

**Revised Agenda
Sustainable Fisheries/Ecosystem Management Committee**

**Gulf of Mexico Fishery Management Council
Hilton Galveston Island Resort
Galveston, Texas**

**Monday, October 5th 2015
8:30 a.m. – 9:30 a.m.**

- I. Adoption of Agenda (**Tab E, No. 1**) – Riechers
- II. Approval of Minutes (**Tab E, No. 2**) – Riechers
- III. Action Guide and Next Steps (**Tab E, No. 3**) – Atran
- IV. SSC Review of Integrated Ecosystem Assessment – Management Strategy Evaluation – Single Species (**Tab B, No. 4**) – Luiz Barbieri (SSC Representative)
- V. Presentation – NOAA Ecosystem Based Fisheries Management Policy (**Tab E, No. 5**) – Jason Link
- VI. Other Business - Riechers

Members:

Robin Riechers, Chair
Leann Bosarge, V. Chair
Roy Crabtree/Steve Branstetter
John Sanchez
Greg Stunz
David Walker
Roy Williams

Staff: Steven Atran

1 GULF OF MEXICO FISHERY MANAGEMENT COUNCIL
2
3 SUSTAINABLE FISHERIES/ECOSYSTEM MANAGEMENT COMMITTEE
4

5
6 Marriott Beachside Hotel Key West, Florida
7

8 June 8, 2015
9

10

11 **VOTING MEMBERS**

- 12 Leann Bosarge.....Mississippi
- 13 Steve Branstetter (designee for Roy Crabtree).....NMFS, Florida
- 14 Harlon Pearce.....Louisiana
- 15 Lance Robinson (designee for Robin Riechers).....Texas
- 16 John Sanchez.....Florida
- 17 Greg Stunz.....Texas
- 18 David Walker.....Alabama
- 19 Roy Williams.....FLorida

20

21 **NON-VOTING MEMBERS**

- 22 Kevin Anson.....Alabama
- 23 Martha Bademan (designee for Nick Wiley).....Florida
- 24 Doug Boyd.....Texas
- 25 Jason Brand.....USCG
- 26 Pamela Dana.....Florida
- 27 Dale Diaz (designee for Jamie Miller).....Mississippi
- 28 Dave Donaldson.....GSMFC
- 29 Myron Fischer (designee for Randy Pausina).....Louisiana
- 30 John Greene.....Alabama
- 31 Campo Matens.....Louisiana
- 32 Corky Perret.....Mississippi

33

34 **STAFF**

- 35 Steven Atran.....Senior Fishery Biologist
- 36 Assane Diagne.....Economist
- 37 John Froeschke.....Fishery Biologist/Statistician
- 38 Doug Gregory.....Executive Director
- 39 Karen Hoak.....Administrative and Financial Assistant
- 40 Ava Lasseter.....Anthropologist
- 41 Mara Levy.....NOAA General Counsel
- 42 Emily Muehlstein.....Fisheries Outreach Specialist
- 43 Charlene Ponce.....Public Information Officer
- 44 Ryan Rindone.....Fishery Biologist/SEDAR Liaison
- 45 Bernadine Roy.....Office Manager
- 46 Charlotte Schiaffo.....Research & Human Resource Librarian

47

48 **OTHER PARTICIPANTS**

- 1 Adam Bailey.....NMFS SERO, St. Petersburg, FL
- 2 Eric Brazer.....Reef Fish Shareholder’s Alliance
- 3 J.P. Brooker.....Ocean Conservancy, St. Petersburg, FL
- 4 Charles Carter.....Key West, FL
- 5 Michael Drexler.....Ocean Conservancy, St. Petersburg, FL
- 6 Chad Hanson.....Pew Environmental Trusts
- 7 Mark Hubbard.....
- 8 Van Hubbard.....FL
- 9 Judy Jamison.....FL
- 10 Joe Jewell.....DMR, MS
- 11 Bill Kelly.....FKCFA, FL
- 12 Kelli O’Donnell.....NOAA Contractor, Summerland Key, FL
- 13 Bonnie Ponwith.....SEFSC
- 14 Steve Tomeny.....LA

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18 The Sustainable Fisheries/Ecosystem Management Committee of the
19 Gulf of Mexico Fishery Management Council convened at the
20 Marriott Beachside Hotel, Key West, Florida, Monday morning,
21 June 8, 2015, and was called to order at 8:30 a.m. by Chairman
22 Leann Bosarge.

23

24 **ADOPTION OF AGENDA**

25 **APPROVAL MINUTES**

26 **ACTION GUIDE AND NEXT STEPS**

27

28 **CHAIRMAN LEANN BOSARGE:** Good morning. We have our Sustainable
29 Fisheries and Ecosystem Management Committee meeting first thing
30 this morning and we are missing the wonderful Mr. Robin. He is
31 on his way and so I will be your Chair in his spot this morning.

32
33 Let’s read out the members, just to make sure we have everybody
34 here. Robin, we know, is on the way, but we have the more than
35 capable Lance here. I am here and Dr. Crabtree or Mr.
36 Branstetter and Harlon is here via the webinar.

37
38 **MR. HARLON PEARCE:** I am here.

39
40 **CHAIRMAN BOSARGE:** Good. If you want to speak, Harlon, you just
41 stop us at any point.

42
43 **MR. PEARCE:** What I’m going to do, Leann, is I’m going to type
44 in the chat box and they will let you know I want to say
45 something. That way, I don’t disrupt the meeting.

46
47 **CHAIRMAN BOSARGE:** Beautiful. John Sanchez we have and Greg,
48 Dr. Stunz, is here and David Walker is here and Mr. Roy Williams

1 is here. All right. We have everybody and first let's look
2 over our agenda. Are there any changes or additions that anyone
3 would like to make to the agenda? If not, can I get a motion to
4 adopt the agenda as presented? We have a motion from Roy and
5 it's seconded by John.

6
7 Approval of Minutes, the minutes were attached in our briefing
8 book. Were any changes or revisions that we need to make to the
9 minutes from our last meeting? Seeing none, can I get a motion
10 to adopt the minutes?

11
12 **MR. ROY WILLIAMS:** Motion to adopt the minutes.

13
14 **CHAIRMAN BOSARGE:** It's seconded by John. The minutes are
15 adopted. All right. On our Action Guide, the first item that
16 we are going to address are the National Standard 1, 3, and 7
17 proposed revisions and I believe Mr. Atran is going to talk to
18 us about that.

19
20 **NATIONAL STANDARD 1, 3, AND 7 PROPOSED REVISIONS**

21
22 **MR. STEVEN ATRAN:** Thank you, Madam Chairwoman. National Marine
23 Fisheries Service has put out some proposed revisions primarily
24 to National Standard 1, but there is a couple of associated
25 edits also to National Standard 3 and 7. National Standard 3,
26 just to refresh your memory, says that to the extent practicable
27 an individual stock of fish shall be managed as a unit
28 throughout its range and interrelated stocks of fish shall be
29 managed as a unit or in close coordination.

30
31 National Standard 7 says that conservation and management
32 measures shall, where practicable, minimize costs and avoid
33 unnecessary duplication and National Standard 1, of course, says
34 that management measures shall, to the extent practicable, shall
35 prevent overfishing while achieving, on a continuing basis, the
36 optimum yield from each fishery.

37
38 These proposed changes are not really intended to make any major
39 changes in how National Standard 1 is implemented. For the most
40 part, they are just clarifying changes, but in some cases they
41 do alter the National Standard a little bit.

42
43 We have prepared a draft letter for the council to submit as a
44 comment to the National Marine Fisheries Service. They are
45 requesting comments from all of the councils with a June 30
46 deadline, I believe. We wanted to present the draft letter to
47 the council to see if you approve this letter or if you want any
48 changes made to the letter before approving it.

1
2 I've got a PowerPoint that I put together that just briefly goes
3 through each of the recommendations that we're suggesting. I
4 thought that would be a little easier than trying to go through
5 the red-line version of the document itself and so if we could
6 start.

7
8 The first recommendation we have has to deal with the section on
9 fishery management objectives. What this is suggesting -- What
10 NMFS is suggesting is adding a statement that says "to reflect
11 changing needs of the fishery over time, the council should
12 reassess the objectives of the fishery on a regular basis".

13
14 We, in our letter, are saying that the council supports this
15 addition. Now, this does not say it should be reassessed every
16 X number of years. They leave that flexibility up to the
17 councils and they just say that periodically there should be
18 some adjustment.

19
20 **MR. CORKY PERRET:** Given the government language "on a regular
21 basis", I guess the government is going to decide what a regular
22 basis is, six months or a year or five years. It seems to me we
23 should be -- I don't know. What is reasonable? Every two years
24 or every three years? Regular is very generic and could we have
25 something a little more specific of at least every two years or
26 so or three years? What is reasonable? That's just something
27 you might want to think about.

28
29 **EXECUTIVE DIRECTOR DOUG GREGORY:** We have a number of FMPs and
30 so each FMP would have to be done on that same schedule and that
31 could be -- If we say every five years, unless we stagger them,
32 yes.

33
34 **MR. PERRET:** But staggered. I won't be around. You guys have
35 got to live with a regular basis and so if you all are
36 comfortable with it, so be it.

37
38 **CHAIRMAN BOSARGE:** Corky, maybe something that could go in there
39 would be -- If you are worried about it being too often or not
40 being often enough, maybe there could be some wording in there
41 of no more frequently than such and such years or at least every
42 such and such years and maybe we can get with staff and get some
43 feedback on that and see what they think.

44
45 **MR. PERRET:** Probably every -- I don't know, but at least every
46 five years or something. I think Steve is taking some notes and
47 so maybe staff can add something. Thanks.

48

1 **MR. ATRAN:** Okay and just to let you know, since there were no
2 motions made, this is just a suggestion from one of the
3 committee members and so that's how it will be reflected in the
4 report.

5
6 Recommendation Number 2 falls under the section for stocks that
7 require conservation and management and this section -- Remember
8 I said that there were some editorial changes made to the
9 guidance for National Standards 3 and 7 and some of that
10 guidance was moved from those other National Standards into this
11 section here.

12
13 This deals with the requirement to set ACLs for any stocks that
14 are in the management unit unless they are exempt from the ACL
15 requirements. Basically, that means that either they are short-
16 lived species or they qualify as ecosystem component species.

17
18 If you remember, we've had a problem where we've had several
19 species that were originally added to our Reef Fish FMP back in
20 the early 1990s for data collection purposes only and now they
21 are still in there. Some of them are still in there and so
22 we're required to set ACLs for species that the council really
23 never intended to actively manage.

24
25 The problem is that these species do have catches associated
26 with them at low levels and so they don't qualify for the
27 current criteria for ecosystem component species. Our
28 recommendation is that the council feels that this section does
29 not provide sufficient flexibility to determine if an
30 incidentally caught data-limited species should require
31 management.

32
33 We suggest including incidental low-catch species as ecosystem
34 species that are exempt from ACL requirements. That would
35 require some modification to the criteria for designating a
36 species as an ecosystem component species, but once it is, we
37 would not have to have specific species-level ACLs.

38
39 **MR. WILLIAMS:** Madam Chairman or Mr. Executive Director or
40 Steve, what are you looking for from us here? Do you want a
41 motion that we approve this proposed staff recommendation?

42
43 **MR. ATRAN:** I was planning to go through all the recommendations
44 and then we could come back and talk about the recommendations
45 as a whole, but if you would prefer to approve or modify each
46 one as we go along, that would be fine as well. That's the
47 committee's preference.

1 **CHAIRMAN BOSARGE:** Go ahead, Martha.

2
3 **MS. MARTHA BADEMAN:** This isn't to that and so you can come back
4 to me if you want to continue this discussion, but I do have a
5 question.

6
7 **CHAIRMAN BOSARGE:** What is the committee's preference? Would
8 you like to go ahead through the presentation and then as we go
9 along -- If there is something that really stands out to you,
10 don't hesitate to stop us, but if not, then we will take a look
11 at it at the end and then, Martha, do you want to address your
12 question now?

13
14 **MS. BADEMAN:** Thanks. I'm not on the committee and so thanks
15 for recognizing me. Just a question about the -- There is a
16 sentence in here about including species as ecosystem species to
17 encourage continued data collection. Is there data that we're
18 collecting on these species that we're not collecting on other
19 species, things that are regulated or not regulated?

20
21 **MR. ATRAN:** No, but back when Reef Fish Amendment 1 was written
22 and Doug was one of the authors of that and he could probably
23 explain it better than me, but we had a list of species that
24 were in the management unit and then another list of species
25 that were in the fishery, but not in the management unit,
26 intended primarily for data collection.

27
28 Nowadays, there is data collection, at least catch data
29 collected, on anything that's caught and brought back to the
30 dock and so that distinction is no longer relevant and, in fact,
31 I noticed -- I forget where in the red-line version of the NS-1
32 revisions it occurs, but they actually have deleted that
33 sentence about including species for data collection.

34
35 Basically the approach is that if it's listed in the FMP that
36 it's necessary for conservation and management and ACLs are
37 required unless it falls under one of the exemptions to ACLs.

38
39 **EXECUTIVE DIRECTOR GREGORY:** The real critical sentence here is
40 the last sentence of this slide. The Act says that ACLs are
41 required on all fisheries except certain categories and
42 ecosystem species is one of those categories.

43
44 The conundrum we have been caught in is the interpretation that
45 incidentally-caught species that are really minor and rare in
46 the catch and are not targeted -- We have been advised by NOAA
47 General Counsel that we cannot call them ecosystem species
48 because they are kept.

1
2 What we are asking NMFS here is to let us call incidentally low-
3 caught species as ecosystem species so we can make them exempt
4 from the ACLs. That is the important thing we're trying to get
5 at here and that's the major distinction, but this also goes
6 along with what we've asked in our testimony before Congress
7 last year.

8
9 **MR. ATRAN:** The next recommendation deals with the definition of
10 a stock complex and how to define it. I probably put the wrong
11 sentence up here. Very simply, a stock complex is a tool to
12 manage a group of stocks within an FMP.

13
14 In the proposed revisions, NMFS has added a little bit more
15 specificity. They say where practicable that the group of
16 stocks should have similar geographic distribution, life history
17 characteristics, and vulnerabilities to fishing pressure such
18 that the impact of management actions on the stocks is similar.
19 They are providing a little bit more guidance than they have in
20 the past on defining what constitutes a stock complex.

