can easily see the connections between Rankin
12 Bank and all the way to the East Flower Garden Banks
13 and even to the West Flower Garden Bank.

14 What has occurred at Bright Banks is that
15 beginning in the 1980's there was an interest in what
16 might have been or may be a Spanish Galleon. The
17 archeologist that I talked to doubt very seriously that
18 there is such a shipwreck located at Bright Banks; but
19 if you know anything about the treasure salvage
20 industry, the money most of the time is in the looking,
21 not in the finding. As long as you can get people to
22 invest, then you can keep going.

1 In the 1980's, they essentially blew apart
2 Bright Banks with explosives, excavated some large
3 areas on the top of the bank, excavated from areas on
4 the side of the bank as well. Descriptions by Tom
5 Bright and others in the 1980's said that the top
6 Bright Bank was very high coral cover. Now there is
7 not very much, although there are occasional coral
8 heads still present. It still shows very significant
9 impact from this activity.

10 What is of concern is that there is a new
11 player on the scene that has revived interest in
12 looking for the shipwreck at this location and is
13 actively raising money and trying to get people to get
14 back out there to do some more exploratory excavation
15 and searches at Bright Banks.

16 The problem is that, as I mentioned before,
17 Bright Banks is designated by the Minerals Management
18 Service as a "No Activity" zone. It's been designated
19 as a habitat area of particular concern by the Gulf of
20 Mexico Fishery Management Council. Coral there is
21 protected under the Magnison Stevens Act.

22 But it turns out that this is one of those

1 activities that falls through the cracks. Magnison
2 Stevens Act only applied to fishing activities. And,
3 so, if you are not fishing, if you are not a fishing
4 boat, if you are not engaged in fishing activity, the
5 restrictions related to coral destruction do not apply.

6 If you are not looking for or exploring for or
7 developing oil and gas resources, the restrictions
8 related to the "No Activity" zone by Minerals
9 Management Service do not apply.

10 So, it is kind of remarkable in this country
11 that we do not have just a general "Protection of
12 Coral" statute on the books. So, right now there is
13 really no way to address this type of activity. So, I
14 think it points out something that is very needed in
15 the realm of marine protection in the Federal Waters of
16 the EEZ.

17 We are, you know, watching right now because
18 the activity might continue at Bright Banks at any
19 moment.

20 Just to step back again, you know, in the
21 broader perspective, there are a number of areas
22 throughout the Gulf of Mexico that are important like

1 this. The Northwestern Gulf of Mexico Recent Banks is
2 this area; but there's very similar features off of
3 Mississippi and Alabama known as "The Pinnacles",
4 there's the well-known "Florida Middle Ground" off of
5 Western Florida, and then "Philly Ridge Area" off of
6 the Southwestern Florida coast. All of these areas are
7 deserving of more exploration and protection.

8 So, I just wanted to close. I appreciate,
9 again, the opportunity to talk to you about this today.
10 We are continuing our studies of these areas.

11 And I would welcome any input. Thank you very
12 much.

13 (Applause.)

14 MR. SCHMAHL: Yes, sir.

15 DR. HIXON: Mark Hixon. I was wondering, has
16 there been any evidence of bleaching on these reefs?

17 MR. SCHMAHL: Yes, there has. This year in
18 particular, in fact.

19 You know, the Flower Garden Banks have been
20 relatively buffered from the effects of bleaching over
21 the recent years. There is a couple of recorded
22 bleaching events dating back to the early 1990's.

1 This last year, though, we have had a fairly
2 pronounced bleaching event. Up to 40 percent of the
3 corals at the Flower Garden Banks were affected in some
4 way. That is not saying they were totally bleached,
5 but they were affected in some way. It happened very
6 late in the season, probably around October.

7 We had trouble getting out there right after
8 the hurricane; but it didn't really show up until after
9 the hurricane, although I'm not sure it had anything to
10 do with that because, as you know, the water
11 temperatures in the Caribbean and the Gulf were high.
12 There was a bad bleaching event throughout the
13 Caribbean, especially in the Virgin Islands and Puerto
14 Rico.

15 We saw very little mortality associated with
16 the bleaching event. It has pretty much recovered at
17 this point; but we did see some evidence of coral
18 disease pop up after the bleaching and started to
19 recover and that is consistent with what has been seen
20 in the Virgin Islands and Puerto Rico as well.

21 DR. HIXON: Thank you.

22 MR. SCHMAHL: Dan?

1 DR. SUMAN: Daniel Suman. G. P., when NOAA
2 designated this National Marine Sanctuary, was there
3 ever the possibility of extending the area to include
4 some of the other banks east and west?

5 MR. SCHMAHL: It was never really anticipated
6 of that as far as I know. The coral reef resources at
7 the East and West Flower Garden Banks were the primary
8 thing that was identified for protection as a marine
9 sanctuary.

10 People knew about these other reefs and banks,
11 knew of the resources that occurred there; but there
12 was never, as far as I know, any serious discussion of
13 including those areas as a part of the marine
14 sanctuary.

15 DR. SUMAN: Is there now?

16 MR. SCHMAHL: There has been some interest in
17 some of those banks. I mentioned Sonnier Bank and
18 there's a couple of the other banks that have been
19 recently frequented by divers and the diving community
20 has come to us, you know, asking for some of these
21 areas to be added to the sanctuary, primarily because
22 it brings in the ability for us to put in mooring

1 buoys, to do some other types of regulatory protection
2 there.

3 So, there is some interest at this time. Yes,
4 sir.

5 DR. HALSEY: John Halsey. Has there ever
6 actually been any remains of a shipwreck found at that
7 site or is this just speculative prospecting?

8 MR. SCHMAHL: They did go to Admiralty Court
9 and they had artifacts that they claim were recovered
10 from this site and they did get Admiralty Court to give
11 them -- whatever you call it when they --

12 DR. HALSEY: In rem possession?

13 MR. SCHMAHL: -- own the wreck. Right.

14 Like I say, I mean it is interesting because
15 the things that they found, the artifacts that they
16 found were supposedly found buried 12 feet into the
17 coral. So, if you start thinking about how long it
18 would take for that coral to colonize and grow 12 feet
19 over an imbedded shipwreck, it just doesn't make much
20 sense; but --

21 DR. HALSEY: Gold and the thought of gold
22 trumps any common sense.

1 MR. SCHMAHL: Here.

2 MR. BOWMAN: Randy Bowman from the Department
3 of Interior.

4 Just a follow-up to the Bright Banks situation
5 regarding the coral protection. This was brought to my
6 attention by Minerals Management Services attorneys and
7 we met with NOAA and the Department of Justice and the
8 Submerged Lands Act actually gives the United States
9 ownership of all the resources including coral in the
10 EEZs and gives full custody to the United States.

11 There is court precedent that the United
12 States has sufficient interest to warrant injunction
13 against destruction of the coral reefs. It was a case
14 you might recall from Florida many, many years ago.

15 I think we are prepared when this visit
16 resumes to seek an injunction. In all honesty, in
17 Washington there was confusion as to, whether the fact
18 that it had gotten an award in Admiralty Court or not,
19 to seek from the Court an injunction against
20 destruction of the coral. They would not stop salvage
21 per se, but they would stop injury of the coral.

22 There's a very clear precedent in this circuit

1 that the United States does have a sufficient interest
2 to stop it. It is complicated because it is not
3 assigned to any particular agency; but we do have
4 authority to proceed.

5 MR. SCHMAHL: Joe?

6 MR. URAVITCH: Joe Uravitch. A little
7 follow-up historical knowledge and a question.

8 Historical knowledge following Mark's
9 question: When we were working on Flower Garden Banks
10 in one of our previous sessions, incarnations I was
11 actually working on had sanctuary and it showed me how
12 programs evolve.

13 The purpose for protecting Flower Garden Banks
14 was because at that time seagoing vessels were using it
15 as an anchoring point. In waiting out there, they
16 would throw their anchors over until it was time to go
17 into port. So, that was the primary reason to protect
18 the Flower Gardens at that point.

