

Agenda
Shrimp Management Committee

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

Wednesday, October 7th 2015
9:30 a.m. – 11:00 a.m.

- I. Adoption of Agenda **(Tab D, No. 1)** – Bosarge
- II. Approval of Minutes **(Tab D, No. 2)** – Bosarge
- III. Action Guide and Next Steps **(Tab D, No. 3)** – Diagne
- IV. Public Hearing Draft for Shrimp Amendment 17A – Addressing the Expiration of the Shrimp Permit Moratorium **(Tab D, No. 4)** - Diagne
 - a. Public Comment Summary- Staff
 - b. Committee Recommendations- Bosarge
- V. Draft Options Paper for Shrimp Amendment 17B – Establishing Optimum Yield, Target Number of Permits, Permit Pool, and Addressing Transit Provisions Through Federal Waters **(Tab D, No. 5)** - Diagne
 - a. Committee Recommendations- Bosarge
- VI. Other Business – Bosarge

Members:

Bosarge, Acting Chair
Vacant, Chair
Vacant, Vice Chair
Crabtree/Branstetter
Donaldson
Pausina/Fischer
Riechers/Robinson

Staff: Kilgour

1 GULF OF MEXICO FISHERY MANAGEMENT COUNCIL
2
3 SHRIMP MANAGEMENT COMMITTEE

4
5 Hilton Riverside Hotel New Orleans, Louisiana
6

7 August 10, 2015
8

9 **VOTING MEMBERS**

- 10 Leann Bosarge.....Mississippi
- 11 Roy Crabtree.....NMFS, SERO, St. Petersburg, Florida
- 12 Dave Donaldson.....GSMFC
- 13 Myron Fischer (designee for Randy Pausina).....Louisiana
- 14 Lance Robinson (designee for Robin Riechers).....Texas

15
16 **NON-VOTING MEMBERS**

- 17 Kevin Anson.....Alabama
- 18 Martha Bademan (designee for Nick Wiley).....Florida
- 19 Doug Boyd.....Texas
- 20 Glenn Constant.....USFWS
- 21 Pamela Dana.....Florida
- 22 Dale Diaz.....Mississippi
- 23 John Greene.....Alabama
- 24 Kelly Lucas (designee for Jamie Miller).....Mississippi
- 25 Campo Matens.....Louisiana
- 26 John Sanchez.....Florida
- 27 Greg Stunz.....Texas
- 28 Ed Swindell.....Louisiana
- 29 David Walker.....Alabama
- 30 Roy Williams.....Florida

31
32 **STAFF**

- 33 Assane Diagne.....Economist
- 34 John Froeschke.....Fishery Biologist/Statistician
- 35 Doug Gregory.....Executive Director
- 36 Karen Hoak.....Administrative and Financial Assistant
- 37 Ava Lasseter.....Anthropologist
- 38 Mara Levy.....NOAA General Counsel
- 39 Emily Muehlstein.....Fisheries Outreach Specialist
- 40 Ryan Rindone.....Fishery Biologist/SEDAR Liaison
- 41 Bernadine Roy.....Office Manager
- 42 Charlotte Schiaffo.....Research & Human Resource Librarian
- 43 Carrie Simmons.....Deputy Director

44
45 **OTHER PARTICIPANTS**

- 46 Anna Beckwith.....SAFMC
- 47 Theo Brainerd.....SEFSC
- 48 Steve Branstetter.....NMFS

1 Eric Brazer.....Reef Fish Shareholder's Alliance
2 J.P. Brooker.....Ocean Conservancy
3 Shane Cantrell.....Galveston, TX
4 Eden Davis.....Louisiana Wildlife Federation, Baton Rouge, LA
5 Michael Drexler.....Ocean Conservancy, St. Petersburg, FL
6 Julie Falgout.....Louisiana Sea Grant, Houma, LA
7 Chad Hanson.....Pew
8 Matt Hill.....MS DMR, Biloxi, MS
9 Scott Hickman.....Galveston, TX
10 Peter Hood.....NMFS
11 Joe Jewell.....MS DMR, Biloxi, MS
12 Mark Kinsey.....NOAA OLE, Galveston, TX
13 Paul Mickle.....Biloxi, MS
14 Ashford Rosenberg.....Audubon Nature Institute
15 Bill Tucker.....Dunedin, FL
16 Jim Zurbrick.....Steinhatchee, FL