21
22 We are suggesting that the council recommend that it supports
23 the revisions to the definition of stock complex and revised
24 proposed language on indicator stocks.

25
26 The next recommendation has to do with something that's new to
27 the National Standard Guidelines and that is adding a definition
28 for a depleted stock. This does -- If a stock is overfished,
29 this definition is supposed to indicate a stock that is
30 overfished for reasons primarily other than human overfishing
31 purposes, because ecological or environmental conditions have
32 gotten in the way of the stock and it's either caused the stock
33 to enter an overfished condition or it's preventing the stock
34 from rebuilding.

35
36 It does not negate the overfished designation and it does not
37 negate the requirement to rebuild the stock, but it just adds a
38 new definition to differentiate stocks that are overfished
39 primarily due to human activities from those that are overfished
40 due to other factors.

41
42 NMFS has a proposal and I am not going to read the whole thing
43 and you might not be able to read it on your screen, but I just
44 want you to see that it's a very complicated definition and we
45 thought that it was a little too complicated and a little too
46 prescriptive, talking about the stock has not experienced
47 overfishing at any point over a period of two generation times.
48 That seems rather arbitrary.

1
2 We are suggesting a simplified definition that we think captures
3 the essence of what's intended by the term "depleted", but
4 provides more flexibility.

5
6 We are suggesting a definition that says a stock is considered
7 depleted if the biomass level drops below MSST due primarily,
8 but not necessarily, solely to reasons other than fishing
9 mortality. I think that more or less captures the essence of
10 what "depleted" actually is intended to mean without getting too
11 prescriptive.

12
13 The next section has to deal with modifying the definition of
14 minimum stock size threshold. Currently, the definition simply
15 says MSST is a level of biomass below which the stock or stock
16 complex is considered to be overfished. There is no guidance as
17 to where to put the MSST level, but just once it's been defined,
18 if the stock drops below that level, it's overfished.

19
20 The proposal is to add some guidance as to where to set the
21 level. However, we think that NMFS may have made a little bit
22 of an error in their suggested wording. They state that their
23 proposal is that MSST means the level of biomass below which the
24 capacity of the stock or stock complex to produce MSY on a
25 continuing basis has been jeopardized.

26
27 The problem is the level at which the capacity of the stock to
28 produce MSY on a continuing basis is the definition of the
29 biomass at MSY and so if this proposed change were put in as
30 worded, it would mean that anytime you drop below the BMSY level
31 at all that the stock would be overfished.

32
33 We want the MSST level to be some level below that BMSY level to
34 allow for fluctuations and so we have proposed an alternative
35 definition to state that MSST is a level of biomass below which
36 the stock biomass is unable or unlikely to return to its BMSY
37 level in the absence of a rebuilding plan.

38
39 Again, it's not as prescriptive, but it does allow a little bit
40 more flexibility and it does allow setting MSST at some level
41 below the biomass at MSY.

42
43 The next section is under specification of status determination
44 criteria and overfished and overfishing determinations and this
45 deals with using a multiyear approach to determining whether or
46 not a stock is undergoing overfishing.

47
48 The proposed language is that the council may develop

1 overfishing status determination criteria that use a multiyear
2 approach, not to exceed three years, and particularly supports
3 the allowance that allows for a three-year mortality reference
4 point to determine overfishing status.

5
6 We are actually doing this already. Most of the time, our stock
7 assessments, when determining whether overfishing is occurring,
8 uses the last three years of fishing mortality estimates and
9 takes the geometric mean of those and then compares that to
10 whatever our threshold level, our maximum fishing mortality
11 rate, is.

12
13 We are already doing this and I think other councils are already
14 doing this and so this just basically puts into the National
15 Standard Guidelines the practice that is already undergoing or
16 that's already in practice.

17
18 The next section is also under acceptable biological catch and
19 annual catch limits definitions and it adds definitions for
20 management uncertainty and scientific uncertainty. Currently,
21 the National Standard Guidelines discuss management uncertainty
22 and scientific uncertainty, but they don't define what they are
23 and so this adds some definitions.

24
25 Management uncertainty refers to uncertainty in the ability of
26 managers to constrain catch so that the ACL is not exceeded and
27 it also includes uncertainty in quantifying the true catch
28 amounts, i.e., estimation errors in what we feel the catch has
29 been.

30
31 Scientific uncertainty refers to uncertainty in information
32 about a stock and its reference points and so now we have some
33 actual guidance as to what management uncertainty and what
34 scientific uncertainty means.

35
36 The definition about trying to estimate if catch is exceeded,
37 that could probably go in either of these, but NMFS has chosen
38 to put it under management uncertainty. We are suggesting that
39 the council supports the proposed definitions that clarify
40 management uncertainty and scientific uncertainty.

41
42
43 The next section is something that's a little bit new. It
44 allows a phase in of ABC control rules and NMFS is proposing to
45 state that a council may choose to develop a control rule that
46 phases in changes to ABC over a period of time not to exceed
47 three years as long as overfishing is prevented.

1 Just as a matter of historical perspective, back when Reef Fish
2 Amendment 1 was first implemented and the original framework
3 procedure for setting total allowable catch was implemented,
4 when a rebuilding plan was put in place, that original framework
5 procedure allowed a three-year phase in of the ABC and then we
6 got away from that for some reason. This is allowing us to get
7 back to phasing in an ABC over three years.

8
9 However, what we have found, very often, is that it's not the
10 ABC itself that's causing all the socioeconomic issues, but it's
11 the requirement to end overfishing immediately and if we can
12 phase in ABC, we may still end up overfishing even if we phase
13 it in over that second and third year.

14
15 In order to be consistent, we are suggesting adding the phrase
16 "by the end of the phase-in period" and so this would say that
17 the council can phase in an ABC over a period of time, not to
18 exceed three years, as long as overfishing is prevented by the
19 end of the phase-in period.

20
21 This is also consistent with some other sections that we're
22 going to get to where the council is allowed to reduce, but not
23 necessarily end, overfishing if immediately ending overfishing
24 would cause severe socioeconomic impacts.

25
26 **MS. MARA LEVY:** Just a comment. Whatever comments the council
27 chooses to submit is fine, but just that the idea of phasing in
28 the ending of overfishing would likely be inconsistent with the
29 requirement in the Act that says your rebuilding plan or
30 whatever you do has to end overfishing immediately.

31
32 So you have a certain period of time to implement it and when
33 it's implemented, it needs to end overfishing immediately, which
34 is why I suspect that the proposed changes are phrased the way
35 they are.

36
37 **MR. ATRAN:** Okay and the next section deals with carryover ABC
38 control rules. This deals with underharvest. Up to now, for
39 the most part, if a sector has not fished its ACL that just goes
40 away and it's not carried over to the next fishing season. This
41 proposal states that an ABC control rule may include provisions
42 for the carryover of some and not necessarily all, but some of
43 the unused portion of the ACL from one year to increase the ABC
44 for the next year.

45
46 However, if this would result in having to actually increase the
47 ABC for the following year, we would still have to go back to
48 our SSC and ask them if they would concur with this one-time

1 increase in the ABC.

2
3 What we've done, and we haven't run into this problem too often,
4 but back in 2010 when we had a strong underharvest of red
5 snapper due to the oil spill, we went back to the SSC and we
6 asked them to redo their projections all the way through the
7 rebuilding plan, which resulted in being able to increase ABC
8 not only for the next year, but for all years going forward.

9
10 The underharvest in 2010 -- I guess you could say it was
11 amortized over the entire remaining time of the ABC control
12 rule. This would be allowing it to actually be implemented in
13 its entirety in the following year, provided the SSC would
14 concur that that one-time increase in ABC would be consistent
15 with the rebuilding plan and we are proposing to support that
16 language.

17
18 The next section deals with defining the relationship between
19 optimum yield and the ACL framework. I am really glad that NMFS
20 is trying to address this, because right now we have two
21 different management targets, one to achieve optimum yield and
22 the other to achieve an annual catch limit, and they don't
23 always come up with the same number.

24
25 The NMFS proposal states that an annual OY cannot exceed the
26 ACL. Our SSC was kind of confused by this. If you read it, it
27 says the annual OY cannot exceed the ACL and another way of
28 saying that is that the ACL must always be higher than the
29 annual OY and that doesn't seem to make sense if we're trying to
30 achieve OY. We don't want to be consistently overachieving it.

31
32 Part of the problem is that the term optimum yield is used both
33 to discuss an annual level of fishing as well as a long-term
34 level that can be achieved on a continuing basis and so on the
35 continuing basis, the OY is similar to MSY, but on an annual
36 basis, it's similar to an OFL, which is the yield when you're
37 fishing at FMSY on a year-to-year basis.

38
39 This is confusing, because we have got one term, but two
40 different uses for it and we feel that the use of the term "OY"
41 to discuss an annual yield should be discouraged and that
42 optimum yield should only be that long-term yield on a
43 continuing basis and so if that were to occur and if we were to
44 only use OY as an annual yield, then we could state that the
45 annual ACL cannot exceed the long-term OY, which is actually the
46 exact reverse of what NMFS is proposing. We would be saying
47 that OY, over the long term, sets a target that you should not
48 exceed and we feel that this would be consistent with the

1 Magnuson-Stevens objective to achieve optimum yield on a
2 continuing basis.

3
4 The next section, which also falls under overfished fisheries,
5 under rebuilding timelines, right now the -- This is not a
6 change in the wording, but we are suggesting a change in how the
7 wording is interpreted.

8
9 It says that the time period shall not exceed ten years, except
10 where the biology of the stock, other environmental conditions,
11 or management measures under an international agreement to which
12 the U.S. participates dictate otherwise.

13
14 Other environmental conditions, up until now we've only
15 considered that to be biological or ecological conditions, but
16 NEPA also recognizes a social environment and an economic
17 environment and so we're suggesting that other environmental
18 conditions include socioeconomic as well as the biological
19 environment.

20
21 This would be consistent with the guidance that states that
22 rebuilding time shall take into account the needs of the fishing
23 communities and it would allow all environmental conditions to
24 be considered and so under certain circumstances, there would be
25 very negative impacts to the social or economic environment and
26 this would allow the stock to be given a rebuilding period more
27 than ten years even if biologically it could rebuild in ten
28 years.

29
30 **MR. PERRET:** Steve, you are saying other environmental includes
31 socioeconomic and why wouldn't you say it that way, rather than
32 someone who is not involved with this group and other
33 environmental? I think of environmental as just that, habitat
34 and water quality and all that sort of stuff, but why not say
35 other socioeconomic and environmental conditions, to make sure
36 you've got the socioeconomic in there?

37
38 **MR. ATRAN:** We could do that certainly if you think it would
39 clarify things. It did not suggest a change because, as I said,
40 this is not a -- This is the same wording that's in there right
41 now and NMFS is not proposing any change to this and so we were
42 just proposing a reinterpretation, but if you feel it would
43 clarify it to actually state socioeconomic and other
44 environmental conditions, we could suggest that that be put into
45 here.

46
47 **MR. PERRET:** I just don't -- When I read environmental, I don't
48 even think of socioeconomic and so if we want to be inclusive,

1 it just seems to me that would clarify it a little bit better.

2
3 **MR. JOHN SANCHEZ:** I would agree 100 percent with what Corky
4 said. Let's add that and make it very clear.

5
6 **CHAIRMAN BOSARGE:** I have a comment on this one. Because this
7 is addressing a stock of fish that needs to be rebuilt and so it
8 obviously has a problem from that standpoint, sometimes when we
9 get into our social and economic issues it can be a slippery
10 slope on which way we go on this or that.

11
12 If we think about this particular recommendation from the
13 standpoint of the fish itself and making sure that we ensure the
14 health of that stock of fish, can you make me feel a little
15 better about taking into consideration more of the aspects of
16 the man rather than the fish when we get into the economics and
17 the social part of it and extending this rebuilding plan a
18 little bit longer?

19
20 **EXECUTIVE DIRECTOR GREGORY:** I understand the potential concern
21 here and I think the way the system operates that the biological
22 considerations of the stock are going to be primary, unless
23 there is some really obvious and dramatic social or economic
24 impact that can be demonstrated to extend the rebuilding period
25 somewhat, but I don't think it would be based solely on those
26 attributes.

27
28 **MR. ATRAN:** I think one of the problems with this might be that
29 from a biological perspective that the stock assessment
30 scientists can go to their projection models and plug in the
31 parameters and get an absolute answer. It's going to take less
32 than ten years or it's going to take more than ten years in the
33 absence of fishing mortality.

34
35 I don't know with the social and economic considerations if
36 there is some similar parameter where you can plug numbers into
37 a model and say you exceed or you don't exceed some threshold
38 and so this would add a certain amount of subjectivity to the
39 determination of whether or not a stock can be rebuilt in ten
40 years or less.

41
42 **EXECUTIVE DIRECTOR GREGORY:** This and the other thing that Mara
43 pointed out that would be disapproved by NMFS are things that we
44 asked for in our testimony to Magnuson with Congress regarding
45 the reauthorization to provide some flexibility.

46
47 It's ironic that the Congress established regional councils
48 because of regional differences and then in 1996 started

1 implementing national mandates and the ten-year rebuilding plan
2 is one of those national mandates that oftentimes doesn't make
3 sense and so I think you will see in the reauthorization
4 language, as well as what NMFS is trying to do here, is build in
5 some flexibility, some biological rationale for it.

6
7 One of the ironies of the way it's been implemented since 1996
8 is if a fishery is moderately overfished and can be rebuilt
9 within ten years, you rebuild it within ten years. If a fishery
10 -- Let's take red snapper back in 1984 or 1985.

11
12 It's so overfished and so depleted that you can't rebuild it in
13 ten years and you can take thirty-two years and from a
14 management perspective, that doesn't make sense. If it's that
15 depleted, it probably should have been shut down and so
16 incorporating economic and social factors in that is no more
17 arbitrary or doesn't result in that much of a longer rebuilding
18 period than the way it's currently implemented. I think
19 currently it's one-and-a-half generation times plus the time it
20 takes to rebuild at F equals zero.

21
22 **DR. BONNIE PONWITH:** It's less of an arbitrary and I think you
23 got it right in the second part of that statement that you made.
24 It's formulaic based on the life history of the animal. If the
25 animal can live to be five years, it's going to take less time
26 to have multiple year classes cycle through and rebuild that
27 stock as you reduce your fishing mortality.