19 The question I have beyond that is: You
20 mentioned Stetson Bank was added. What was the
21 motivation for that?

22 Because one of the things we are interested in

1 is: Where do we go beyond the existing sites? Are
2 there new and improved areas to be added or are there
3 gaps to be filled, et cetera?

4 MR. SCHMAHL: The impetus for the addition of
5 Stetson Bank actually came again from the recreational
6 dive community. This was one of those sites that they
7 frequented often and again because -- and it had a lot
8 to do with anchoring there as well.

9 A group of volunteers had actually put in some
10 mooring buoys there, but they were very difficult to
11 maintain and a lot of times they would be lost. People
12 were anchoring there. It was becoming very popular as
13 a dive site.

14 So, it was essentially a petition by a
15 recreational dive club from Houston. And, in fact,
16 they went through Congressman Solomon Ortiz, a
17 Congressman from this area in Corpus Christi, who
18 essentially designated that addition to the sanctuary
19 sort of by Congressional Act. And, so, that is how
20 Stetson Bank got added to the sanctuary.

21 Yes, sir.

22 MR. ZALES: Bob Zales, the Second. On the

1 Flower Gardens themselves, have you all been able to
2 determine whether or not -- have you done any research
3 to see if there was any damage from -- I would imagine
4 Rita would have been the most close hurricane to that
5 area when it came through.

6 Was there any damage in any form from either
7 Rita or any other hurricane?

8 MR. SCHMAHL: Yes, there was. And it was Rita
9 that came closest, which we feel had the most impact.
10 And it was, even though the tops of the Flower Garden
11 Banks are at least 60 feet deep, so they are relatively
12 deep, we do know that there was about 30-foot seas in
13 that vicinity and we did see some pretty impressive
14 impacts from that storm.

15 You know, there was very large coral heads
16 that were toppled over. Obviously it rolled around,
17 smashed into other corals, some of which were broken
18 apart. We saw a lot of movement of sediment. There's
19 some sand patches that occurred on top of the reef and
20 a number of feet of sediment had uncovered areas that
21 were previously covered and covered over other areas.

22 So, like I say, there was definite impacts;

1 but if you step back and look at it from the broader
2 view, probably not real significant, you know, probably
3 maybe in the five percent range, something like that,
4 of impacts related to the storm.

5 The other thing that we saw right after Rita
6 was a slug of very turbid water, you know, we looked at
7 and you could see it clearly on satellite imagery. The
8 runoff from the Louisiana Coast primarily that moved
9 offshore and moved offshore as far as the Flower Garden
10 Banks.

11 We see a lot of this coastal runoff in nearer
12 shore areas. And Stetson Bank, because it is only 60
13 miles off, periodically gets influenced by that kind of
14 runoff; but we very rarely see it at the Flower Garden
15 Banks themselves.

16 But this time it did come out that far. It
17 did not persist. It was only in the area for a day or
18 two. We haven't been able to show any direct impact
19 from that; but like I say, you know, it was after that
20 that we did see this disease pop up.

21 So, I don't know if there was an impact
22 from -- a water quality impact from it or not.

1 MR. ZALES: You also don't know, I guess, too,
2 if some of that disturbed water was part of the reason
3 for the bleaching or had anything to do with the runoff
4 or anything like that getting out there.

5 MR. SCHMAHL: Right. We don't know for sure.
6 We don't know.

7 It very well could have; but, again, because
8 of the warm waters in the Gulf of Mexico, if you
9 recall, you know, and it actually played into the
10 storm, the Loop Current was very far up into the Gulf
11 of Mexico last year and that is part of the reason
12 why -- those hurricanes were feeding off of the warm
13 water and intensifying in the Gulf of Mexico.

14 That warm water was very much, you know, far
15 up into the Gulf of Mexico and to the west. There was
16 a spinoff eddy that came off and tracked to the west.
17 So, there was a lot of, you know, higher than normal
18 water temperatures in this part of the Gulf and it was
19 predicted that we would see some bleaching even prior
20 to the storm effects.

21 CHAIRMAN BROMLEY: Okay. I think maybe we
22 should take one more question, Jim, and then lets

1 switch.

2 DR. RAY: Jim Ray. Just again a clarification
3 on what G.P. mentioned earlier.

4 All those banks out there right now have a
5 certain level of protection with regard to oil and gas
6 activities as there's "No Activity" zones. So, within
7 a certain distance of those live bottom banks, there is
8 no drilling. You can't run pipelines through there.

9 In addition to the EPA's MPDS Permitting
10 System, which controls the discharges within designated
11 live bottoms, there is either no discharge or within
12 certain distances there is regulations on the volumes
13 that are allowed to be discharged per hour, et cetera,
14 to protect those banks.

15 And, so, other than the anchoring issue, when
16 it comes to oil and gas with respect to those banks,
17 that is the way they are protected right now -- through
18 these stipulations and through the MPDS Permitting
19 System.

20 MR. SCHMAHL: That is right. And that is why
21 I consider these all Marine Protected Areas -- because
22 they are protected areas.

1 The problem is, though, as I pointed out, some
2 of those other activities which are sometimes even more
3 impactful, you know, are not regulated. So, that is
4 the kind of irony of it.

5 CHAIRMAN BROMLEY: Okay. Thank you very much.
6 I want to thank both of you for your presentation.

7 (Applause at 2:04 p.m.)

8 CHAIRMAN BROMLEY: John Halsey, you are next;
9 right?

10 DR. HALSEY: Brian.

11 CHAIRMAN BROMLEY: Pardon me?

12 DR. HALSEY: Brian Jordan is next.

13 As we've just seen, cultural resources can
14 have a significant role in the future and existence of
15 our natural resources. We have talked about cultural
16 resources in this Committee off and on for the better
17 part of two years now and we finally have an
18 opportunity to present three different perspectives on
19 cultural resources and the roles that they play in
20 Marine Protected Areas.

21 Brian Jordan from Marine Protected Area Center
22 is going to lead off with a general overview of

1 cultural resource protection on sort of a national and
2 somewhat international level.

3 Charlie Beeker is going to talk about some of
4 his adventures with cultural resources as tourism
5 attractions, as parks and so forth.

6 And I'm going to follow-up with the view from
7 Michigan as to the unique challenges that we have had
8 in trying to protect our shipwreck resources. Okay.
9 Brian?

10 MR. JORDAN: Thank you. I'm Brian Jordan, the
11 Maritime Archeologist Coordinator for the MPA Center,
12 headquarters - Silver Spring. I would like to thank
13 the FAC Committee for allowing me to speak today about
14 this very important issue.

15 A couple of things I will not be speaking on
16 just because of the brevity of this presentation. I
17 will not be speaking on tribal cultural issues simply
18 because I'm not qualified to talk about these issues.
19 And I won't really be talking about prehistoric
20 underwater remains simply because they are few and far
21 between and there hasn't really been any integrated
22 systematic study of these.

1 A little bit about my background. I have an
2 Anthropology Degree. I also have studied Maritime
3 Archeology around the world for about ten years. I
4 also have Advanced Degrees in Wood Science and Natural
5 Resource Science and Management. And I did my research
6 on looking at the affect of alteration of the marine
7 environment on the preservation of wooden shipwrecks.
8 So, I have a dual background in Cultural Resources as
9 well as Science.

10 I couldn't really have asked for a better
11 segue from that dynamiting of a coral reef to look for
12 a suspected shipwreck, because if you think that the
13 coral reefs are not protected out there from these
14 activities, cultural resources in the outer continental
15 shelf outside of the National Marine Sanctuary
16 basically have no protection.

17 There is no U.S. program or statute providing
18 comprehensive protection of underwater cultural
19 heritage. It's just there is not. This is very
20 problematic for the Federal and State agencies that are
21 trying to actually manage these resources with very
22 little funding and very little staff.

1 Laws protecting underwater cultural heritage
2 on State submerged lands are, basically, the National
3 Government has delegated to the individual States the
4 responsibility for protecting and management of these
5 resources. They are usually protected under a broad
6 State Law that protects all cultural resources on State
7 submerged lands.