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18 - - -
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20 The Shrimp Management Committee of the Gulf of Mexico Fishery
21 Management Council convened at the Hilton Riverside Hotel, New
22 Orleans, Louisiana, Monday afternoon, August 10, 2015, and was
23 called to order at 2:15 p.m. by Chairman Leann Bosarge.
24

25 **ADOPTION OF AGENDA**
26 **APPROVAL OF MINUTES**
27 **ACTION GUIDE AND NEXT STEPS**
28

29 **CHAIRMAN LEANN BOSARGE:** We lost two of our most valuable
30 assets, Corky and Harlon, but, of course, they have been
31 replaced by even more valuable assets. They are just not on the
32 committee yet and so we have a small committee today. I will be
33 the Acting Chair and we have Dr. Crabtree and Dave Donaldson,
34 Mr. Fischer, and Lance. That's going to be our committee today,
35 guys, and so hopefully we can have some good discussion.
36

37 If you look at our agenda, it's pretty streamlined. We are
38 going to spend the bulk of our time going through Amendment 17
39 and hopefully get some good direction to staff on do we like
40 what we see or do we want to add anything or change anything and
41 then we will have a quick update from Myron on some changes that
42 have taken place in his neck of the woods. With that, are there
43 any additions to the agenda from anyone? If not, do I have a
44 motion to approve the agenda?
45

46 **MR. DAVE DONALDSON:** So moved.
47

48 **CHAIRMAN BOSARGE:** So moved by Dave and can we get a second?

1
2 **MR. LANCE ROBINSON:** It's seconded by Lance. The agenda is
3 approved. Are there any revisions that need to be made to the
4 minutes that anybody noticed? Seeing none, can I get a motion
5 to approve the minutes? It's moved by Dave and seconded by
6 Lance. All right.

7
8 If you look at our Action Guide and Next Steps, we will be
9 turning it over to Dr. Kilgour or excuse me, Dr. Kilgour is in
10 the hospital or just got out of the hospital and so she's not
11 with us today. She is taking care of much more important
12 things, two babies, and so we are going to turn it over to
13 Carrie and she is going to lead us through the latest version of
14 Shrimp Amendment 17.

15
16 As you know, we're on a pretty tight timeline as far as the
17 expiration of the original permit moratorium and so we have to
18 stay focused on this document and make sure that we give staff
19 plenty of direction to add or change anything that we want in
20 the document and so as she leads us through it, please don't
21 hesitate to raise your hand and stop us at any point. Myron.

22
23 **MR. MYRON FISCHER:** To that, of the critical timeline, could
24 Carrie explain where we're going to have to be, meeting-by-
25 meeting, until we get a final document approved?

26
27 **DR. CARRIE SIMMONS:** I will try to explain that, probably with
28 the help of Dr. Branstetter, since I am sitting in here for
29 Morgan today, but you are looking at a revised options paper.
30 We've tried to get additional analysis from the last time you
31 reviewed the document and work towards a public hearing draft,
32 as much as we can, for the October meeting.

33
34 After October, we plan to take it out to public hearings and
35 have the Shrimp AP review it again and then hopefully take final
36 action, my understanding is, at the January council meeting and
37 if we can't take final action in January, I think the absolute
38 latest we could take final action is the April council meeting,
39 but I will let Steve or anybody else step in.

40
41 **MR. FISCHER:** I was just trying to see where we are and how fast
42 we have to roll. That's sufficient. Thank you or Steve can
43 comment.

44
45 **REVISED DRAFT OPTIONS PAPER FOR SHRIMP AMENDMENT 17 - ADDRESSING**
46 **THE EXPIRATION OF THE SHRIMP PERMIT MORATORIUM**

47
48 **DR. SIMMONS:** All right and so I think we'll start on page 2.