28
29 In the case of red snapper, I think the maximum age right now
30 we're using is fifty-four years and so it takes a -- With a
31 long-lived species like that, it takes a longer time to round
32 out the demographics of the population and it gets back to that
33 old thing that the only thing it takes to get a fifty-four-year-
34 old fish is fifty-four years.

35
36 In that situation, ten years isn't going to be enough to
37 rebuild, because what you've got is ten is potentially your
38 maximum age class and that's barely scratching the surface of a
39 properly age structured demographic for that population. I
40 don't really think it's arbitrary the way it's worded right now.

41
42 **MS. LEVY:** Just a clarification that the way that it's
43 structured right now you calculate a minimum time to rebuild and
44 if that's over ten years, that allows you to then calculate a
45 maximum time that's based on the life history of the fish.

46
47 That does not necessarily mean that it is appropriate to choose
48 the maximum time to rebuild, meaning it's still the shortest

1 time possible and so you don't automatically get to go to
2 thirty-two years or fifty years or whatever it is.

3
4 You still have to decide what the shortest time possible is and
5 can consider some things like short-term economics, if you don't
6 want to have to shut down a whole complex or something, but I
7 just want to make clear that the Tmax, the maximum time, doesn't
8 mean that that's the automatic rebuilding time that's
9 appropriate.

10
11 **MR. ATRAN:** The next recommendation is still in the section
12 dealing with time for stock rebuilding. If a stock needs more
13 than ten years to rebuild, right now the formula that's in the
14 guidelines states that it should be the amount of time that it
15 would take to rebuild in the absence of fishing mortality plus
16 one generation time.

17
18 In the case of say red snapper, the time to rebuild in the
19 absence of fishing mortality, and this was calculated in the
20 year 2000, was twelve years and a generation time was 19.6 years
21 and so when you add those two together and round off, it came up
22 to thirty-two years.

23
24 NMFS is proposing to provide two alternative ways to determine
25 what the rebuilding time should be and so there would be a
26 choice of three ways that the council could use.

27
28 The second way would be the amount of time that the stock or
29 stock complex would be expected to take to rebuild if it were
30 fished at 75 percent of the maximum fishing mortality threshold
31 and the third possibility would be Tmin, and that's the amount
32 of time that it would take to rebuild in the absence of fishing
33 mortality multiplied by two. For the third method for red
34 snapper, that would be a twenty-four-year rebuilding time.

35
36 All three of these methods will take usually, generally, pretty
37 close to each other as far as the total time goes, but there
38 might be one reason or another to want to prefer one over the
39 other.

40
41 The other thing that we are suggesting, which is really a very
42 minor point, is the last sentence here. We also recommend that
43 a stock that takes exactly ten years be allowed the alternate
44 rebuilding time rather than ten years.

45
46 Right now, if a stock were projected to take exactly ten years
47 to rebuild in the absence of fishing mortality, we would be
48 required to rebuild it in ten years, which means we would have

1 to shut down the fishery for ten years and then we still
2 wouldn't meet our target, because there would be discard
3 mortality associated with incidental catch from other fisheries
4 and so it would be impossible for a stock to meet that target.

5
6 We are suggesting that if it takes exactly ten years in the
7 absence of fishing mortality that that stock go into the longer
8 timeline and that it allowed to take the formulaic determination
9 of how long it takes to rebuild a stock. In actuality, we're
10 never going to find a stock that takes exactly ten years to
11 rebuild and so this is just kind of a minor adjustment to the
12 wording.

13
14 Under overfished fisheries, NMFS is proposing to add a
15 requirement that we make sure that adequate progress is being
16 made and so they are proposing new language that says that the
17 Secretary shall review rebuilding plans at routine intervals
18 that may not exceed two years to determine whether plans have
19 resulted in adequate progress toward ending overfishing and
20 rebuilding affected fish stocks.

21
22 We feel that we should support some periodic reviews to make
23 sure that adequate progress is being made. However, staff felt
24 that the two-year provision was perhaps too frequent and given
25 the workload that the Science Center already has, this would be
26 a very large increase in their work.

27
28 Plus, two years may not be enough to really be able to detect
29 the impact of management regulations that have been put in place
30 and so we are suggesting a three-year review schedule for stocks
31 that are under a ten-year or less rebuilding plan and five years
32 for stocks that are under a rebuilding schedule exceeding ten
33 years. Then also use the three-year interval for stocks where
34 we've completed the rebuilding plan but the stock is still not
35 rebuilt.

36
37 The next one deals with the section on emergency actions and
38 interim measures. Interim measures can be used to eliminate
39 overfishing, but NMFS is proposing some new criteria and is also
40 proposing to allow interim measures that reduce, but not
41 necessarily end, overfishing.

42
43 This is where I was getting at on some of these earlier
44 provisions where I said we're trying to be consistent with other
45 sections of the National Standard Guidelines that don't require
46 overfishing to be ended immediately.

47
48 It could be reduced provided -- There are three criteria and all

1 three criteria need to be met. One is it's needed to address an
2 unanticipated and significantly changed understanding of the
3 status of the stock or stock complex. Two is ending overfishing
4 immediately is expected to result in severe social and/or
5 economic impacts to the fishery and three is the interim
6 measures will ensure that the stock will increase its current
7 biomass through the duration of the interim measures.

8
9 We are suggesting that the council supports the revised interim
10 measures provision and we feel that it will provide for a more
11 rational management that takes into account the short-term
12 impacts on both the resource and the resource user.

13
14 One other thing is after we wrote the draft letter I was looking
15 through this again and this section on emergency action and
16 interim measures, that's the title, but then it only talks about
17 interim measures.

18
19 Interim measures can be used to address overfishing and
20 emergency actions can be used to address any action that meets
21 the criteria for emergency actions, but the criteria are in a
22 Federal Register notice that was published in 1997 and that's an
23 eighteen-year-old publication and I imagine some people might
24 not even be aware that it exists.

25
26 It's not in the letter right now, but I would like to suggest
27 that we recommend that the emergency action criteria be
28 incorporated into the National Standard Guidelines so that
29 people will always know where to find them.

30
31 **MS. LEVY:** Just a couple of comments. With respect to that one
32 about the emergency, I understand what you're saying, but just
33 note that the National Standard 1 Guidelines deal with National
34 Standard 1, which is achieving optimum yield and preventing
35 overfishing, which is why I think the focus was on the interim
36 measures that are used to address overfishing and not on
37 emergency measures, which are used to address other things. I
38 suspect that's why they're not integrated.

39
40 Then I missed this before we moved on, but with respect to the
41 adequate progress, I think the reason that the two years is in
42 there is because the Act requires that the Secretary review
43 these plan or plan amendments at routine intervals that may not
44 exceed two years and so I think that's why the agency went with
45 two years as opposed to a longer time limit, because they have
46 to do it anyway at least every two years.

47
48 Then I just wanted to note, probably not fresh in anyone's mind,

1 because we talked about it at the beginning, but the idea of the
2 ecosystem component species -- One thing that NMFS is proposing
3 here is to delete all of that language about what constitutes an
4 ecosystem component species.

5
6 They have proposed removing all of that and then being much more
7 general about what is in need of conservation and management and
8 if it doesn't fit into that, you could use ecosystem component
9 for things like data collection. They added much more general
10 language about ecosystem component and took out those four
11 factors that you are supposed to consider.

12
13 **CHAIRMAN BOSARGE:** Are there any other comments or feedback from
14 the committee on any of the recommendations that we've seen?

15
16 **MR. ATRAN:** On adding the emergency action criteria to this
17 section, I understand what Mara is saying, but the title of this
18 section is "Emergency Actions and Interim Measures" and so it
19 seems that it's either appropriate to add the emergency action
20 criteria or rename this section.

21
22 **CHAIRMAN BOSARGE:** We've had a lot of feedback on this and June
23 30 is when we need to have this submitted by.

24
25 **MR. ATRAN:** That's correct.

26
27 **CHAIRMAN BOSARGE:** Okay. Is the committee okay with giving
28 staff license to take into account some of the comments that
29 we've made here today and let them analyze it and decide what
30 changes, if any, need to be made and then submit this letter to
31 the CCC for consideration? If so, can I get a motion to that
32 extent?

33
34 **MR. WILLIAMS:** I would move then that we approve the draft
35 letter shown at Tab E, Number 4(a), that we approve it giving
36 staff editorial license to incorporate comments that they heard
37 here today.

38
39 **EXECUTIVE DIRECTOR GREGORY:** We have got it on all the other
40 screens if you don't want to wait just for this one screen that
41 we're trying to get fixed.

42
43 **CHAIRMAN BOSARGE:** All right and so we have a motion to give
44 staff editorial license to make revisions to this document and
45 submit it to the CCC for consideration. Is that correct, Roy?
46 Is that your motion?

47
48 **MR. WILLIAMS:** Yes.

1
2 **CHAIRMAN BOSARGE:** Do we have a second to that motion?

3
4 **DR. GREG STUNZ:** I will second the motion.

5
6 **CHAIRMAN BOSARGE:** Seconded by Dr. Stunz.

7
8 **MR. ATRAN:** I just wanted to mention there were two more slides
9 on the presentation, but we don't have to go through them. They
10 were just approving the change in the wording in National
11 Standards 3 and 7.

12
13 **CHAIRMAN BOSARGE:** All right. Is the committee comfortable with
14 the motion on the board? **Any opposition to the motion? Seeing**
15 **none, the motion passes.** Thank you, Mr. Atran. I believe the
16 next agenda item is the Review of the Draft CCC NEPA White Paper
17 and Doug Gregory is going to go over that.

18
19 **REVIEW OF CCC NEPA WHITE PAPER**

20
21 **EXECUTIVE DIRECTOR GREGORY:** Yes, Madam Chairman. The Council
22 Coordination Committee has been working on this draft white
23 paper for a couple of years and at our meeting in February, they
24 asked each of the councils to review it and provide input to
25 them for the upcoming meeting, which is in two weeks here in Key
26 West.

27
28 I have got this before you to consider with some comments in
29 this with council staff. Basically, the NEPA process is a NMFS
30 agency process. It's not a council process and the purpose of
31 the Interdepartmental Planning Team, the IPT, is to try to get
32 the NEPA people and the Magnuson Act people together working on
33 a document that the council sees that's a combined NEPA/Magnuson
34 document.

35
36 The complaints from a number of the councils is that NEPA has
37 taken over the process and complicated the process, the NEPA
38 procedure, and because it's an agency process and not a council
39 process, there has been an instance where the agency changed
40 some alternatives after it was submitted to them by the council.
41 I think that was in New England.

42
43 There has been concern about this for a number of years and the
44 proposal in this document is the same language that's in HR1335
45 that was recently passed by the House of Representatives and so
46 the wording is identical and so this is in that part of it.
47 What the wording is proposing is to take the NEPA procedures,
48 such as looking at a reasonable range of alternatives, which we

1 have done since day one, and making sure that the analyses are
2 fair and equitable.

3
4 We have the public process, public input, and build those
5 requirements into Magnuson directly so that NMFS will still be
6 the agency responsible for seeing that things are followed and
7 implemented correctly, as they are now under NEPA.

8
9 This proposal received a lot of opposition in the House,
10 apparently from people that -- The environmental community
11 largely, I suspect, because the NEPA process is something they
12 are familiar with, but one of the misconceptions in the debate
13 in the House was that we can't really trust the councils to do
14 this.

15
16 What didn't come out was that NMFS is still responsible for
17 Magnuson Act plans and NMFS still accepts and rejects it and so
18 it's not like the councils will do whatever they want. This is
19 an attempt to implement the basic NEPA requirements into the
20 Magnuson Act so that we don't have overlapping procedures and
21 protocols in developing our FMPs.

22
23 One thing that seems to be different is some councils will do a
24 final plan and submit it to NMFS and then NMFS does their draft
25 EIS and EIS. In our instance, NMFS encourages us not to take
26 final action until after they have submitted a draft EIS and
27 have received comments.

28
29 For instance, we are expecting final action on an amendment on
30 August and the draft EIS just came out this past week and so
31 that's a difference in it and so this document or the comments
32 from this council will go forward to the CCC. This is not a
33 letter to NMFS at this point.

34
35 It has been built into all the testimony we've given toward
36 Congress throughout the year last year from all the councils
37 collectively and so what I would ask of you is, given what you
38 know about the debate with 1335 and what's in this document, do
39 you want as a council to support this approach to incorporating
40 NEPA actions into Magnuson or do you want to not support that?
41 We will take that to the Council Coordination Committee and
42 provide information to them to that effect.

43
44 **CHAIRMAN BOSARGE:** Do we have any feedback from the committee on
45 incorporating this directly into Magnuson? I see some heads
46 shaking. It sounds like you've done an excellent job of looking
47 at this and making sure that we still will be accomplishing
48 these same guidelines and making sure that we do this and it

1 sounds like this is something that we already do at our level.

2
3 We make sure that the EIS gets public comment before we go
4 forward and finalize any of our documents and so it sounds like
5 we're doing a good job of this already and is that something
6 that a lot of the other councils do or are we the only one or --

7
8 **EXECUTIVE DIRECTOR GREGORY:** I presume most of the councils do
9 similar things, but each council seems to have its own problem
10 with the NEPA process and either the Pacific or the North
11 Pacific was encouraged to do a one-time supplemental EIS that
12 ended up being 6,000 pages and taking three or four years to do,
13 but that covered most of their actions for the next four or five
14 years and so that was the tradeoff.

15
16 Another council, like I said, had trouble with having some of
17 its alternatives changed after they submitted it to NMFS and I
18 don't know the context or the details of that.

19
20 Most of the councils have concern. The biggest concern is that
21 it's adding to the bureaucracy of getting our amendments through
22 the system and getting them prepared for the council. I mean
23 when we -- It just adds to the complexity and so I think if we
24 could integrate it.

25
26 This has been tried in the past. There has always been a lot of
27 political pressure against doing something like this, largely
28 from the environmental community and also I think from National
29 Marine Fisheries Service.

30
31 The guy in D.C. that we've worked with on NEPA is concerned that
32 -- His main concern is that NEPA has a lot of case law built
33 around it and if you move these things into the Magnuson Act
34 that it may encourage more lawsuits because there is no case law
35 around that aspect of it.