8 And we will see a little bit later on that, in
9 reality, this is paper protection at best. You will
10 see that when I start talking about the complexity of
11 managing these and who is actually managing these and
12 what their staff looks like.

13 In 1987, Congress passed the Abandoned
14 shipwreck Act. This basically said it gives ownership
15 of all abandoned shipwrecks imbedded and/or resting on
16 State submerged lands that are of historic significance
17 to the State.

18 Now you see the bold words "abandoned" and
19 "imbedded". The reason why is because "abandoned" was
20 not explicitly set forth in this law and has basically
21 been torpedoed through admiralty court and circuit
22 court to the detriment of the preservation and

1 conservation of shipwrecks.

2 So, shipwrecks are still being salvaged.
3 There are salvage awards that are being granted all the
4 time on this type of stuff due to confusion.

5 The law was supposed to exempt these
6 shipwrecks from the Law of Salvage and Wild Finds, but
7 that really has not happened in all cases. It works in
8 some circuit courts. Other circuit courts, it does
9 not.

10 Another component of the Abandoned Shipwreck
11 Act, it really directs States to establish a multiple
12 use management regime for the protection of shipwrecks
13 that also incorporates the protection of natural
14 resources. In the law itself, it looks at shipwrecks
15 as basically biological sanctuaries. And, so, this is
16 an important component in recognizing the importance of
17 shipwrecks as an important component of the ecosystem.

18 In federal waters, we have several Acts: The
19 Antiquity Act of 1906, and the Archeological Resource
20 Protection Act Article of 1979. These are supposed to
21 protect cultural resources. They work very well on the
22 terrestrial environment. They don't work well at all

1 in the marine environment.

2 Basically, they don't work on the outer
3 continental shelf outside of federal waters, federal
4 lands, and that is only in the case of national parks
5 and national seashores. So, we really have no
6 protection on the outer continental shelf of these
7 resources.

8 You do have the National Marine Sanctuary Act
9 and this is one of the few instances within an MPA that
10 they actually have very strong protection of underwater
11 cultural heritage -- civil penalties of \$100,000 per
12 occurrence and that is per day that occurrence of
13 damage or looting of a site occurs. It can also
14 possess vehicles and equipment that was used within
15 that. It has withstood basically every legal challenge
16 and assesses the largest civil penalties for the
17 damaging of any cultural heritage on terrestrial or
18 marine sites.

19 Interesting thing about underwater cultural
20 heritage is that NOAA does not own those resources.
21 They hold them in the Public Trust. So, again, the
22 ownership -- Federal Government does not really own

1 cultural resources on the outer continental shelf.

2 National Historic Preservation Act of 1966,
3 this basically directs the federal agencies to
4 inventory their lands for cultural resources -- it is
5 Section 110 of that -- and it also has to take into
6 account federal undertakings including those permitted
7 activities on the effect that they may have on cultural
8 resources.

9 Now, this is how MMS basically -- why they
10 require for the lease blocks of permits. They require
11 that they do submerged cultural resource surveys on
12 certain lease blocks that they determine may have a
13 high propensity to have cultural resources; but, again,
14 that is only limited to protection from these oil and
15 gas industries and their effects on these resources.

16 If that information got out on, for instance,
17 the Spanish Galleon, somebody could actually go to a
18 circuit court and take possession of this wreck in that
19 admiralty court and then salvage that wreck and there
20 is nothing the Federal Government could do about it.

21 Sunken Military Craft Act, this is very
22 interesting. This was passed last year. It was

1 slipped in the big Navy Appropriations Bill. Basically
2 it states the U.S. retains title to all sunken military
3 craft and imposes extremely stiff civil penalties for
4 disturbance on military craft, although it does allow
5 diving on those crafts as long as you don't disturb the
6 remains and take anything off of them. It also exempts
7 these wrecks from the Law of Salvage and Law of Finds.

8 It also recognizes and exempts any foreign
9 sunken military craft in U.S. Waters. And this was
10 done because the U.S. wants other countries to respect
11 the sovereign status and ownership of U.S. vessels in
12 those waters.

13 And we do have a few that we know of:

14 The CSS Alabama is managed under a joint
15 agreement between the U.S. Government and France.

16 Spain has claimed ownership of shipwrecks off
17 the coast of Virginia, La Juno Lagalga, and that's been
18 upheld by Federal Appeals Court.

19 The complex scope of underwater cultural
20 heritage management. There's most likely over 100,000
21 shipwrecks in U.S. waters. Most of them reside within
22 State waters.

1 Of course, there are many other types of
2 underwater cultural heritage including remains of
3 historic structures, prehistoric sites and traditional
4 cultural places that have significance to tribes and
5 native Pacific Islanders.

6 Only 9 out of 35 coastal states have programs
7 or specialists studying and understanding and managing
8 underwater culture heritage. The average number of
9 people in these programs is one.

10 Khaki Andrews was talking about how she was
11 lamenting the fact -- and rightfully so -- that they
12 had four people to look over this one very large area
13 and two research vessels. Most states don't have
14 anybody. And, for instance, Texas, who has very large
15 state territorial waters, has one person, state
16 underwater archeologist, that is in charge of all of
17 that.

18 There basically are no resources and staff.
19 So, when you have basically a blanket law that says
20 "All these resources are protected," in reality, it is
21 only after the fact, if you catch somebody or somebody
22 reports somebody doing something, that you actually can

1 have any action on that.

2 There is no template for management of
3 underwater cultural heritage within states. They are
4 all different. They are mainly co-managed. You have
5 the people that are giving permits for salvage activity
6 in one office and the people who are trying to protect
7 them in another one. It is very confusing. You can
8 have as many as seven different state agencies that are
9 in charge of submerged lands and the cultural
10 properties within those lands.

11 And, so, it is a very confusing and
12 frustrating thing. And that jurisdictional thing, it
13 becomes more problematic when you look at the state and
14 federal interactions.

15 For the federal agencies that have some
16 responsibility for managing or protecting the
17 underwater cultural heritage, working on this facet of
18 cultural heritage is a very small part of the work they
19 do, for the most part; and, therefore, a lot of times
20 it takes a back seat to other concerns such as
21 ecosystem priorities and habitats and that type of
22 information and it just depends on the different

1 agencies and who is in charge -- the different park
2 managers, the superintendents -- on what the protection
3 of those resources is.

4 And if you look at the complex scope of U.S.
5 MPAs from our initial Marine Managed Area Inventory
6 Analysis, about 10 percent of sites in that Inventory
7 have some conservation focus directed towards cultural
8 resources in the marine environment and probably, most
9 likely, about four-and-a-half to five percent actually
10 that is their primary concern.

11 And this includes things like The Monitor
12 National Marine Sanctuary, which was the first National
13 Marine Sanctuary in 1975, to Thunder Bay National
14 Marine Sanctuary which has about 200 shipwrecks. It
15 protects a collection of shipwrecks. Underwater
16 preserves, coastal preserves, state historic parks, it
17 goes on and on. There's a lot of different mechanisms
18 for this.

19 The National Park Service protects cultural
20 resources. Usually they have agreements with the state
21 or other agencies, especially for Navy craft. The USS
22 Arizona, the Navy owns that and the Park manages it.

1 Maryland, for instance, the cultural resource
2 agency there does not have the statutory authority to
3 establish a Marine Protected Area; but they have one
4 because they have an agreement with the Navy to manage
5 the U-1105, which is the Black Panther German U-Boat
6 that is there that was transferred over to U.S.
7 ownership from Germany after the war.

8 I want to talk just really briefly about
9 underwater cultural heritage and ecosystems. If you
10 talk to most people who manage these resources, there
11 is no doubt in our mind that these heritage resources
12 are part of the ecosystem and part of the broader
13 historical landscape.

14 People have interacted with the ecosystem for
15 a long, long time. A lot of these physical artifacts
16 are what is left of their interaction with that
17 ecosystem. So, it is very important to actually
18 understand how people utilized an area and understand
19 what these resources mean to people and that
20 interconnectivity.

21 I mean this country for a long time, and even
22 today, you know, the history within maritime trade,

1 maritime commerce, exploration, warfare, was all done
2 on the sea and a lot of these remnants are underwater
3 now and very little protection.