1 This is Shrimp Amendment 17 and the current permit moratorium
2 will expire on October 26, 2016, and right now, the council is
3 looking at various options. They could allow the moratorium to
4 expire and revert all federal shrimp permits to open access.
5 They could extend the moratorium for another period of time,
6 which we're looking at five and ten years. You could establish
7 a permanent limited access system for the commercial Gulf shrimp
8 permits and the other thing the council is looking at is
9 considering a target number of permits for the moratorium and
10 creating a reserve instead of allowing those permits to expire
11 and you are also looking at removing the royal red shrimp
12 endorsement. That's just an overview of the actions and it's on
13 page 2.

14
15 The purpose and need, I don't know what exactly has changed, if
16 anything, from the last time you reviewed it, but you can see
17 the purpose of this amendment is to determine if limiting access
18 to federal permits is necessary to prevent overcapacity, promote
19 economic efficiency and stability, and maintain high catch per
20 unit effort and to protect federally-managed Gulf shrimp stocks.

21
22 Another purpose is to determine if the endorsement to harvest
23 royal red shrimp is still necessary to monitor participation and
24 activity in that component of the fishery.

25
26 The need for this action is to maintain increases in catch
27 efficiency while preventing overfishing and to obtain the best
28 available information with which to manage the fishery. I will
29 stop there and see if anybody wants to talk about the purpose
30 and need.

31
32 **CHAIRMAN BOSARGE:** Any feedback for Carrie or staff? Okay.

33
34 **DR. SIMMONS:** Okay. We will start with the management
35 alternatives. Action 1 starts on page 6 of the document.
36 Action 1 addresses the expiration of the federal shrimp permit
37 moratorium in the Gulf of Mexico.

38
39 Alternative 1 is the no action alternative. You do have a
40 preferred alternative for this action. You have Preferred
41 Alternative 2, which is to extend the moratorium on the issuance
42 of federal Gulf commercial shrimp vessel permits and you have
43 two options so far. The moratorium would be extended for,
44 Option a, five years, or your current preferred, Option b, ten
45 years.

46
47 The third alternative would create a federal limited access
48 permit for commercial shrimp vessels in the Gulf and it would

1 make it permanent and it has the necessary criteria in order to
2 do that in the rest of the alternative and so I will stop there.

3
4 **CHAIRMAN BOSARGE:** Any feedback on the first action for staff?
5 All right. Go ahead.

6
7 **DR. SIMMONS:** Just for the record, we did note there was some
8 problems with Figure 2.1.1 as far as the labeling goes and so
9 we'll fix that in the next draft. On page 9, it begins Action 2
10 and there is two subparts of this action, Action 2.1 and Action
11 2.2.

12
13 Action 2.1 would set up a target number of Gulf shrimp vessel
14 permits and create a pool for those permits. Alternative 1 is
15 the no action alternative, do not set a target number of
16 commercial shrimp vessel permits and any shrimp vessel permit
17 not renewed within one year of the expiration date on the permit
18 will be terminated and no longer available for purchase or use,
19 whereas the other alternatives would set up various targets.

20
21 Alternative 2 would set a target number of vessel permits based
22 on an aggregate maximum sustainable yield and I believe that's
23 all penaeid species and royal red shrimp and that estimated
24 number is over 2,000 permits.

25
26 Alternative 3 would set a target number of Gulf shrimp vessel
27 permits based on the number of valid permits issued at the
28 beginning of the moratorium, which was 1,933 permits.
29 Alternative 4 would set a target number of permits based on a
30 number of valid or renewable permits at the end of 2014, which I
31 believe is what the Shrimp AP recommended originally, or before
32 this document was very far along, as their preferred. That was
33 1,470 permits. The number of permits currently is a little bit
34 lower. As of August 6, 2015, currently we have 1,463 shrimp
35 permits.

36
37 Alternative 5 would set a target number based on the number of
38 valid or renewable permits at the end of the initial moratorium,
39 which is the October 26, 2016. Then we have two Alternative
40 6's. One of them you have seen before and I'm sorry that I
41 don't know which one that is right.

42
43 The first Alternative 6 would set a target number of vessel
44 permits based on the effort needed to maintain the gains in
45 catch per unit effort during the moratorium and I think that's
46 based on the 2008 year, which is around 882 permits, or
47 estimated to be.