36
37 I don't fully understand that, but there is concerns within the
38 agency as well as the environmental community and if you recall
39 the administration policy that was submitted a couple of weeks
40 ago from the executive branch, they flat out told Congress if
41 you pass this bill that we're going to veto it and so it's an
42 uphill battle to try to get this accomplished, but the effort
43 has convinced the House to put this into their reauthorization
44 bill and now it's going to the Senate and see what the Senate
45 does.

46
47 **CHAIRMAN BOSARGE:** I don't hear any opposition from the
48 committee. It sounds like there may be an uphill battle on

Tab E, No. 2

1 this, but I guess it's one small step. I believe that's the
2 last agenda item other than Other Business. Is there any other
3 business to come before this committee? Seeing none, the
4 committee is adjourned.

5

6 (Whereupon, the meeting adjourned at 9:28 a.m., June 8, 2015.)

7

8

- - -

9

**Standing and Special Reef Fish SSC
Meeting Summary
Tampa, Florida
September 1-2, 2015**

The meeting of the Standing and Special Reef Fish SSC was convened at 1:00 pm on September 1, 2015. The agenda and the minutes of the May 20, 2015 Standing and Special Reef Fish SSC meeting were approved as written. Elections were held for a new Chair and Vice-Chair. The following were elected:

Chair: Luiz Barbieri
Vice-Chair: Joe Powers

Luiz Barbieri agreed to be the SSC representative at the October 5-8, 2015 Council meeting in Galveston, Texas.

Discussion of Best Practices for Constant Catch ABC Projections

Luiz Barbieri presented an overview of options for developing a standardized method to calculate constant catch ABCs:

1. Use equilibrium yield at F_{ABC}
2. Average ABCs over the projection period
3. Pick an ABC value from the ABCs in the projection stream

Method 1 would produce the most conservative ABC if the yield stream projections under a constant F are in a declining trend. This would also make it unlikely that future reductions in ABC would be needed, but at a cost of foregone short-term yield. If the yield stream projections are increasing, this method would not be viable because it would set ABC at a high equilibrium level that may not be sustainable at current spawning stock biomass levels.

Method 2 was suggested as a possibility at the May SSC meeting. Preliminary analysis by the SEFSC suggests that this method would produce an ABC close to what would be obtained from running the projection model in an iterative process. This has the advantage of allowing the SSC to determine a constant catch ABC for any length time period they feel is appropriate (e.g., 3 years, 5 years, 10 years). If this method is used, a constant catch OFL would also need to be calculated, otherwise, the ABC would exceed the OFL in at least one year. This method could be used with either a declining or increasing trend. Some SSC members were hesitant to endorse this method because they felt it was not scientific.

Method 3 would select to lowest ABC of the three methods considered here in the constant F yield stream projections for the projection period being considered. This would allow a higher constant catch ABC than under Method 1, but would still result in some forgone yield. This method could be used with either a declining or increasing trend.

Shannon Cass-Calay stated that the SEFSC could produce a constant catch ABC using an iterative projection process, but only after the SSC had selected a base assessment model to use for management. In addition, to run the projections, the SEFSC would need to know what reference points to use (e.g., P^* , coefficient of variance, number of years under constant catch), any allocation changes, and how bycatch and discard mortality should be handled. This means that the constant catch projections would need to be brought back to the SSC at a subsequent meeting.

After reviewing the alternative methods and Dr. Cass-Calay's comments, the SSC members agreed that the iterative process described by Dr. Cass-Calay was the most scientifically defensible way to calculate a constant catch ABC and they passed the following motion.

Without opposition, the Committee recommends that for future stock assessments reviewed by the SSC, once a base model is selected and projection parameters, including P^* are determined, the SSC will ask for both constant F and constant catch OFL and ABC projections to be computed.

Constant Catch ABC for West Florida Shelf Stock of Hogfish

Dustin Addis presented an analysis of a constant catch projection for the West Florida Shelf Stock of Hogfish based on OFL being set at the equilibrium yield at F30% SPR, and a constant catch ABC from the ABC control rule using a $P^* = 0.4$ and $CV = 0.37$. He noted that these parameters were borrowed from red snapper as the SSC had not developed control rule parameters for hogfish. The results indicated an equilibrium OFL of about 162,000 pounds whole weight, and an equilibrium ABC of about 159,000 pounds whole weight. However, since the SSC had agreed to use the iterative process to calculate a constant catch OFL and ABC, the Committee decided to wait until that analysis becomes available at the next SSC meeting before making a recommendation.

Once the final year of a yield stream projection has been reached, if there is no new assessment or reevaluation of ABC, the ABC stays at the level of the final year of the projection. For a declining yield stream, or one where the equilibrium yield at F_{ABC} is below that final year, this could eventually lead to overfishing. Mr. Addis also presented the results of exploratory projection runs that assumed the ABC would remain at the levels previously recommended by the SSC for 2016-2018 under a constant F projection. The 2018 ABC recommendation under a constant F scenario is 200,800 pounds whole weight. If that ABC were continued as a constant catch ABC for 2019 and beyond, and the ABC catch level was taken each year, the analysis projects that the stock would collapse in 2061. Thereafter, catches would fluctuate between near-zero and the ABC level (the fluctuations may be an artifact of the model), while spawning stock biomass remains at extremely low overfished levels (Figures 1 and 2).

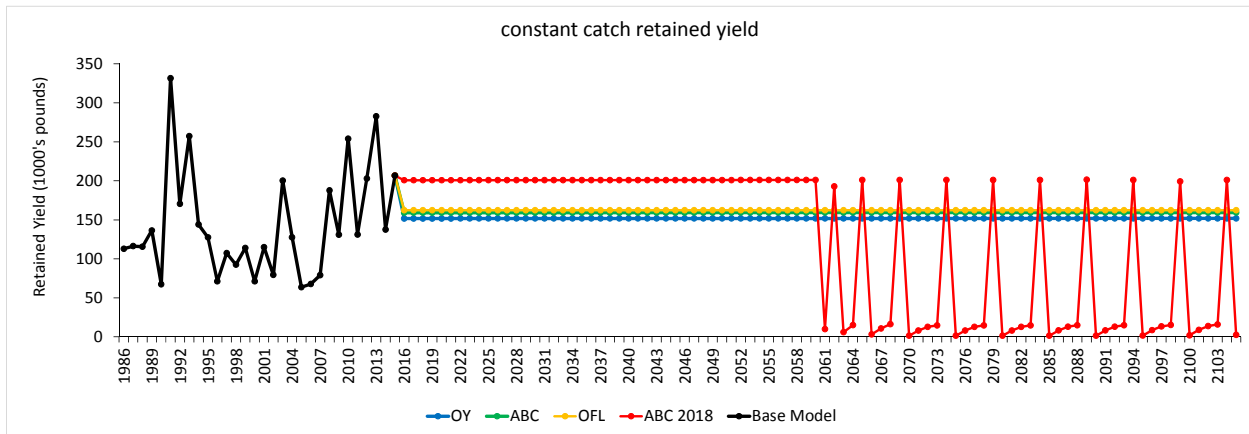


Figure 1. Projected retained yields if hogfish ABC remains at the constant F 2018 level of 200,800 pounds whole weight. (Black line is actual retained yield from 1986 – 2014)

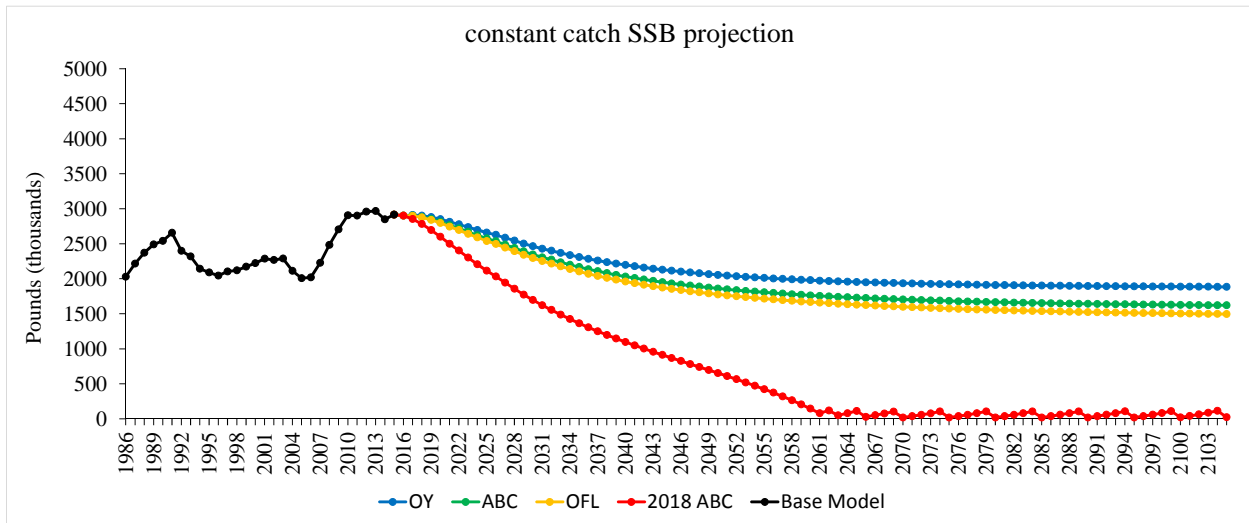


Figure 2. Projected spawning stock biomass if hogfish ABC remains at the constant F 2018 level of 200,800 pounds whole weight.

In light of the above concerns, a motion was made to have the ABC revert to the equilibrium yield at F_{ABC} under such conditions. Some SSC members felt that this would result in wild fluctuations from one constant catch period to the next, or may not be appropriate under some scenarios. Others felt that this would provide an incentive to get an update assessment conducted in a timely manner. The following motion is a recommendation to apply to all short-term ABC projections with a declining yield, not just hogfish.

By a vote of 18 to 2, the Committee recommends that if at the end of the projection period no new assessment is available, and the equilibrium ABC is below the ABC of the constant catch yield stream, ABC should revert to the equilibrium ABC.

SEDAR 43 Gray Triggerfish Standard Assessment

Jeff Isely presented a review of the gray triggerfish assessment. This assessment was conducted using Stock Synthesis 3, and used data updated through 2013. Rather than use a fixed natural mortality rate (M) for all age groups, this assessment used a Lorenzen function in which M varies with age, averaging $M = 0.28$. A new growth curve was calculated, which resulted in larger fish at age-0, a faster growth rate than previously calculated and maximum size achieved at a young age. The assessment used coefficient of variation at age of $CV = 0.22$. There was little relationship between age and length beyond age-2. Because of the variable growth, there is no fecundity-age relationship, but there is a length-fecundity relationship which was used in the assessment. Ages were calculated from annual age-length keys. Consistent with previous assessments, landings and indices were calculated for eastern and western regions, but one population model was constructed for the entire Gulf of Mexico. Shrimp effort was used as a proxy for shrimp trawl bycatch. Size composition data from gray triggerfish captured in shrimp trawls suggested that > 90% of fish were age-0. The annual fraction of age-1 fish could not be determined accurately, so all shrimp trawl bycatch fish were entered as age-0. Modeled landings were fit to observed landings using an assumed coefficient of variance of 0.05. Landings showed a good fit to the model, but discards showed a high variability. Most indices of abundance showed a general downward trend, as did the estimate of total biomass (Figure 3).

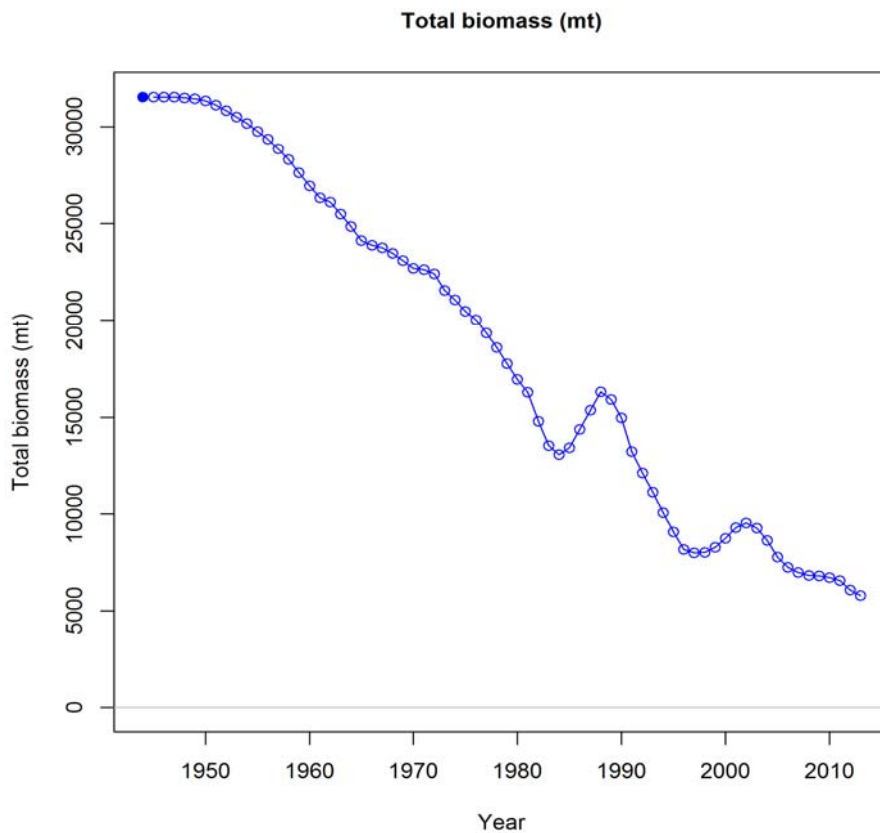


Figure 3. Estimated biomass (metric tons) of gray triggerfish by year.

The fishing mortality rate has been below the overfishing threshold since 2008 (Figure 4), but the spawning stock biomass has continued to be at or below the minimum stock size threshold, and below the MSY biomass level, since at least 1993 (Figure 5).