4 These resources, I can attest, are affected by
5 changes in the marine environment and this could be
6 from salvage, where you actually disturb the
7 equilibrium that that cultural resource had reached
8 with the marine environment. It can also be disturbed
9 if you put in some kind of installation nearby that
10 changes the scalar pattern or the current flow that can
11 uncover or bury cultural resources. And conversely,
12 many of these cultural resources, especially since the
13 19th Century, have the ability to affect marine
14 environment and ecosystems.

15 I was just reading up last night that there is
16 a shipwreck off of Monterrey Bay that was sunk. It was
17 a 1921 tanker carrying 73,000 barrels of oil. That is
18 about 3 million gallons. It is a 485 foot tanker. It
19 was sunk in the 1940's by a Japanese U-Boat and it
20 still has all that oil on board. It is in that.

21 We really have to understand the degradation
22 processes of what is happening to these vessels because

1 if something happens catastrophically to that vessel,
2 it's going to impact a lot more than just the shipwreck
3 losing its significance or integrity.

4 And this brings me to the next point. A lot
5 of times I hear from people that, you know: "Cultural
6 resource management, they don't really use science,
7 natural science. It is all social science."

8 I know for a fact, because I've participated,
9 that the management and study of underwater cultural
10 heritage requires a multidisciplinary approach.

11 If you look at the work that the National Park
12 Service has done on studying the deterioration of the
13 USS Arizona, they have people in there that are looking
14 at everything from metals and corrosion science to soil
15 science to microbiologists, biologists -- I mean you
16 name it. They are looking at how fast this shipwreck
17 is deteriorating.

18 It is the same thing when you look at the
19 study in 2004 with MMS. They did an interdisciplinary
20 study of deep sunken shipwrecks and they wanted to
21 know -- you know, at first they wanted to look at these
22 shipwrecks to see what state they were in; but they

1 also wanted to know if they were contributing anything
2 to the ecosystem. And I will show you an image a
3 little bit later that will kind of illustrate this; but
4 these wrecks are very deep.

5 Also, cultural resource managers require
6 social science. Although anthropology is often
7 considered part of the social science, they need things
8 for the management aspect like visitor use studies, the
9 monetary and non-monetary value of these resources to
10 people; attitudes, perceptions and beliefs about these
11 resources; community interaction; ethnography for
12 certain types of resources; anthropology, historical
13 ecology; how do you look at, for a region, how do you
14 look at use through the history of the archival
15 records; the stuff they are doing at the marine
16 population study; H-Map, where they are looking at
17 historical biomass and stuff like that. All of this is
18 tied together in understanding this historical
19 landscape that shipwrecks and cultural heritage are
20 part of.

21 This is one of them. This is the Gulf Pen.
22 This is a tanker that sunk in the Gulf of Mexico from a

1 German U-Boat and it is -- I don't know -- something
2 like 545 feet long. This is in 1800 feet of water,
3 this vessel is, and they were very impressed by the
4 colony of coral that is growing on this down there.

5 So, these shipwrecks do provide a substrate,
6 especially when they are submerged onto a sterile
7 substrate.

8 Here is another one, which is basically --
9 this ship was just examined fairly recently by
10 basically the Florida State Maritime Archeologists,
11 their group, along with the Florida Keys National
12 Marine Sanctuaries. This is Marathon. And it is a
13 pristine reef on a 17th Century shipwreck, which is
14 basically a wooden shipwreck, a Spanish shipwreck, they
15 think.

16 So this just goes to illustrate that these are
17 integral parts of the ecosystem and they really need to
18 be considered in that way.

19 And that is it. I think I'm going to hold off
20 on questions for now until at the very end of the
21 session so that we all have time to go ahead and do
22 this; but feel free to ask me questions about anything

1 I have covered right here.

2 Thank you.

3 (Applause at 2:22 p.m.)

4 MR. BEEKER: I'm going to take a little bit
5 more simple approach to submerged cultural resources,
6 just give you a little background on diving in general
7 and where we've kind of come with the development of
8 underwater parks and preserves.

9 The first thing we are faced with is the
10 reality of what shipwrecks look like versus what the
11 perception is. This is a photograph of a typical ship
12 that was sunk on purpose, an artificial reef for a
13 recreational dive site.

14 This is what the public tends to think they
15 are going to see. You know, you jump in the water and
16 you are going to see a ship and be able to penetrate
17 inside and look around; but usually, as those of us who
18 dive know, the harsh reality is the shipwreck really is
19 not in that particular condition. It is more like this
20 wooden vessel, 1883 Methuselah, that is now
21 incorporated in the seabed. But for most people, it is
22 not easy to interpret the site or even recognize the

1 diagnostic features of it.

2 So, typical activities we've had to deal with.
3 This is a photograph of Key Largo, Florida, right after
4 John Pennycamp State Park was established in December
5 of 1960. This is a typical condoned daily activity --
6 family out diving.

7 The corals and sponges are protected, but they
8 have bar shot, coinage, deck spikes and a myriad of
9 submerged cultural resource objects that are brought up
10 to the surface.

11 Pennycamp State Park, established in 1960.
12 Point Lobos was established as a natural resource park
13 in 1960 October in California. But these were
14 designed, again, as sites to be protected for the
15 natural resources and not necessarily for the cultural
16 resources.

17 Cultural resource phenomena for protection is
18 relatively recent. Those of us involved in the field,
19 Michigan 1980 was the earliest, parts of the Great
20 Lakes. And I will have to say, you take away the
21 shipwrecks in the Great Lakes, you don't have a lot
22 left to dive on.

1 In Florida, we helped establish the first
2 parks of the Florida Keys, just prior to the Abandoned
3 Shipwreck Act, 1988.

4 California, we were involved in the first
5 shipwreck park in 1994.

6 California last summer dedicated an 1850
7 shipwreck as the most recent, the 20th underwater park
8 in the State of California.

9 But these sites have not been protected for
10 very long. This has been a new, again, phenomena of
11 protecting the shipwrecks; whereas at the same time, we
12 have had a rapid growth in the dive industry. The
13 pressures have become tremendous on these submerged
14 cultural resources.

15 In 2004, recreational dive industry,
16 882,000-with-change newly certified divers. The number
17 of active divers is a difficult thing to currently
18 estimate; but we think there are around 18 million
19 active scuba divers and obviously they have access to
20 sites in not only shallow water sites, but now even
21 deeper water sites with technical diving that has come
22 to the forefront.

1 So, one of the challenges we have, and myself
2 as a park specialist and an archeologist, is taking
3 this connotation of a shipwreck and we talk about
4 "wreck driving" and, instead, talk about a "submerged
5 cultural resource," something that has significance for
6 the heritage, the value for its culture, but also
7 taking it a step further.

8 I happen to have had the opportunity to be
9 involved in the Abandoned Shipwreck Act on the working
10 committee and it was instrumental in putting on the
11 idea that these shipwrecks are actually not only
12 submerged cultural, but they should be thought of as a
13 biological resource or, as said in 1951, "living
14 museums under the sea." That is how we want to think
15 about a submerged cultural resource -- not just a wreck
16 or something to be brought up from the bottom.

17 The State of Florida has an active underwater
18 preserve system. And "preserves" and "parks" we could
19 argue the semantics of that. The San Pedro is one of
20 the treasure ships.

21 About 1715, Orca Deleem was their first
22 preserve. It wasn't too successful initially.

1 But in the Florida Keys, where there is an
2 active dive community, we worked in 1988 to survey and
3 establish the San Pedro, a 1733 Spanish Galleon
4 carrying gold and silver -- in this particular case, no
5 gold, but silver on board -- was established in 1989.

6 It was interesting because we worked with the
7 archeologists in the State of Florida along with
8 Florida State University and we looked for ways to make
9 this park accessible or as a preserve for divers.

10 So, one thing is the underwater plaque we
11 thought would be appropriate with permits happened to
12 be Indiana limestone, I will have to say, that we
13 brought down to place in the bottom of the sea because
14 we could not stomach the idea of putting cement there.
15 We brought in original artifacts.