48

1 I believe the second Alternative 6 was the original alternative
2 and that would set a target number of vessel permits based on
3 effort needed to maintain the gains in catch per unit effort in
4 the offshore fishery during the moratorium without substantially
5 reducing landings between 909 and over 1,000 permits, 1,133
6 permits, depending on the year chosen. Madam Chair just
7 confirmed that was the original, is the one I just read.

8
9 Then we have an Alternative 7 which would set the target number
10 of Gulf shrimp vessel permits based on the number of active
11 permits when effort was highest during the moratorium in the
12 area monitored for red snapper juvenile mortality, but without
13 reaching the bycatch reduction target and triggering closures.
14 That was based on 2011, around 938 permits.

15
16 Under each of the alternatives currently you have two options
17 and those were repeated under each one. Option a, if you
18 selected that, that would -- Once the target number of permits
19 is reached, then any of those permits that were not renewed
20 within one year of the expiration date would go into the pool.

21
22 Then Option b would be if the number of those target permits is
23 reached, the council would review the status of the fishery to
24 determine if action is needed.

25
26 Currently, as drafted, Action 2 through 4, if you select any of
27 those as preferred, you're already below that target and,
28 therefore, Option b would encompass the review currently in this
29 document. You would be doing the review currently if you
30 selected that as preferred. With that, I will stop there and I
31 may need some help answering questions from Assane or Steve
32 Branstetter.

33
34 **CHAIRMAN BOSARGE:** All right. Hopefully we can have some good
35 discussion on this action. Are there any volunteers? Dr.
36 Crabtree.

37
38 **DR. CRABTREE:** Carrie, there are some numbers in here, like in
39 Alternative 2, the number of vessel permits needed to attain
40 aggregate MSY, 2,018 permits, and there is another one later
41 down that has the number of permits needed to match the gains in
42 CPUE, that 882. It's in Alternative 6. Where is -- Maybe I
43 just haven't read this carefully enough, but do we have reports
44 and analyses that have been reviewed and gone through the SSC
45 and everything that support those numbers of permits?

46
47 **DR. SIMMONS:** We have some analysis. It has not been reviewed
48 by the SSC is my understanding, but Assane may know more.

1
2 **DR. ASSANE DIAGNE:** Like you mentioned, Dr. Simmons, we have
3 some analysis from the Science Center, but it hasn't been
4 formally reviewed. That will be done at a later time.

5
6 **CHAIRMAN BOSARGE:** I was going to ask a question about that
7 timing. Myron, was that your question or -- No? I will ask
8 that real quick, if you don't mind. As far as timeframe and
9 keeping this thing on schedule, number one, with the
10 restructuring of the SSCs, who would this go before and are they
11 meeting? Can we get this reviewed and when?

12
13 **EXECUTIVE DIRECTOR DOUG GREGORY:** The Special Shrimp SSC meets
14 with the Standing SSC. We could also convene the Socioeconomic
15 Special SSC and have them meet at the same time. We are
16 planning for the SSC to meet -- Typically they meet three or
17 four weeks before each council meeting. We didn't have a
18 meeting this past time, because we didn't have enough material
19 to cover, but we're planning to have a meeting in September and
20 I don't know if we -- I know Reef Fish is always on the agenda,
21 but I don't recall if we had planned to put Shrimp on the agenda
22 for September, but we're also planning to have an SSC meeting
23 maybe in December, the first part of December, of this year and
24 we certainly can put it on that agenda.

25
26 **CHAIRMAN BOSARGE:** Okay and I think we should probably leave
27 that up to staff as to maybe when the SSC looks at it, because I
28 know, and correct me if I'm wrong on this, but I believe there
29 will be some more economic analysis that we put in this
30 document, some further analysis, and so I don't want to be
31 premature in having them review it at the SSC and then say, oh,
32 but look at it again, because we weren't really done with it at
33 that point. Whatever the appropriate time is, we do want to
34 make sure that happens. Myron.