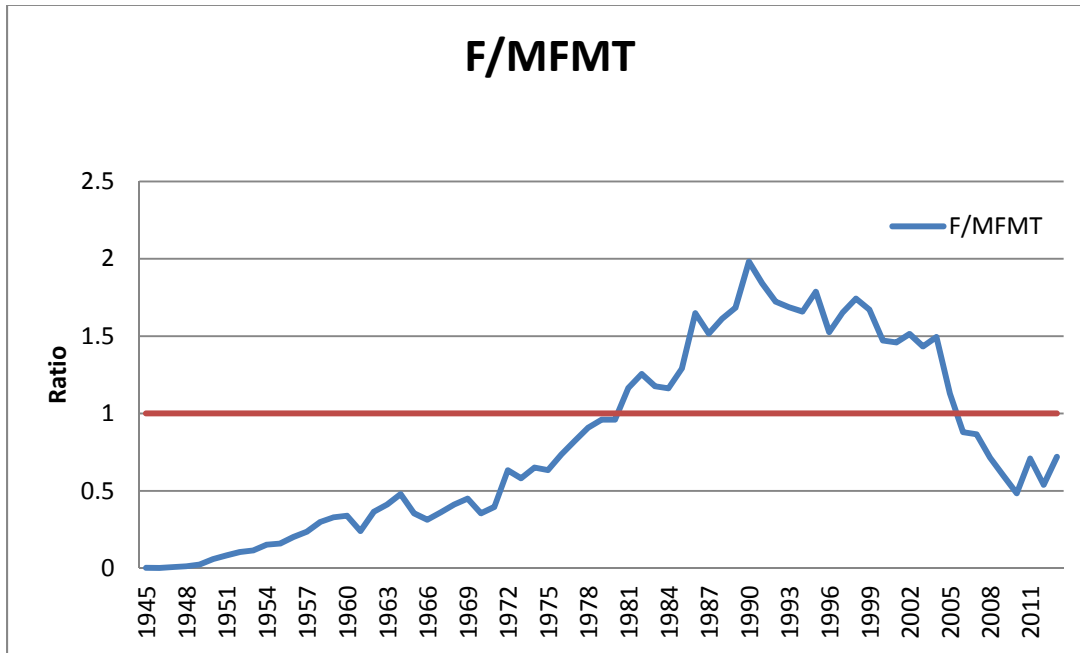


Figure 4. Gray triggerfish fishing mortality rate relative to maximum fishing mortality threshold, 1945-2013.

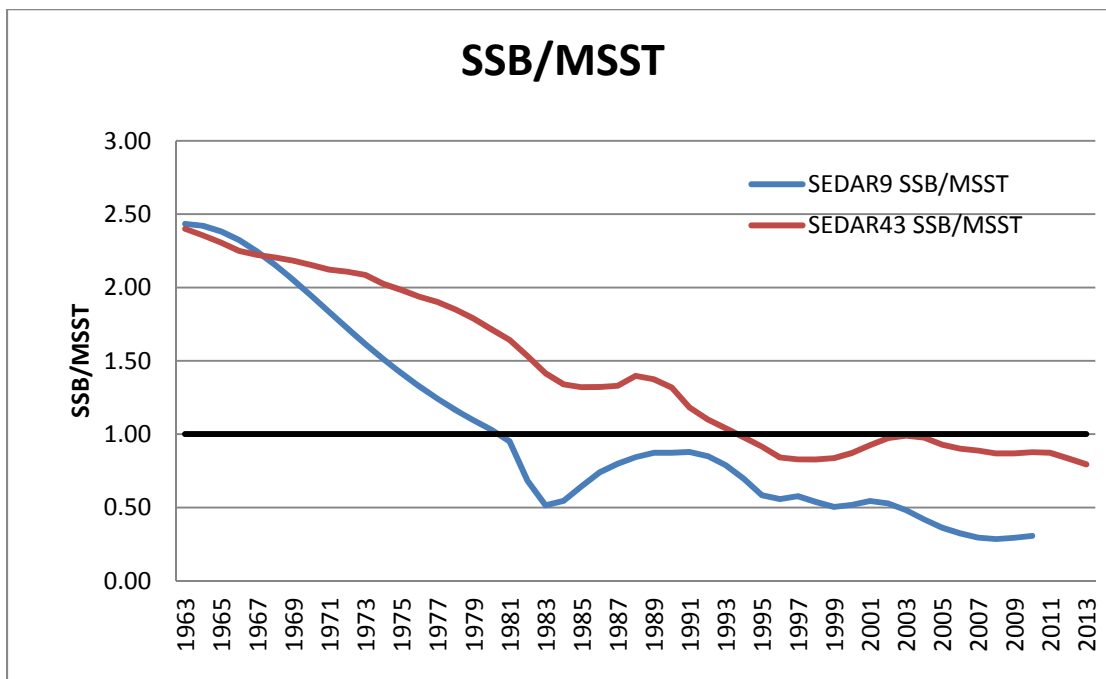


Figure 5. Gray triggerfish spawning stock biomass estimates from both SEDAR 9 and SEDAR 43 relative to minimum stock size threshold.

During and after the stock assessment presentation, several concerns were brought up by SSC members.

- A pooled growth rate was used for male and female gray triggerfish combined, but the sexes have different growth rates. The combined growth rate may be overestimating SSB. As sex is not determined in the field by port samplers, there is little that can be done to correct this.
- Stock-recruit steepness was estimated at 0.45. However, the likelihood profiles suggest that any values above 0.4 are equally likely.
- Shrimp trawl bycatch mortality was assigned entirely to age-0 fish, but age-0 fish are still in the pelagic environment and are closely associated with *Sargassum* habitat. The age-0 assumption for shrimp trawl bycatch may be overestimating the proportion of discard mortality occurring on age-0 fish and underestimating age-1 mortality.
- Shrimp trawl bycatch estimates assumed 100% mortality, but this may be an overestimate. Texas estimates a 50% mortality rate from shrimp trawls, but these data were unavailable at the time of the assessment. However, when using a Lorenzen mortality curve, the natural mortality on age-0 fish is so high that the bycatch mortality should not have much additional impact.
- The minimum size limit from 1999 to 2008 was 12 inches total length, but in 2008 it was changed to 14 inches fork length. The assessment assumed that all size limits were in fork length (this was later determined not to be a significant source of error).
- There are questions as to how long the recent low recruitment from the six previous years will continue. Due to the unique life history of gray triggerfish spending 4 to 7 months up in the pelagic environment before recruiting the benthic reefs and the neuston plankton tow information stopping in 2007 little information about recruitment is available for the model. Some SSC members suggested a regime shift in recruitment could be occurring, possibly attributed to predation by increasing populations of red snapper and lionfish.
- The stock-recruit relationship assumes the spawning stock is 50% female:50% male based on sampling from commercial sources, but the assessment document states that 56% female based upon histology and 64% female based upon macroscopic observation. Gray triggerfish are known to form harem groups when spawning with one dominant male and up to three females on active nests. The fishery-dependent landings may not be accurately capturing the ratio of males to females in the population. However, as the proportion females is used as a scalar, it has little effect on conclusions drawn from the assessment.

SSC members were in agreement that the results of the assessment were not useful for management. However, the assessment was conducted properly and produced the best results

possible given the uncertainties of the data inputs. The SSC was split on whether to accept the assessment as the best available science, but passed the following motion.

By a vote of 12 to 8, the Committee accepts the SEDAR 43 Gray Triggerfish Assessment as the best available science.

Although the SEFSC provided OFL and ABC projections based on the assessment, SSC members felt that they could not use the assessment to make recommendations. However, the SSC was concerned about several negative trends in the assessment, including the continuing decline in SSB despite the fishing mortality rate being below MFMT (i.e., overfishing is not occurring).

By a vote of 19 to 1, the Committee expressed concerns about continued estimated low gray triggerfish recruitment, declining or level indices of abundance, and declining SSB estimates, despite nearly a decade of F being well below MFMT. Therefore, the Committee recommends OFL and ABC to continue at the current rebuilding levels and not based on assessment results that would produce much higher levels.

Finally, the SSC voted on status determination.

With one opposed, the Committee concludes that the gray triggerfish stock is not experiencing overfishing, but is overfished. The Committee further notes that the stock does not appear to be recovering under the current rebuilding plan.

The SSC noted that gray triggerfish is projected to miss its rebuilding deadline of 2017 even if the stock is closed to fishing. With the caveat that the yield projections were not accepted by the SSC, and are provided for reference only, projections from the SEFSC indicate that, if the stock is closed to all fishing, it will rebuild to the SSB at 30% SPR between 2020 and 2023. If fished at the maximum rate allowed under Amendment 37 (the yield when fishing at 75% of $F_{30\% SPR}$), the stock is projected to rebuild between 2028 and 2035. This fishing rate is also consistent with the guidance in the National Standard 1 guidelines for stocks that have missed their rebuilding target date.

SSC members suggested that the most appropriate course of action is to establish a new rebuilding schedule. However, in order to provide OFL and ABC guidance, the SSC needs a benchmark assessment that produces credible reference points that adequately capture the productivity and dynamics of the stock. An alternative might be to use Tier 3b of the ABC control rule. This would set the OFL at the recent average catch level, and would set ABC at some level below the recent level. The SSC would like guidance from the Council on how to proceed.

SEDAR 47 Goliath Grouper Benchmark Assessment Preliminaries

Staff reviewed the Terms of Reference and schedule for the goliath grouper assessment SEDAR review panel workshop. Since this assessment is being conducted by the Florida FWC, SEDAR

is only responsible for the review workshop part of the assessment process. The assessment will use a catch-free model that is being modified from an earlier model by FWC and SEFSC staff. The Terms of Reference have also been modified to reflect that the catch-free model produces relative reference points rather than the MSY-based reference points that are produced by traditional methods. SEDAR is also requesting two volunteers from the SSC, one to act as the Review Panel Chair, and one to act as a reviewer on the Panel.

The following SSC members volunteered to serve as either the Chair or as a reviewer. The SEDAR Steering Committee will decide which SSC member will serve in which capacity.

- Mary Christman
- Robert Ellis

Note: Staff recommends that Mary Christman be the reviewer and that Robert Ellis be the Chair.

By acclamation, the SSC accepts the SEDAR 47 Review Workshop Terms of Reference as written.

The SSC had no opposition to the proposed assessment schedule

Integrated Ecosystem Assessment – Management Strategy Evaluation – Single Species

Bill Harford presented a demonstration of how Management Strategy Evaluation (MSE) could be applied to an ecosystem model to evaluate the impacts of various management strategies on single-species management. This process can incorporate simulations of a random episodic event such as a red tide event. By varying not only whether such an event occurs, but also when it occurs, MSE can provide a dynamic evaluation of possible management outcomes (Figure 6).

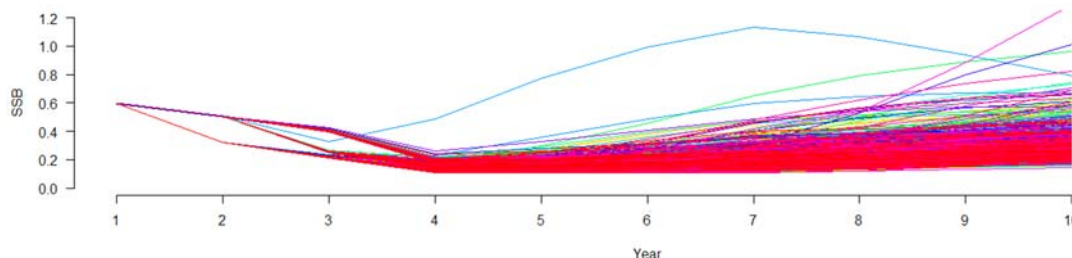


Figure 6. An example of applying multiple simulations to determine the likelihood that a specific management objective will be achieved. Each line in this spaghetti plot is an iteration of the simulation run (n = 1,000)

MSE can be used to evaluate the effect of different harvest control rules on multiple objectives by plotting the results relative to each objective on a radar graph (Figure 7).

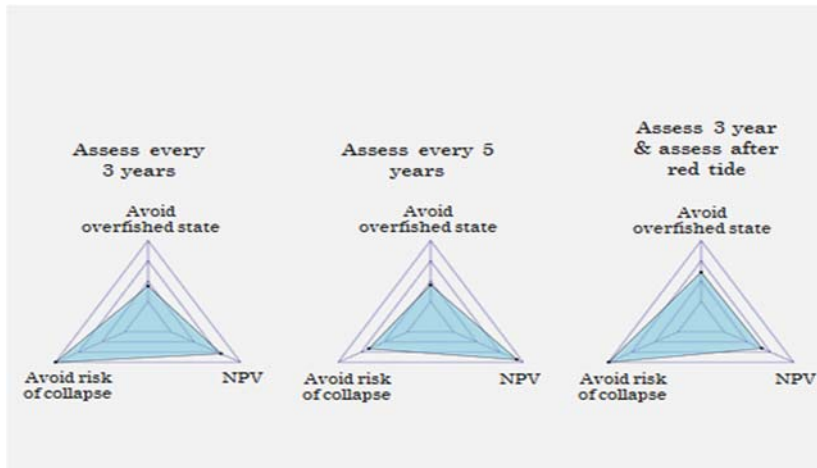


Figure 7. Example of evaluating various harvest control rules on multiple objectives. This example shows radar graphs with three objectives (net present value, avoid overfished state, avoid collapse), but the process is not limited to that number.

Examples of additional dimensions that could be incorporated into the evaluation include:

- Red tide magnitude & frequency
- Stock assessment uncertainty (imprecision)
- Frequency of assessment
- Alternative HCRs and scalar levels
- Relevant performance measures
- Implementation uncertainty (i.e. ACLs)

The presentation was not intended to be a comprehensive evaluation of the MSE process, but rather an introduction for which Dr. Harford was seeking feedback.

SSC members suggested that, in terms of determining relevant objectives to include, input from user groups and stakeholders should be a part of the process, and that more of the human element should be considered. Other factors were also noted for inclusion including the time lag between an ecological event and the ability of an assessment to capture the impact of the event on the stock. One suggestion was made to collaborate with the Reef Fish AP to determine relevant performance factors. However, it was noted that there will be tradeoffs between management needs and stakeholder needs.

One SSC member requested that the Ecosystem team provide the SSC with progress report presentations once or twice per year. A suggestion was made to form a working group. Dr. Cass-Calay noted that each of the regional Science Centers will be hiring an MSE expert. Dr. Cass-Calay added that the SEFSC was forming an MSE Advisory Committee, and suggested that perhaps there could be a Council representative on that committee.

Dr. Harford indicated that he would use the feedback that he received from the SSC to help further the development of the MSE process.