16 Many of these sites have been looted or the
17 sites have been -- the features taken away, diagnostic
18 features. So, we documented 89 marinas, hotels and
19 restaurants in the Key Largo down to Marathon area that
20 had large anchors or cannons or features out in front.
21 So, when the divers go to the site, they wonder "How
22 come it doesn't look like a shipwreck" when you

1 interpret the sites.

2 Some of the enhancements, we brought in
3 original anchors, 18th Century anchors, put them on the
4 site. You can see that fairly quickly they became a
5 substrate for organismic growth. The same anchor with
6 a zinc anode on it. You can see some of the
7 recruitment corals that are now growing on the site.

8 We replicated cannons. The 1733 shipwreck, 12
9 sites we looked at, not a single one had a diagnostic
10 cannon still noticeable on the surface. So, we made a
11 mold from a San Jose sister ship of a cannon that would
12 be similar to what the San Pedro might have carried,
13 made them out of cement with rebar.

14 We put some of these on a DOT-approved
15 roadside observation point, the "Triangle of History",
16 around mile marker 80 in the Florida Keys. So, the
17 idea is to have an opportunity for non-divers to
18 understand the significance of these shipwrecks that
19 are offshore; in this case, three-quarters of a mile
20 off from the roadside park.

21 We placed these same cannons under water,
22 seven cannons on the site, to make the site a little

1 bit more diagnostic looking to a normal diver.

2 Other enhancement features and interpretation
3 were making some of the first underwater guides or
4 slates to the site, waterproof guides you can take
5 under water. We put together the idea of what should
6 be on these guides -- the jurisdiction information, the
7 message to "Take only photos and leave only bubbles
8 behind", a site plan.

9 You can see a diver, one of our divers, using
10 the slate on the site that is laminated, fairly easy to
11 replicate. We have now started putting these on web
12 pages so you can download them in color and laminate
13 them yourself in various locales.

14 Probably more important was the reverse side
15 of the slate which talked about the idea of a shipwreck
16 becoming incorporated in the seabed, which was part of
17 the Abandoned Shipwreck language in the law; but the
18 San Pedro, what it might have looked like at the time
19 of wrecking, 100 years later and today, a cross-section
20 of the site showing that it is a living reef, that
21 these corals are growing on the substrate, that the
22 halo effect that is classic in the Florida Keys is

1 really one of the invertebrates that graze outside on
2 the sea grasses.

3 Well, if you took away the shipwreck in this
4 case, there wouldn't be an inshore path reef community.
5 So it's an integral part of that community and the
6 ecosystem -- the shipwreck itself.

7 Of course, setting up monitoring stations, it
8 is critical for our work -- not only archeological
9 monitoring, but the biological. We like to think that
10 when we look at, and particularly in the Caribbean-type
11 waters, we look at a shipwreck and we think that the
12 biological integrity of these corals growing on the
13 substrate can give us a view of the archeological
14 integrity, which means if someone wants to go through
15 these corals to get to the artifacts, we are going to
16 see that damage noted first in the biology.

17 Using undergraduate students, we go back
18 periodically and monitor. I will be there in May
19 again.

20 One of the things we are very excited about is
21 the recruitments onto the cannons, our seven cannons.
22 So, we set up a small study to document the growth on

1 these cannons -- what type of corals, distribution and
2 frequencies. And, you know, sometimes a cannon will
3 turn over with a permit. We have to look at that. Are
4 there shifting sands, perhaps?

5 But of the seven cannons, we have 414 separate
6 corals that were documented, colonies on the cannons
7 themselves, which really were not even part of the
8 wreck site. They were part of the park enhancement of
9 that site.

10 There is obviously damage, either human
11 intervention or perhaps storm damage. In this case, we
12 had a coral cluster that apparently was on the ballast
13 stones and this particular coral had been rolled over.
14 You can see the bleaching on top. And with the permit
15 from the State and with Federal with NOAA, we worked to
16 restore this site, so coral restoration of the park.

17 And it is difficult to see in this photograph
18 exactly, but the next one will show you the seven coral
19 that we restored back in the coral restoration course
20 with the National Marine Sanctuaries on the site.

21 And we think that this monitoring and also
22 restoration is part of the work that we will do on the

1 sites to assure that these are not only accessible for
2 the public, but they are there for the protection of
3 the cultural and the biological resource
4 simultaneously.

5 Working with the sanctuary program, we took
6 our students, our grads and undergrads, through the
7 first Coral Reef Medic Class and everyone got their
8 Coral Reef Medic Certification to work on this
9 particular 1733 Spanish shipwreck. And I think this is
10 still actively going on in the Keys as they have
11 modified the approach a little bit.

12 But the idea of working with partnerships to
13 train people how to protect the site with proper
14 permission I think is an important component. We have
15 expanded this to other areas. We are now working with
16 the university.

17 Of course site plans. We were instrumental in
18 1994 in talking with the sanctuaries about a Shipwreck
19 Trail. In 1997, it was implemented and there were nine
20 sites up and down the Florida Keys from Key Largo to
21 Key West that were put on a trail site.

22 Two years ago, we did a reassessment of the

1 Shipwreck Trail, talked about what worked and what
2 didn't work and made recommendations. One of the
3 things were these interpretive guides. And, again,
4 this is the guide with samples of the logo from NOAA,
5 the Shipwreck Trail logo, the site plan location, buoy
6 information. It is designated as a protected area.
7 It's set up so it could be put ultimately on web sites,
8 again, so the public can download that.

9 One of our criticisms was the underwater
10 slates or guides, the access, and how does the public
11 gain access without spending lots of money and our
12 budgetary concerns today. So, the internet seems to be
13 the way to do this so you can download.

14 We have now some in the Caribbean, the
15 Dominican Republic, in five languages so you can
16 download a site plan and take it with you in the water.

17 Just quickly, there are a couple of other
18 lessons we have learned over the years. Working on the
19 San Pedro was our first round of establishing parks.
20 There are now an excellent system of preserves. The
21 San Pedro will be a member of the six sites of the
22 underwater preserves of the State of Florida. It's

1 also one of nine sites on the Shipwreck Trail of the
2 Florida Keys and recently it's one of twelve sites that
3 cross in the National Park Service, NOAA, State Waters
4 on the 1733 Heritage Trail for the Spanish Galleons of
5 that particular fleet.

6 Another site on the Shipwreck Trail is the
7 Benwood, Norwegian freighter that went down in 1942.
8 And according to the Abandoned Shipwreck Act's
9 definition of "historic" becomes 50 years. So, we
10 worked with NOAA to talk about putting plaques and
11 buoys and markers. We found that was a very tedious
12 process to put these things on the sea floor. We
13 worked to get the first permit to be able to mark a
14 historic site placed on the site mooring.

15 So the idea of marker buoys I think is very
16 important. This is the first buoy placed in 1992 on
17 any shipwreck in the State of Florida.

18 Now, at this point, we have other sites, both
19 State and NOAA. These buoys are used to identify and
20 mark the site. This is our first round. We have
21 become a little more sophisticated with logos, decals,
22 jurisdictional information on the historic marker buoy.

1 But the idea of marking historic shipwrecks 50
2 years or older I think is an important component.

3 Something I had mentioned here as a possibility of what
4 we can do with MPAs is try to standardize this -- what
5 type of buoy might be in California versus a buoy that
6 would be in the National Park Service versus the State
7 of Florida or the State of Michigan.

8 So, historic marker buoys I think is an
9 important contribution. What we find is these buoys,
10 unlike what archeologists thought many years ago,
11 actually protect the site better.

12 I can think of being on the San Felipe, a
13 sister ship to the San Pedro, and pulling up and people
14 are literally bringing up things off the bottom of the
15 sea, which is illegal. We mentioned that was the case.
16 They said: "Oh, no, no. This site is not protected.
17 The protected one is the one over there with the buoys
18 on it."

19 So, there is this connotation that if you mark
20 it that it is somewhat under jurisdiction, it is
21 protected and people know there is a resource there --
22 which has been done very successfully in Canada to the

1 north on the shipwreck sites, where you can still see
2 wooden steering wheel and dishes on board the ships.
3 And it is just through this peer pressure and
4 identifying the sites as "protected" I think is a good
5 strategy for permanent protection for future
6 generations.

7 So, a couple of other things, a Shipwreck
8 Trail that I would like just to finish up on.

9 Intentional sinkings: In '87, the Duane and the Bib
10 were purchased for a dollar apiece, towed down to the
11 Florida Keys and sunk as one of the first artificial
12 reefs in the Florida Keys. Very successful. They are
13 highly requested dive sites.

14 What we found was that these things were
15 bought for a dollar, they were placed on the bottom;
16 and, yet, their historic significance was not really
17 acknowledged.

18 I worked with the sanctuary program to talk
19 about putting these on the National Register and they
20 immediately came up with the point that how do you
21 designate a ship by age, 50 years -- since this went
22 down in '87, it was brought to my attention that it

1 wasn't historic.

2 I said: "Well, it was built in '36 and
3 actually these sites are very historic and there is
4 seven of the 327 Treasury Class, they have retiree
5 associations. One of them was the first vessel, U.S.
6 Coast Guard, that was sunk in the Atlantic arena after
7 Pearl Harbor and that I would tend to say they were
8 very, very significant."

9 So we successfully, over a
10 three-and-a-half-year period, managed to put the Duane
11 on the National Register of Historic Places.

12 Which then brought up the next point, if it is
13 on the National Register -- If you walk up to a
14 historic building, you would expect to see a placard
15 saying it is on the National Register.

16 For shipwrecks, it had not been done before.
17 So we enlisted the aid of the Coast Guard, brought the
18 seven retiree groups down, brought a 220 foot cutter,
19 the PNS out of Miami, loaded up everybody on board,
20 cruised down to the Duane and had the ten year
21 anniversary of the sinking in '96, the 60th anniversary
22 of the construction. Here I am with Rear Admiral

1 Spady, we are shaking hands over the fact we placed a
2 historic marker plaque onto the site, which again took
3 special permits in order to place these plaques on a
4 shipwreck which actually had been placed under water,
5 intentionally sunk.

6 We also found out that we kind of overstepped
7 our bounds maybe in this idea of the biology because
8 this is what the plaque looks like today.

9 Exotic species of coral completely covered it
10 and now we can't get a permit to clean off our plaques
11 in order to identify them.

12 Subsequent vessels, now we have come up with
13 the idea of what to do with this. And if you haven't
14 ever dived on the Speglegrove, the recent ship we sank
15 in the Key Largo area, they've got their large plaques,
16 which the donors helped pay for, and they've got a
17 scrub brush that is floating above it, so you can take
18 it down and scrub off your name and keep it clean --
19 which I think we should have thought of that a little
20 earlier.

21 But that is where the plaque is, indicated
22 with my photo shop outline, so you can kind of at least

1 tell the outline. No one will probably steal it; but
2 you probably won't find this plaque anymore.

3 Finally, another lesson learned was the fact
4 of nonhistoric ships. On the Shipwreck Trail, the
5 third vessel taught today is the Eagle. It was
6 carrying tires to South America. It was bought and
7 sunk intentionally as a fish site by fishermen.

8 It ended up being on the Shipwreck Trail,
9 which I personally was opposed to that because of the
10 fact it is not historic. Now, it will be historic in
11 2012, so I'm talking with NOAA about "Don't forget when
12 it becomes 50 years old, let's have a little ceremony."
13 A storm did break it in half and it also had been
14 blasted to sink the vessel.

15 What we found on the site was rather
16 disheartening to us. The fact the Shipwreck Trail
17 crossed through various types of management
18 jurisdiction and activities and there is conflict here,
19 you pull up to the Eagle and every time I have been
20 there, there's been fishing boats circling the site
21 fishing. It was sunk by fishermen.

22 You go underneath the water -- I have to

1 mention I didn't get a photograph, but I have never
2 seen this before. A dive boat pulls up, they off-load
3 three huge underwater scooters, three divers with twin
4 tanks and nitrox, probably a little over two hours
5 worth of depth time, and they had pneumatic spear guns
6 they could mount up in the front of their underwater
7 scooters to chase the fish and spearfish on this site.

8 To me, that is kind of a conflict. If you are
9 trying to make the site accessible for recreational
10 diving -- I'm an avid spear fisherman myself in the old
11 days; but if I took a group of sport divers, I don't
12 want spear guns going off simultaneously. And I think,
13 you know, probably a classic would be Panama City where
14 that occurs quite often. I would have to say that we
15 need to think about management of these sites.

16 Underwater, the Eagle, one of the things we
17 recommend is cleanup. It's just full of monofilament
18 lying on this site. There's dead fish hanging on the
19 site with the rods and reels.

20 Any diver there would be a fool to dive
21 without the dive knife because the people trolling
22 around the outside edge -- you know, here's one of the

1 rod and reels. I guess they caught the fish and the
2 fish won, because the rod is actually underwater on the
3 site.

4 But it brings up the idea that we need to look
5 at a common theme. If it is going to be on a Shipwreck
6 Trail, maybe that site should not be promoted for
7 fishing or should be offered "no take". Other sites
8 should be "take".

9 In this case, maybe we need to think in the
10 future of changing the management. It may be difficult
11 because the fishermen placed it on the bottom.

12 But that is just part of the challenges for
13 the future -- how to work these sites so that they can
14 be sustained for whatever stakeholders will be using
15 them.

16 Finally, I just want to give the idea that we
17 did this assessment of the Shipwreck Trail. I didn't
18 bother with the archeological assessments, the
19 establishment of data points; but I think it is
20 important to see we looked at biological monitoring
21 stations.

22 So, on every one of the Shipwreck Trail sites

1 we established two or more sites that we could monitor,
2 go back to on a regular basis. We looked at the reef
3 fish surveys, the coral species, the level of
4 protections.

5 And I think that there's just no doubt we have
6 to think about these shipwrecks as what they are. They
7 are part of the ecosystem. They are living museums
8 under the sea. And I think the way to protect them for
9 the future is to acknowledge that it is a submerged
10 cultural and biological resource of what we are really
11 trying to protect simultaneously.

12 I will hold for questions after John.

13 (Applause at 2:42 p.m.)

14 DR. HALSEY: Thank you, Charlie.

15 I'm going to finish off this session. We have
16 gone from the International to the more broad U.S.
17 thing and I'm going to take you down to the level of a
18 single State.

19 I assume everybody knows where Michigan is.
20 It's the one that is shaped like a mitten.

21 But that is wrong. Michigan is not shaped
22 like a mitten because nearly 40 percent of Michigan's

1 area is under the bottomlands of the Great Lakes.

2 38,504 square miles of Michigan are under water.

3 This is something that is very difficult to
4 convey even to the citizens of Michigan -- that the
5 State boundaries do not stop at the beach edges, that
6 they extend out to these imaginary lines that run
7 throughout the Great Lakes.

8 Now, on these bottomlands in Michigan are at
9 least 1,500 shipwrecks ranging from yachts to 700-foot
10 ore carriers -- far and away, the most of any Great
11 Lake State. For the archeologists and the maritime
12 historians, they represent an incomparable sample of
13 the range of naval architecture from the very first
14 European sailing vessel on the upper Great Lakes to Mid
15 20th Century freighters. They represent a substantial
16 public trust and one that has great public appeal.

17 What has Michigan done over the years?

18 In 1980, there was legislation regulating
19 salvage and there was significantly stronger 1988
20 amendments and these were possible only with the
21 support of the sport diving community. The sport
22 divers were the ones who were observing firsthand the

1 destruction of shipwrecks by salvagers and souvenir
2 takers.

3 It did not hurt at that time that there was
4 support from the Michigan Department of Natural
5 Resources to protect the wrecks as State resources.

6 Michigan's history in this area was very
7 different from the attitude found in the other DNRs in
8 Great Lake States who could not run away from
9 shipwrecks fast enough. "That was somebody else's
10 problems." They dealt with fin, fur and feather. They
11 didn't want anything to do with shipwrecks.