Review of SEDAR Assessment Schedule

Staff reviewed the proposed SEDAR assessment schedule for 2015-2018. Some SSC members questioned the limited number of species included in the Data Poor Workshop scheduled for 2016. Staff noted that the number of species included was the most that the Science Center felt it could handle. A suggestion was made to postpone the 2016 greater amberjack update assessment for year in order to get more landings data under the current regulations. Another suggestion was to make a gag standard assessment a priority rather than the gag update assessment currently scheduled for 2016. However, Julie Neer informed the SSC that the 2016 schedule has been finalized. In addition, while 2017 and 2018 are still proposed schedules, the major emphasis for those years will be to update existing assessments with the MRIP adjusted recreational catch data.

(Note: Part of the reason for requesting a gag standard assessment was so the SSC could consider changing some of the output parameters such as using total SSB rather than female SSB to determine stock status. However, in discussions with Dr. Neer after the meeting, it appears that this may be possible within the context of an update assessment.)

Tentative 2016 SSC Meeting Dates

Staff reviewed the tentative dates for the 2016 SSC meetings. Meetings are generally scheduled three weeks before each Council meeting. A suggestion was made to consider moving the January 6-8, 2016 SSC meeting to December so it would occur before the holidays rather than afterwards. However, more SSC members have meeting conflicts in December than in January, so it was decided to keep the January meeting as scheduled.

One SSC member asked that we consider holding some of the SSC meetings in locations other than Tampa, noting that due to the size of the SSC, meetings can no longer be held in the Council's conference room.

Other Business

Council staff noted that it was working on an options paper for revising the ABC control rule based on the previous work of the SSC and the previous ABC Control Rule Working Group. The Executive Director has suggested that the ABC Control Rule Working Group, which has not met for some time, be reconstituted, consisting only of selected SSC members and staff, to assist staff in the preparation of the options paper. The SSC Chair requested that staff come back in January with more detailed information as to what issues and objectives are to be addressed by the proposed working group.

SSC Members Present

Standing SSC

Luiz Barbieri, Chair
Joe Powers, V. Chair
Harry Blanchet
Benjamin Blount
Mary Christman
Bob Gill
David Griffith
Jack Isaacs
Jeff Isely

Walter Keithly
Kai Lorenzen
Paul Mickle
William Patterson
Sean Powers
Ken Roberts
Steven Scyphers
Robert Shipp
James Tolan

Special Reef Fish SSC

Jason Adriance
James Drymon
Robert Ellis
Jennifer Herbig
John Mareska

Council Staff

Steven Atran
John Froeschke
Doug Gregory
Ryan Rindone
Charlotte Schiaffo
Carrie Simmons

Others

Dustin Addis, FWCC/FWRI
Shannon Calay, NMFS/SEFSC
Michael Drexler, Ocean Conservancy
Emily Dudash, UF
Claudia Friess, UF
Alicia Frudakis, UF
Arnaud Gruss, NMFS/SEFSC
Chad Hanson, Pew Environment Group
Bill Harford, NMFS/SEFSC
Holden Harris, UF
Susana Hervas, UF
Paul Manoval, UF
Julie Neer, SEDAR
Charlotte Nowak, UF
Melanie Rider, UF
Matthew Smith, NMFS/SEFSC
Chris Swanson, UF
Courtney Stachowiak, UF

Council Representative

John Greene

Reef Fish Committee: Action Schedule for Tab E

Agenda Item IV: SSC Review of Integrated Ecosystem Assessment – Management Strategy Evaluation – Single Species

Timeline Status: Informational

Council Input and Next Steps: The SSC representative will review a presentation made to the SSC on the use of management strategy evaluation (MSE) in an ecosystem context. The presentation by Dr. Bill Harford of the SEFSC’s Integrated Ecosystem Assessment Group illustrates applying MSE in a single species context to project how harvest control rules could address potential consequences of an external event such as red tide. In a follow-up presentation to be given at a future SSC meeting, another member of the group will expand the MSE process to a multi-species context.

Agenda Item V: Presentation – NOAA Ecosystem Based Fisheries Management Policy

Timeline Status:

Council Input and Next Steps: Ecosystem-based management (EBM) is an integrated approach that incorporates the entire ecosystem, including humans, into resource management decisions across all ocean-use sectors. NOAA Fisheries is advancing EBM for the fisheries sector through development of an Ecosystem-Based Fisheries Management (EBFM) Policy Statement and associated Roadmap. This presentation by Dr. Jason Link will provide an overview and update of the draft EBFM Policy Statement and Roadmap, how they relate to other efforts, and discuss how we’ll know when we’re doing EBFM. Dr. Link would like to get the Councils input on this important policy.

Agenda Item XII: Other Business

Timeline Status: Additional items that can be brought up for discussion, but no action can be taken since they have not been announced

Council Input and Next Steps: Additional items may be brought up for discussion by Committee members, time permitting. If the committee wishes to pursue action, then action can be scheduled at a future Council meeting.

Department of Commerce · National Oceanic & Atmospheric Administration · National Marine Fisheries Service

<i>NATIONAL MARINE FISHERIES SERVICE POLICY DIRECTIVE [number] [EFFECTIVE DATE]</i>	
<i>Fisheries Management</i>	
<i>Ecosystem-Based Fisheries Management Policy</i>	
NOTICE: This publication is available at: http://www.nmfs.noaa.gov/op/pds/index.html	
OPR: F (J. Link) Type of Issuance: Initial	Certified by: F (J. Link)
<i>SUMMARY OF REVISIONS:</i>	

Ecosystem-Based Fisheries Management Policy

of the

National Marine Fisheries Service

National Oceanic and Atmospheric Administration

POLICY STATEMENT

NOAA’s National Marine Fisheries Service (NOAA Fisheries) strongly supports the implementation of Ecosystem-Based Fisheries Management (EBFM), to better inform decisions and help achieve and optimize the benefits from marine fisheries by evaluating trade-offs among and between fisheries (commercial, recreational, and subsistence), aquaculture, protected species, biodiversity, and habitats, while maintaining resilient and productive ecosystems.

BACKGROUND

NOAA believes ecosystem-based management (EBM¹) will assist the agency in better meeting its mandates to sustainably manage the nation’s trust living marine resources (LMR). In this

¹ EBM is defined as “geographically specified, adaptive, takes account of ecosystem knowledge and uncertainties, considers multiple external influences, and strives to balance diverse societal objectives.” NOAA 2004. New Priorities for the 21st Century- NOAA’s Strategic Plan: Updated for FY 2005-FY 2010, 28 pp.

context, NOAA Fisheries has taken several steps to advance the ecosystem-based fisheries management (EBFM) portion of this strategic EBM goal². Coordinated implementation of EBFM across mandates will lead to greater efficiency and will enable NOAA Fisheries to explicitly consider trade-offs between fisheries, fishery species, and other ecosystem components (e.g. other species, habitats, humans) and processes that affect, or are affected by, fisheries.

PURPOSE

The purpose of this policy is to:

- Define EBFM;
- Describe the benefits of EBFM;
- Clarify how EBFM relates to existing LMR management legal authorities and requirements;
- Establish a framework of guiding principles to enhance and accelerate the implementation of EBFM within NOAA Fisheries, and in cooperation with NOAA Fisheries partners, when EBFM would further improve fisheries decision-making, and/or ecological outcomes; and
- Build on the agency's past progress and clarify the agency's commitment to integrating its management programs for living marine resources and their habitats under changing climate, ecological and ocean conditions.

DEFINITION OF ECOSYSTEM-BASED FISHERIES MANAGEMENT

NOAA Fisheries defines EBFM as *a systematic approach to fisheries management in a geographically specified area that ensures the resilience and sustainability of the ecosystem³; recognizes the physical, biological, economic, and social interactions among the affected components of the ecosystem, including humans; and seeks to optimize benefits among a diverse set of societal goals.*

For the purposes of this policy, EBFM includes considerations of interactions among fisheries, protected species, aquaculture, habitats, and other ecosystem components, including the human communities that depend upon these ecosystem services.

CONTEXT OF ECOSYSTEM-BASED FISHERIES MANAGEMENT

Within NOAA Fisheries, managers and scientists frequently describe EBFM as one level along a continuum of ecosystem approaches to management: 1) ecosystem approach to fisheries management (EAFM), 2) EBFM, and 3) ecosystem-based management (EBM). NOAA Fisheries

² Ibid.

³ In the NOAA Fisheries context, the term "ecosystem" means a geographically specified system of fishery resources, the persons that participate in that system, the environment, and the environmental processes that control that ecosystem's dynamics. (c.f. Murawski and Matlock, 2006, NMFS-F/SPO-74)

and its partners (such as the Fishery Management Councils, State Fishery Commissions, Tribes, and others) are already making progress in implementing EAFM through Magnuson-Stevens Fishery Conservation and Management Act (MSA) Fishery Management Plans (FMP), Marine Mammal Protection Act (MMPA) Take Reduction Plans, and Endangered Species Act (ESA) Recovery Plans. These efforts include incorporating ecosystem and environmental factors into single species management actions or stock assessments, enhancing understanding of living marine resource and coastal community dynamics, protecting key ecosystem components, and better informing management decisions for a particular stock. Implementing EBFM supports NOAA's broader goals for EBM across multiple sectors and mandates to wisely manage multiple ecosystem goods and services, and with other agencies, to maintain productive and resilient ecosystems.

BENEFITS

Implementing EBFM can help NOAA Fisheries and its partners optimize societal benefits across its multiple federal mandates by considering environmental and ecological factors and identifying trade-offs among its trust resources, including fisheries, protected species, and their habitats. Through EBFM, NOAA Fisheries and its partners can better evaluate management options and their effectiveness. Additionally, it can help communicate risks, uncertainties, and implications of management decisions across marine fisheries and a range of affected species. Better understanding, articulation and quantification of the trade-offs will ensure more transparent decision processes, outcomes, and more efficient use and management of NOAA Fisheries and partner resources.

Management advice from EBFM will be more comprehensive, accurate, and help reduce uncertainty, by taking into consideration interacting elements in the ecosystem. EBFM can maintain ecosystem function, and fishery sustainability, which support economic and social stability and fishing community well-being. EBFM applies the best available scientific information to improve decision-making via consideration of the holistic impact of management decisions. EBFM also can use forecasts of future ecosystem conditions and services, incorporating natural variability, anthropogenic forcing, and change in climate and ocean conditions to predict and evaluate outcomes from a range of alternative management strategies. Combined, there are stability and efficiency outcomes for business and regulatory planning that come from adopting EBFM.

GUIDING PRINCIPLES

The implementation of EBFM should reflect the following six guiding principles. These principles flow from the foundational basis of science, through strategic planning, prioritization, and tradeoff analyses, and into management advice, all with the ultimate aim of maintaining productive and resilient ecosystems (Figure 1).

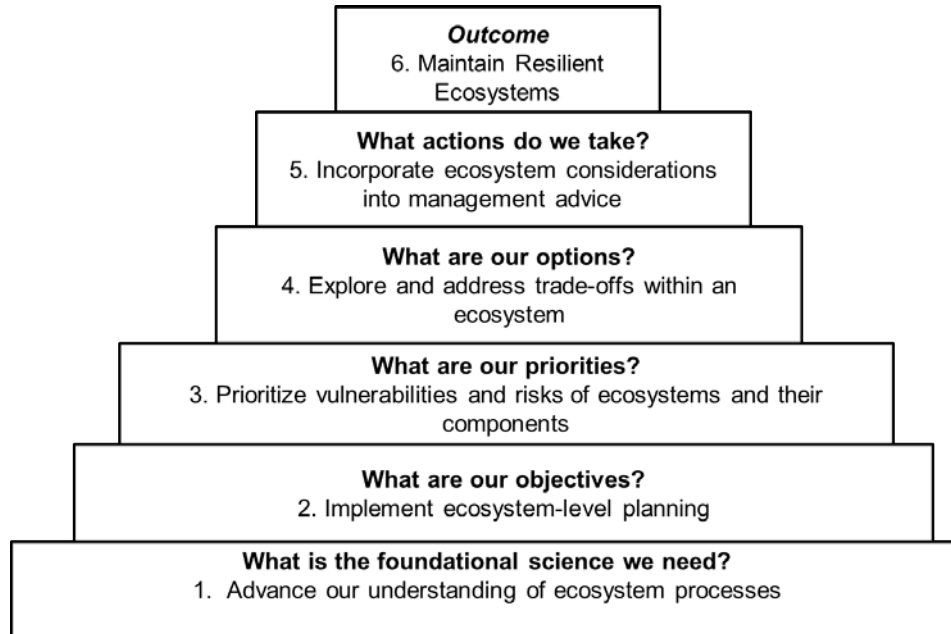


Figure 1. Illustration of the interconnected and interdependent nature of the major EBFM guiding principles.