12 Today most of the divers who were part of the
13 original push for legislative protection of wrecks are
14 gone. They have retired. They have died. They have
15 gone on to better things.

16 Some of the younger divers, unaware of the
17 historical development of the laws, now view them as
18 State-imposed regulations, something that their
19 forefathers actually demanded. This may be part of a
20 generalized anti-State or anti-Government attitude that
21 is prevalent in many areas of contemporary American
22 society.

1 So Michigan does have a significant State
2 legislative base to protect these wrecks and it has
3 been effectively and frequently enforced by our
4 conservation officers who are really the ones who are
5 most likely to catch somebody in the act.

6 The early judicial proceedings were handled
7 under State Law and were unqualified wins for the
8 State.

9 More recent judicial actions have focused on
10 the related questions of ownership and abandonment. A
11 lack of maritime expertise among the State Attorney
12 General lawyers and judges has led to a troubling lack
13 of consistency and knowledge of the law. This does not
14 bode well for State ownership claims in the future. As
15 Brian noted, we are beginning to run into maritime
16 salvage claims.

17 We won't mention the Abandoned Shipwreck
18 Act -- Brian has already given us something on that --
19 except to emphasize that there still is debate as to
20 exactly what "imbedded" and what "abandoned" mean. You
21 would think that this would have been settled a long
22 time ago. No, it has not.

1 There has been an enormous amount of time and
2 money spent on legal proceedings involving fantastic
3 tales of treasure. As I said earlier: "Gold makes
4 anything possible."

5 And you put gold under water and it makes it a
6 virtual certainty somebody is going to find gold on
7 20th Century ore carriers. "Oh, yeah, there was a
8 payroll in the safe."

9 More recently, some explorers claim to have
10 found the Griffin, which was the earliest European
11 sailing vessel, and have sought jurisdiction of the
12 Federal Court, but have not provided the location of
13 the wreckage to the State so it could make its own
14 evaluation of the site.

15 The Republic of France has weighed in and has
16 claimed the Griffin is a ship of state and, therefore,
17 covered by the Doctrine of Sovereign Immunity and not
18 subject to salvage claims or ownership by any other
19 party; but France also does not know whether or not
20 this wreckage is actually the Griffin.

21 So we have everybody saying: "It is the
22 Griffin." Nobody can prove that it is the Griffin.

1 We have got France claiming the Sovereign
2 Immunity. We have the State of Michigan saying: "We
3 don't think it is a ship of state at all. We think
4 this was the result of a private venture by a private
5 individual." So things are just really getting
6 interesting now.

7 In the area of State programs, the original
8 legislation made no provision for funding
9 appropriations for administration enforcement or
10 interpretation. In other words, this was an unfunded
11 State Mandate: "Go and do wonderful things --
12 somehow."

13 Over time, administering State agencies have
14 found alternative sources of funding for a limited
15 number of program activities -- mainly through the
16 Coastal Zone Management Program, some money through the
17 National Historic Preservation Act, the Historic
18 Preservation Fund.

19 It has only been in the last few years that a
20 State employee who has management of shipwreck
21 resources as his sole or even principal responsibility
22 has come on board. Volunteers have done basic work in

1 the State bottomland preserves. The State has no
2 search equipment, no research vessel and minimal diving
3 equipment.

4 Universities have been slow, with the
5 exception of Michigan State University, to recognize
6 shipwrecks in maritime heritage as a legitimate
7 research and management study area, although the
8 University of Michigan is now on board as a result of
9 one professor's personal encounter with shipwrecks
10 lying just offshore from his summer home.

11 I think largely shipwrecks have always been
12 viewed as something that only treasure hunters would be
13 interested in and that there really were no significant
14 research questions involved with shipwrecks.

15 State tourist agencies, for some reason, have
16 never seriously warmed to the idea of the Great Lakes
17 State as a diving destination. Perhaps that is because
18 of the temperature of the water and the fact that if
19 you are really going to dive in the Great Lakes, you
20 are going to be a "dry suit" diver.

21 State Great Lakes Bottomland Preserves were
22 authorized under the original 1980 legislation; but as

1 with the rest of the program, there was no provision
2 for their care and feeding. Today the preserves and
3 their support groups are at the crossroads as the
4 founders of the support groups have moved on.

5 The State Archeologist is expected to be the
6 chief advocate for maritime preservation, even more
7 than the State Historic Preservation Officer, even
8 though the position is not specified in any State
9 Legislation nor are there any specific requirements.

10 The State Archeologist should be able to dive,
11 not because he will be doing a lot of it, but it is a
12 question of credibility with the diving community.

13 When I started in 1976, the last thing on my
14 mind was diving. There was more than enough to handle
15 with upland prehistoric and historical archeological
16 sites; but I soon saw that I was going to get sucked
17 into this. The Historic Preservation people would not
18 consider these things as historic sites. They weren't
19 architecture. They weren't structures. Frank Lloyd
20 Wright never built a ship.

21 So we gave them archeological site numbers and
22 that is essentially how we became one of the leaders in

1 archeological shipwreck preservation -- at least in the
2 Great Lakes area.

3 The job comes with a lot of criticism and
4 suspicion from divers and a near absence of financial
5 or staff support at the State level.

6 Management responsibility is shared between
7 the Department of History, Arts and Libraries and the
8 Department of Environmental Quality, but it works well.
9 We have been in this holding hands for so long and it
10 does not hurt that it has been basically the same
11 people involved all along that there are never any
12 conflicts of interest between our two agencies. We
13 support each other very well.

14 Initially, there was little Federal
15 involvement in Michigan's Great Lakes; however, there
16 were significant National Park-funded surveys at Isle
17 Royal and Pictured Rocks National Lake Shores. All
18 national parks and lake shores in Michigan have
19 significant maritime historical resources and/or
20 interpretive facilities. The survey reports done for
21 Isle Royal and Pictured Rocks set a high standard and
22 model for later inventories.

1 Over the years, funds from the Coastal Zone
2 Management Program have had a significant impact as
3 have Michigan State University Sea Grant Agents. Sea
4 Grant Agents are mostly employees of Michigan State
5 University who are heavily involved with community
6 development and they were quick to see that having
7 shipwreck preserves next to your town was an easy
8 source of money.

9 You know, the divers come in, they spend a lot
10 of money, they stay in your motels, they eat in your
11 restaurants, all at essentially no expense to the local
12 communities. So shipwrecks were viewed from the start
13 as an important economic driver in community
14 development.

15 In the area of diver participation, as I
16 notice in the State Legislation above, the Michigan
17 sport diving community was instrumental in establishing
18 the primary legislation. There was also considerable
19 interest in classes in underwater archeological
20 recording offered in the late 1980's and early 1990's.

21 While a number of individuals have used their
22 training to undertake recording projects, most have

1 not. Most notable have been the efforts of some to
2 draw attention to the damage that divers do to fragile
3 wrecks through sloppy diving practices.

4 Others have found nonconsumptive
5 entrepreneurial ways of bringing shipwrecks to larger
6 audience such as glass-bottom boats; but this is a
7 practice that is not going to be able to be done in
8 very many areas. The water quality simply is not good
9 enough and the wrecks are too deep.

10 In general, there is an understanding that
11 removal of artifacts degrades the shipwreck diving
12 experience and most divers will cooperate;
13 nevertheless, artifacts continue to disappear. Even
14 unmarked wrecks, wrecks in preserves, wrecks that are
15 listed on the National Register are still subject to
16 predation.

17 There is a dedicated corps of shipwreck
18 discoverers who spend considerable amounts of time and
19 money to find new shipwrecks -- this is not done at
20 State expense -- and while not illegal, does subject
21 heretofore undiscovered pristine wrecks to disturbance.
22 These discoverers also accomplish only minimal

1 documentation before, quote, "opening the wreck to the
2 public."

3 Research is concentrated on the wreck
4 incident, seldom on the role of the vessel or the site
5 in its archeological and historical context. They take
6 no responsibility for what happens to the wreck once it
7 is open. Although well equipped, they almost never
8 volunteer their services.

9 Coupled with this attitude is a vocal minority
10 who strongly advocate diver's right of access,
11 vehemently opposing any real or perceived regulations
12 to limit their diving on any wreck anywhere at any
13 time. This is true even when the regulations were
14 intended to help preserve artifacts in place, the
15 devout goal of most dive organizations. Any hint of
16 additional regulation is anathema and galvanizes the
17 dive community like nothing else.

18 The Thunder Bay National Marine Sanctuary was
19 established on October 7, 2000, and was made permanent
20 in September of 2005. It is only the second national
21 marine sanctuary devoted to the protection of
22 underwater cultural resources -- the Monitor being the

1 first. It is the only one in fresh water.

2 It's jointly managed and funded by NOAA and
3 the State of Michigan with five NOAA-funded and one
4 State-funded employee. There are about 200 wrecks in
5 the Greater Thunder Bay area. It has been the scene of
6 two seasons of survey work by Bob Ballard's Institute
7 for Exploration. It has also been the scene of survey
8 and publication of the sanctuary's earliest known
9 wreck, of the 1840 side-wheeler New Orleans.

10 It is the scene of ongoing field school
11 activities from East Carolina University and University
12 of Rhode Island and it is now the site of the
13 newly-opened Great Lakes Maritime Heritage Center with
14 offices, exhibits, artifacts, storage, et cetera.

15 It has also been one of the principal reasons
16 for the hope for a future for the City of Alpena. You
17 will hear this said by the citizens of Alpena that this
18 sanctuary has given them hope that their town really
19 can come back. It was a town that was originally based
20 on manufacturing, logging, paper making and so forth.
21 In fact, the Maritime Heritage Center is in an
22 abandoned paper mill.

1 I think it points out the real significance in
2 economic terms of what an MPA, in this case, the
3 National Marine Sanctuary, can mean to a town. When
4 you hear people practically crying about how important
5 this is, it does give you pause as to the real
6 significance or another real significance of what
7 marine sanctuaries can mean and what we should also be
8 talking about in terms of our deliberations about where
9 these things may be placed and what they are going to
10 mean for a much broader range of people than we thought
11 about before.

12 Thank you.

13 (Applause at 2:57 p.m.)

14 CHAIRMAN BROMLEY: We have a few moments, if
15 people want to ask questions of John or Brian or
16 Charlie.

17 DR. HALSEY: Yes?

18 MR. RICHARD McLAUGHLIN: Great presentations.
19 Very, very interesting.

20 I am Richard McLaughlin from the Harte
21 Research Institute here in Corpus Christi. Very
22 interesting presentations.

1 I was really excited about the fact that the
2 Federal Government is taking a serious look at treasure
3 hunting in the Flower Garden Banks and in the other
4 areas of the Gulf of Mexico; but I have to warn that if
5 those treasure hunters or salvagers are foreign rather
6 than U.S. companies, then we have absolutely no legal
7 authority whatsoever to stop what they are doing.

8 Because under the Law of the Sea Convention,
9 if it is beyond the 12-mile territorial limit, the only
10 thing that we can manage are biological resources, not
11 cultural resources. And as a result, it would be a
12 violation of International Law if we were to try to
13 stop a foreign flag vessel or a foreign corporation
14 from trying to salvage a shipwreck that is beyond the
15 12-mile limit.

16 This is something that we've got to change and
17 I'm glad to see that the Federal Government is
18 beginning to look at this and the Marine Protected
19 Areas community is beginning to look at it; but it is
20 something that needs to be addressed.

21 DR. HALSEY: Yeah. I think you have hit the
22 heart of what the main problem is.

1 Who here has never dreamed of finding
2 treasure?

3 There simply is not enough treasure out there
4 for everyone's dreams to be satisfied.

5 And that is one of the main things.

6 You know, judges are treasure hunters, too.
7 So, they don't want to be frustrating the ability of
8 someone to satisfy this apparently universal human
9 longing to find something valuable under the water.

10 Any other questions?

11 (No response.)

12 CHAIRMAN BROMLEY: Thank you, John, very much.

13 (Applause.)

14 CHAIRMAN BROMLEY: We have just two things we
15 have to do before our break. Joe has an announcement
16 for us, then I will make an announcement about the
17 Subcommittees, and Lauren will talk to you briefly
18 about arrangements for this evening.

19 Joe, go head.

20 MR. URAVITCH: Okay. I've just got to find
21 it. I've got a short presentation which actually comes
22 courtesy of our friends at the National Park Service

1 who are developing the National Monitoring Program.
2 Given a common phrase I heard in two out of the three
3 Subcommittees today, I thought this would be ideal. I
4 actually came across it at a meeting in Santa Barbara
5 with our Mexican and Canadian colleagues a few weeks
6 ago.

7 (Cat herding film shown.)

8 Thank you, National Park Service and owners of
9 the cats.

10 CHAIRMAN BROMLEY: I see we have not lost our
11 sense of humor.

12 DR. OGDEN: You are going to pass that out,
13 aren't you?

14 MR. URAVITCH: It is available. I've got a
15 memory stick.

16 CHAIRMAN BROMLEY: You should sell it, Joe.

17 MR. URAVITCH: It is actually a former Super
18 Bowl commercial that the Park Service modified.

19 CHAIRMAN BROMLEY: That is quite rich. Okay.
20 Two announcements following on the heels of herding
21 cats, the durable human sentiment of envy has surfaced
22 and Group Number 3 is under assault for having had the

1 exclusive use of the small private luxurious suite, so
2 I am being told that we need to share this asset
3 around.

4 So, Group Number 1 gets to go to the Duval
5 Room now. Group Number 3 will be relocated at one end
6 or the other of this place.

7 Tomorrow morning the other group gets the
8 Duval Room. So, we are going to try to share the
9 wealth.

10 So, Group 1 goes to the Duval Room, third
11 floor; but only for this afternoon.

12 Lauren has an announcement about the
13 reception.

14 MS. WENZEL: Right. Just before you all go,
15 we will not be coming back here.

16 CHAIRMAN BROMLEY: You won't come back here
17 after your meetings.

18 MS. WENZEL: Some of us will be here, but you
19 don't have to reconvene before we go to the reception
20 at 5:30 at the Corpus Christi Museum of Science &
21 History. I am told this is about a mile from the
22 Bayfront, but that it is not a great walk because of

1 the big roads and no one seems to walk here. Realize
2 that?

3 So, if people want to meet in the lobby and
4 take a cab, we can go ahead and do that. If you want
5 to get directions, we can do that, too.

6 So, I think if we meet in the lobby around
7 5:15 or 5:20 and head over, that should be good. For
8 those who get there first, they said they would meet us
9 and head for the north entrance of the museum.

10 CHAIRMAN BROMLEY: Several of us have cars and
11 if we meet in the lobby at 5:15, we will get these
12 cowboys on the street to herd us into our
13 transportation.

14 A PARTICIPANT: I have got the key to the
15 Duval Room which I'm going to shred right now, so knock
16 yourselves out.

17 (Whereupon, at 3:00 p.m., the proceedings were
18 adjourned.)

19

20

21

22

1 STATE OF TEXAS *

2 COUNTY OF NUECES *

3 I, CONNIE S. CALVERT, Certified Shorthand
4 Reporter #1867 for the State of Texas, Registered
5 Professional Reporter, Federally Certified Shorthand
6 Reporter in and for the Western District of Texas, do
7 hereby certify that the above and foregoing contains a
8 true and correct transcription of the proceedings, to
9 the best of my ability, in the above-styled cause, all
10 of which occurred in open forum and were reported by
11 me.

12 I further certify that the total cost for the
13 preparation of this Reporter's Record is _____
14 and was paid/will be paid by _____.

15 WITNESS MY OFFICIAL HAND on this 20TH DAY OF
16 MAY, A.D., 2006.

17 _____
18 CONNIE S. CALVERT

19 CERTIFIED SHORTHAND REPORTER #1867 (TEXAS)

20 EXPIRATION DATE 12-31-07
21
22