To meet its policy supporting increased implementation of EBFM, NOAA Fisheries will, to the extent practical:

1) Advance our understanding of ecosystem processes

NOAA Fisheries shall work to better understand the broader suite of ecosystem processes, drivers, threats, and status of the nation’s marine ecosystems to inform all levels of management advice, including:

- Conducting science to understand ecosystem processes, drivers, and threats including:
 - Measurable biogeochemical, biophysical, and ecological factors, processes, and interactions
 - Population dynamics of living marine resources
 - Trophic relationships
 - Oceanographic features and other environmental factors (including climate change and ocean acidification)
 - Habitat status and predominant threats to ongoing habitat quality, and linking habitat to production
 - Ecosystem productivity patterns
 - Social and economic considerations
 - Social and economic drivers factors that influence fishers and other users of the marine environment
 - Economic welfare and social well-being of resources users
 - Community vulnerability and resilience
 - Non-market and existence values of marine mammals, turtles, seabirds, and other marine resources

- Employment
 - Increase domestic seafood supply and security
 - Ocean use sectors beyond fisheries (e.g. mining, energy, shipping, non-fishing recreational use)
- Developing Integrated Ecosystem Assessment science capabilities and products to provide more ecosystem-level management advice
- Maintaining sufficient and increasingly efficient monitoring systems
- Conducting process-oriented research to understand key mechanisms and relationships
- Providing regular ecosystem status updates and reports to better inform regional decision-making processes

2) Implement ecosystem-level planning

NOAA Fisheries supports the use of Fishery Ecosystem Plans (FEPs) or similar documents to describe ecosystem goals, objectives, and priorities for fisheries and ecosystem research, conservation, and management across multiple fisheries within an ecosystem. These include:

- Supporting FEPs as umbrella strategic planning documents to guide coordination and trade-off evaluation among FMPs.,
- Seeking long-term ecological, economic, and social goals, objectives, and priorities for FEPs that are based on the results of inclusive strategic planning with diverse stakeholders
- Basing regular reviews and updates of FEPs on indicators established for measuring progress toward established goals and objectives
- Taking into account the direct effect of fisheries on trust LMR and habitats, and the cumulative impact of fisheries on the entire ecosystem
- Taking into account the ecosystem functional and structural roles of trust LMR and habitats
- Taking into account past and possible future changes in climate and ecosystem conditions
- Facilitating the participation of external federal, state (including territories), and tribal partners in the EBFM process by assessing the cumulative effects of human activities on marine ecosystems to help partners minimize the effects of non-fishing activities on trust LMR and habitats

3) Prioritize vulnerabilities and risks to ecosystems and their components

NOAA Fisheries should evaluate and address the individual and cumulative drivers for the physical, chemical, biological, social, and economic components of marine ecosystems. This should take into account the comprehensive and systematic risk, vulnerability and susceptibility of LMRs and ecosystems, including:

- Identifying the living marine resource assets and associated fisheries communities in each region/jurisdiction and their relative vulnerability to human and natural pressures
- Identifying the individual and cumulative pressures that pose the most risk to those vulnerable resources and dependent communities

- Developing and evaluating management strategies within each region or jurisdiction to address or account for those pressures

4) Explore and address trade-offs of fisheries management alternatives to achieve ecosystem objectives

In close cooperation with its partners, NOAA Fisheries supports the consideration of and efforts to take into account various trade-offs when considering the cumulative effects of decision-making processes on the ecosystem, including:

- Analyzing trade-offs on optimizing benefits from fisheries within each ecosystem or jurisdiction, taking into account ecosystem-specific policy goals and objectives, cognizant that ecosystems are composed of interconnected components
- Developing and monitoring ecosystem-level reference points to inform LMR management efforts
- Developing management strategy evaluation capabilities to better conduct ecosystem-level analyses that provide ecosystem-wide management advice

5) Incorporate ecosystem considerations into management advice

NOAA Fisheries recognizes the value of placing its resource management efforts into a broader ecosystem context. LMR management should consider best available ecosystem science in decision-making processes, including:

- Encouraging living marine resource assessments, control rules, and management decisions to incorporate the appropriate (as determined from the risk analysis under item 3 above and as feasible) ecosystem considerations (inclusive of those factors noted under item 1)
- Supplementing our species-by-species recovery and rebuilding efforts by considering the effects of biogeochemical, ecological, and biophysical processes, other human activities, and other drivers on managed species within marine ecosystems
- Evaluating and adopting integrated management processes and features that can be applied systematically and efficiently across all trust living marine resource species in an ecosystem
- Developing best practices for bringing ecosystem considerations into assessments of and management advice for all LMRs stocks, particularly those in data-poor fishery situations
- Evaluating cumulative impacts of proposed management actions for trust resources and their ecosystems

6) Develop operating protocols to maintain resilient ecosystems

NOAA Fisheries recognizes that its mandates are intended to sustain resilient and productive LMR populations and habitats, to maintain overall ecosystem structure and function, and to support the contributions that fisheries make to the socio-economic resiliency of coastal human communities. Actions in support of these mandates include:

- Assessing and appropriately accounting for uncertainty when making management decisions for trust LMR

- Evaluating essential fish habitat (EFH; MSA) and critical habitat (ESA) throughout the ecosystem for those habitat types and areas that may be essential to multiple taxa, unique within the larger ecosystem, or particularly vulnerable to the negative effects of human uses
- Minimizing or eliminating discards within individual fisheries while moving toward whole ecosystem assessments of total non-target species removal levels
- Evaluating ecosystem-level measures of resilience to ensure core ecosystem structure, biodiversity, production, energy flow, and functioning are maintained
- Evaluating the effects of EBFM action on coastal fishing community well-being

LEGAL AUTHORITIES AND MANDATES

Multiple laws, executive orders and policies authorize NOAA Fisheries to implement ecosystem-based fisheries management. This policy summarizes a subset of the authorities used by NOAA Fisheries and our partners to take actions that directly affect fisheries-associated ecosystems' structure and function. This policy also recognizes other NOAA Fisheries authorities and responsibilities and those of other federal natural resource management agencies, Regional Fishery Management Councils, interstate marine fisheries commissions, states, tribes, and advisory bodies. A systematic and coordinated approach must be taken to fully execute our authorities within and across all authorities to effectively implement EBFM.

The **Magnuson-Stevens Fishery Conservation and Management Act** (MSA), 16 U.S.C. §§ 1801 *et seq.*) authorizes federal fishery management within the U.S. exclusive economic zone by regional fishery management councils (Councils) and NOAA Fisheries. The MSA provides for: 1) integrating ecosystem considerations into fishery conservation and management actions, 2) minimizing the impacts of fishing on ecosystem components, and 3) conserving important ecosystem components from non-fishing threats. The MSA also authorizes NOAA Fisheries to provide technical advice and assistance to the Councils to develop and design regional EBFM programs (16 U.S.C. § 1882). The MSA's National Standards (16 U.S.C. § 1851) provide overarching requirements for conservation and management measures, including EBFM-supporting measures that shall prevent overfishing, while achieving optimum yield; be based on the best scientific information available; to the extent practicable, manage interrelated stocks as a unit or in close coordination; take into account the importance of fishery resources to fishing communities; and to the extent practicable, minimize bycatch and bycatch mortality. The MSA also stipulates that FMPs must identify and describe EFH, minimize to the extent practicable adverse effects from fishing on EFH and its ability to support fishery ecosystems, and identify other actions to encourage conservation and enhancement of EFH (16 U.S.C. § 1853(a)(7)). In addition, the Act requires rebuilding of overfished fish stocks (16 U.S.C. § 1854), and as noted above, requires that FMPs be consistent with the National Standards. The Act provides authority for FMPs to include measures to protect deep sea corals and to conserve target and non-target species and habitats (16 U.S.C. § 1853(b)(2), (12)).

The **Marine Mammal Protection Act** (MMPA) protects all marine mammals. NOAA Fisheries manages cetaceans (whales, porpoises, and dolphins) and pinnipeds (seals and sea lions) under the Act, while the U.S. Fish and Wildlife Service (USFWS) manages walrus, polar bears, manatees, sea otters, and dugongs, with support from NOAA Fisheries. The primary objective of the MMPA specifies that marine mammals should not be allowed to diminish beyond the point at which they cease to be a significant functioning element in the ecosystem of which they are a part (16 U.S.C. § 1361). The MMPA further notes that marine mammals are resources of great international aesthetic, recreational, and economic significance. As such, the primary objective of their management should be to maintain the health and stability of the marine ecosystem and to obtain an optimum sustainable population, commensurate with the carrying capacity of the habitat. In furtherance of this objective, the MMPA prohibits the “taking” or importing of marine mammals except in certain limited circumstances (16 U.S.C. § 1371). Among other provisions, the MMPA requires NOAA Fisheries to prepare assessments of marine mammal populations (16 U.S.C. § 1386) and includes a framework for reducing the incidental mortality and serious injury of marine mammals during the course of commercial fishing operations (16 U.S.C. § 1387). The MMPA allows for intentional lethal taking of individually identifiable pinnipeds that are having a significant negative impact on the decline or recovery of salmonid stocks, including those listed as threatened or endangered under the Endangered Species Act (16 U.S.C. § 1389).

The **Endangered Species Act** (ESA, 16 U.S.C. §§ 1531-1543) provides for the conservation of threatened and endangered species and their ecosystems. The listing of a species as endangered makes it illegal to “take” (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to do these things) that species. Similar prohibitions usually also extend to threatened species. It is meant to provide “a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...” and directs NOAA Fisheries and the USFWS to designate “critical habitat”, for instance, by identifying areas that contain physical or biological features essential for the conservation of the species. Federal agencies are directed under ESA section 7 to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Federal agencies must also consult with NOAA Fisheries on activities that may affect a listed species (e.g., Federal commercial fisheries).

Under the **National Aquaculture Act** (NAA; 16 U.S.C. §§ 2801-2810), NOAA Fisheries supports the development of the U.S. marine aquaculture industry, an increasingly important economic component of marine ecosystems. Under the **Coral Reef Conservation Act** (CRCA; 16 U.S.C. §6401), NOAA Fisheries maps, monitors, assesses, restores, and conducts scientific research to benefit the understanding, sustainable use, and long-term conservation of coral reef ecosystems and cooperatively conserves and manages coral reef ecosystems with local, regional, and international programs and partners. Under the **Federal Power Act** (FPA; 16 U.S.C. § 811), NOAA Fisheries has the authority to prescribe safe, timely, and effective fish passage at federal hydropower projects to ensure access to upstream and downstream spawning grounds and other habitats. Several sections in the NAA, CRCA, and FPA address ecosystem issues,

including sections 2803 of the NAA; sections 203, 204, and 207 of the CRCA; and sections 10j, 18, and 30 of the FPA (16 U.S.C. §§ 803(j), 811, 823a).

The **National Environmental Policy Act** (NEPA) of 1969 (42 U.S.C. §§ 4321 *et seq.*) is a procedural statute that seeks to encourage productive and enjoyable harmony between man and his environment, promote efforts to prevent or eliminate damage to the environment, and enrich understanding of ecological systems and natural resources important to the Nation (42 U.S.C. § 4321). Pursuant to NEPA and its implementing regulations (40 C.F.R. §§ 1501 *et seq.*), NOAA Fisheries prepares environmental impact statements (EIS) for major federal actions significantly affecting the quality of the human environment (42 U.S.C. § 4332), and in other instances, prepares environmental assessments (EA). Through an EIS or EA, NOAA Fisheries analyzes the ecological, economic and social effects of proposed actions, alternatives to the proposed actions, and emphasizes cumulative impacts of actions on LMRs and their habitats, connections, and ecosystems. NOAA Fisheries also evaluates the environmental effects of federal actions on fishery resources through the MSA, ESA, and **Fish and Wildlife Coordination Act** (FWCA; 16 U.S.C §661 *et seq.*). Under the FWCA, NOAA Fisheries evaluates impacts of proposed activities to fish species and their habitats that fall outside the scope of the MSA (including many forage species that serve as prey for federally managed fisheries), and provides comments to other federal agencies to reduce environmental impacts.

NOAA FISHERIES RESPONSIBILITIES

NOAA Fisheries' Leadership, including the Assistant Administrator for Fisheries, the Deputy Assistant Administrators for Regulatory and Scientific Programs, the Regional Administrators and Science Directors, and the Agencies' ST level Senior Scientists, are responsible for agency-wide implementation of this policy.

This policy is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents or any other person.

[Back](#)

Tab E, No. 5(b)

Ecosystem-Based Fisheries Management

Dr. Jason Link



NOAA
FISHERIES
Headquarters

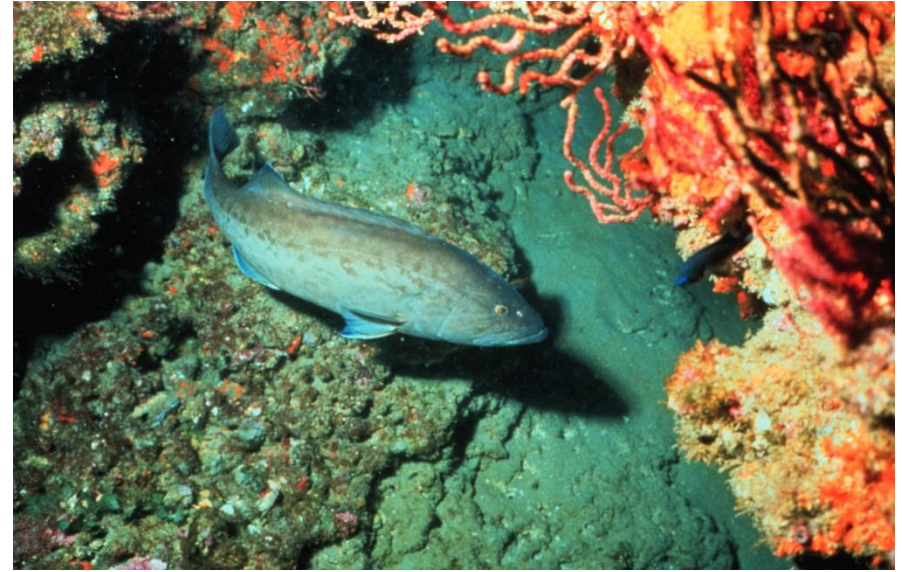
Gulf Fisheries Management Council: October 5, 2015

Take Aways

- NOAA Fisheries needs to, can and is committed to doing EBFM
- There are many benefits of doing EBFM
- NOAA Fisheries aim is to provide a menu of analytical options to address ecosystem considerations
- Making EBFM operational remains a key challenge, but is one we are up for in partnership with you!

Gag Grouper

- Tough to estimate mortality & spawning stock biomass in Gag grouper assessments
- Red tide associated mortality included in assessment
- Improved information, improved model performance
- Improved understanding – especially recruitment & mortality– improved stock status

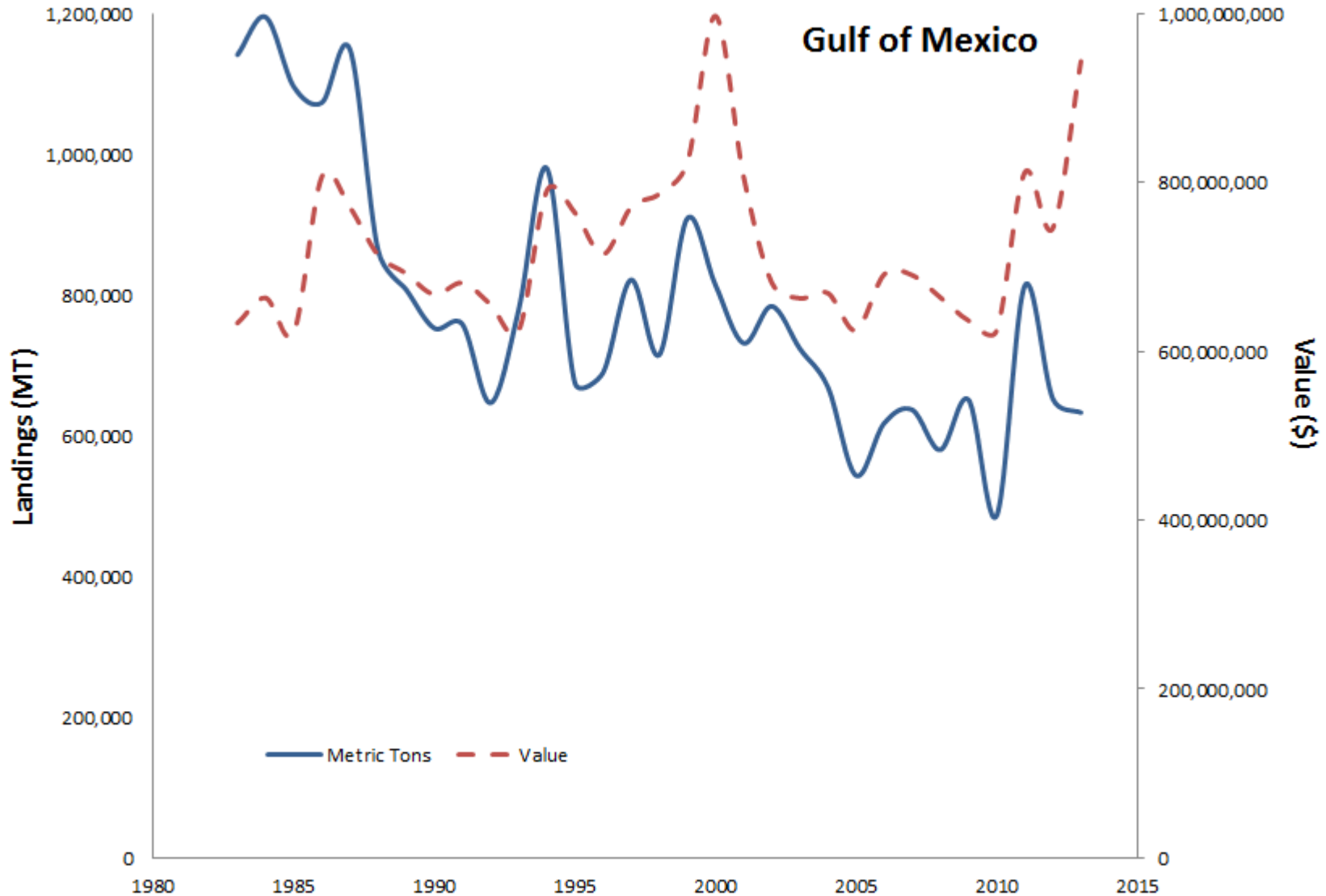


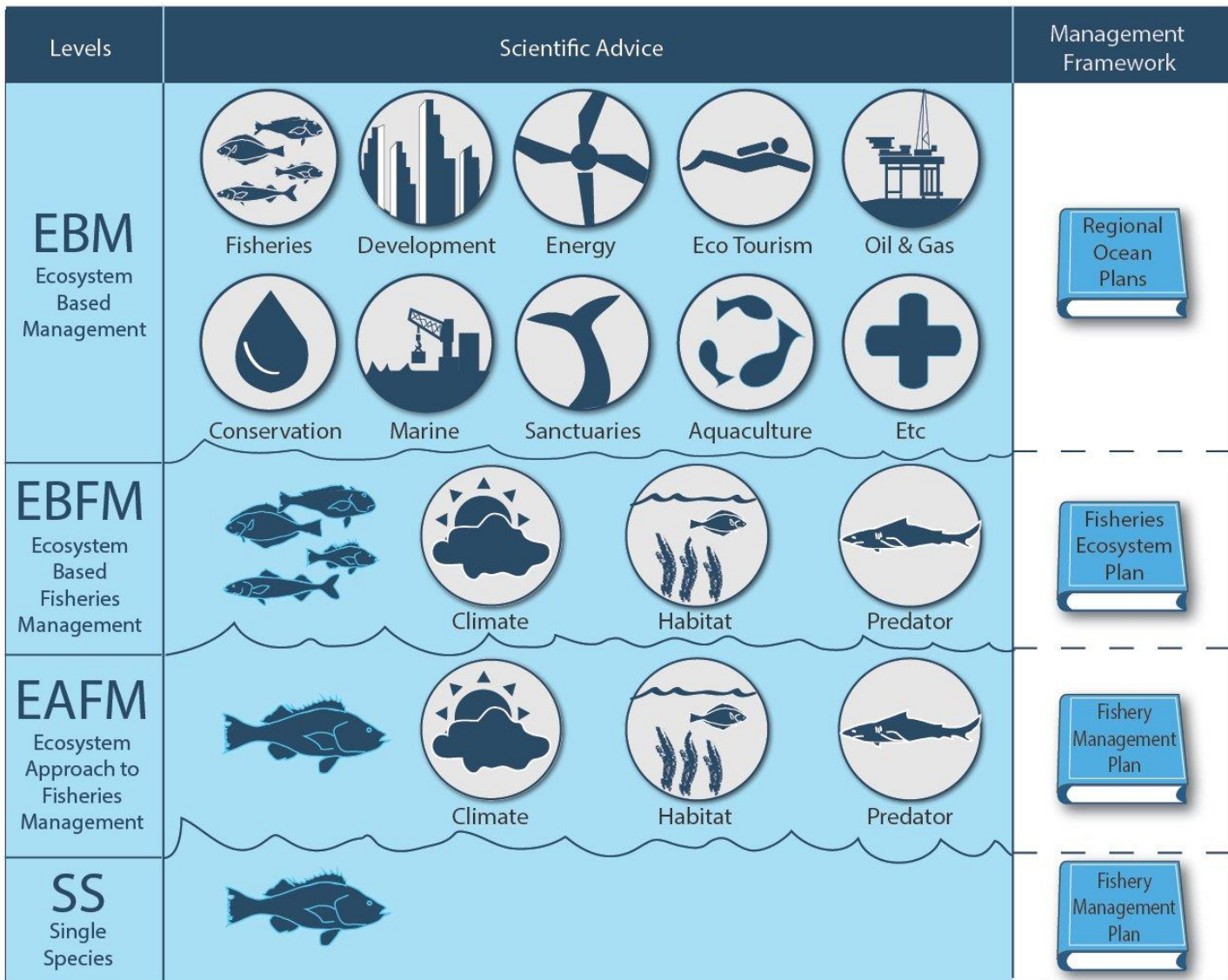
Coral Reefs and Associated Fishes

- Changes in climate CO₂, acidification, bleaching
- Impacts to coral health
- Trickle through impacts to reef fish production?
- Impacts to vibrant sport fishery, recreational fishery, and diving industries?



An Overall Systems Perspective





<http://www.st.nmfs.noaa.gov/ecosystems/ebfm/index>

Policy Components

- Policy Statement
- Background
- Purpose of and Need for Policy
- Definition of EBFM
- Context of EBFM
- Benefits
- Guiding Principles
- Legal Authorities and Mandates
- NOAA Fisheries Responsibilities



Policy Statement

NOAA Fisheries strongly supports the implementation of Ecosystem-Based Fisheries Management (EBFM), to better inform decisions and help achieve and optimize the benefits from marine fisheries by evaluating trade-offs among and between fisheries (commercial, recreational, and subsistence), aquaculture, protected species, biodiversity, and habitats, while maintaining resilient and productive ecosystems.

Policy Defines EBFM as:

A systematic approach to fisheries management in a geographically specified area that ensures the resilience and sustainability of the ecosystem ; recognizes the physical, biological, economic, and social interactions among the affected components of the ecosystem, including humans; and seeks to optimize benefits among a diverse set of societal goals.

EBFM Guiding Principles

Outcome

6. Maintain Resilient Ecosystems

What is our advice?

5. Incorporate ecosystem considerations into management advice

What are our options?

4. Explore and address trade-offs within an ecosystem

What are our priorities?

3. Prioritize vulnerabilities and risks of ecosystems and their components

What are our objectives?

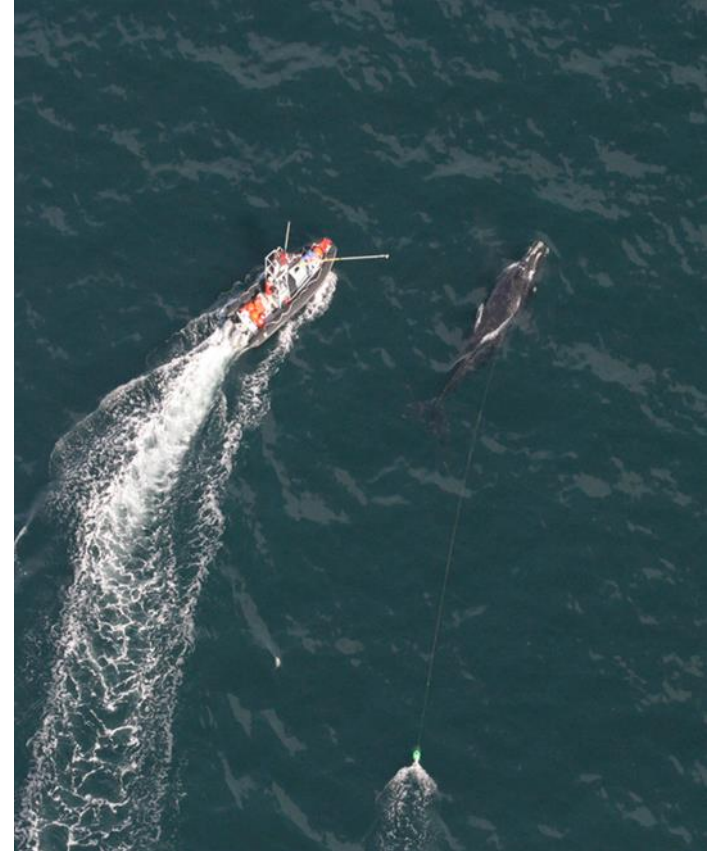
2. Implement ecosystem-level planning

What is the foundational science we need?

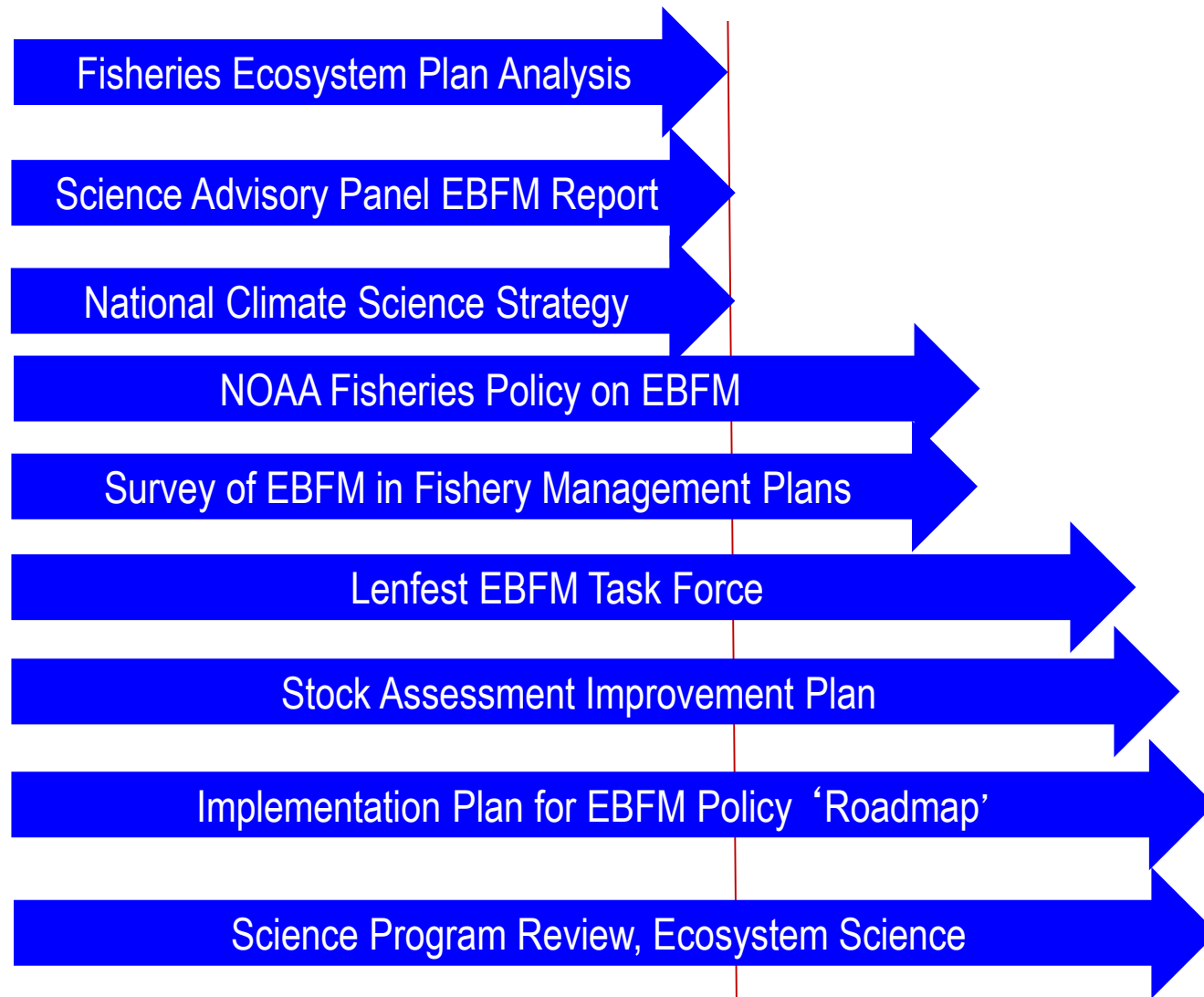
1. Advance our understanding of ecosystem processes

Next Steps for Policy

- Will be open for informal comment through Dec 16, 2015
- Comments to Heather Sagar and Jason Link
- Developing associated EBFM Road Map to answer the “what’s next” question
- Hope to finalize in early 2016



Ecosystem-related Efforts



Questions?

<http://www.st.nmfs.noaa.gov/ecosystems/ebfm/creating-an-ebfm-management-policy>