35
36 **MR. FISCHER:** Thank you, Madam Chair. Maybe this is for Assane.
37 It's the numbers in these various options. I just happen to be
38 on the new 6 or both 6's, where you see an 882 or a 902 or 1,133
39 and are these numbers based on 100 percent participation or is
40 it based on the fact that we probably have 30 or 40 percent of
41 our fishermen who hold permits, but they don't all fish in a
42 given year and they fish as needed?

43
44 **DR. DIAGNE:** I think these numbers are based on what I would say
45 active participation, but the extent to which a vessel
46 participates, that is, of course, subject to discussion. We
47 cannot say that everybody participated at the maximum level of
48 effort, meaning you could take a smaller number of vessels and

1 given the opportunity, or meaning under the right set of
2 conditions, meaning price of shrimp, fuel, and environmental
3 conditions, they would be able to achieve that.

4
5 Maybe the committee has an opportunity here to simplify this
6 action and significantly narrow down the range of alternatives
7 that are here. Just, for example, I mean Dr. Crabtree mentioned
8 Alternative 2 and talking about MSY. If we look at the net
9 number is 2,018 permits, even without reviewing it, which will
10 come at some point, if you look at Alternative 3, which has a
11 date certain, you have 1,933 permits.

12
13 Those two numbers are practically the same and so maybe there is
14 an opportunity, just looking at those three, to put Alternative
15 2, for example, in the considered but rejected, because whatever
16 it would achieve would be done by Alternative 3, for example,
17 and we have similar examples, I think, throughout this action,
18 but I will just stop there.

19
20 **CHAIRMAN BOSARGE:** Myron.

21
22 **MR. FISCHER:** Thanks and these different alternatives give a
23 different amount of permits required to fulfill the reason in
24 the first sentence of the permit and would it be easier, Assane,
25 if we had a document that would go from no action to set a
26 target number and we have just an a, b, c, d, e of maybe four or
27 five selections under that? The discussion would have to state
28 why we came up with those numbers, possibly, but we wouldn't
29 have all these alternatives and it would just be a to d and a to
30 e under one alternative.

31
32 **DR. DIAGNE:** Depending on the range, the final range of options
33 that the committee would recommend, that would be feasible. For
34 example, if you identified some reference dates, the number of
35 permits at the beginning of this moratorium, the number of
36 permits when we initiated these amendments, or the number of
37 permits on the day of implementation, just for example, those
38 would fit in the structure that you mentioned, Mr. Fischer, but
39 if the reasons given here range from I guess some biological
40 considerations to other, then we can't help but have separate
41 alternatives. It will depend on your final range of
42 alternatives, if you decide to pare this down a bit.

43
44 **CHAIRMAN BOSARGE:** Does that answer your question, Myron?

45
46 **MR. FISCHER:** Also, Assane, if we were to create a pool -- Maybe
47 this would be for Roy, but if we were to create a pool, could
48 this pool be governed with different criteria for getting into

1 it, meaning that we treat the 1,460 permits as they've been, but
2 if we put a pool of any number, 150 or 200 permits, those have
3 different criteria, where they maybe have to have shrimp
4 landings of a certain amount every year or different qualifiers
5 for those pool permits.
6

7 **DR. DIAGNE:** I think I would defer to Ms. Levy on this one, but,
8 as you specified, we can create conditions under which two
9 entities holding the same permit are subject to different
10 conditions and that may potentially be a problem, but I will
11 defer to Ms. Levy to further elaborate on this, if needed.
12

13 **MR. FISCHER:** I could give examples. It would be to qualify you
14 would have to have a certain income or certain sales, so many
15 pounds of sales, and sort of the more charter boat moratorium
16 historical captain permit, where it's treated slightly
17 differently. It could be non-transferable and only sticks with
18 that one vessel or whatever criteria the council would come up
19 with.
20

21 It would allow new entrants into the fishery, but they would
22 have to be fishermen and they would have to show income or
23 whatever other qualifying factors we come up with.
24

25 **CHAIRMAN BOSARGE:** Okay and, Myron, just so that everybody is on
26 the same page, because you asked a question and it was answered,
27 but I want to make sure everybody understood your question and
28 understood what some of these alternatives are saying.
29

30 When you were looking at Alternative 6 or Alternate Alternative
31 6 and you look and that particular alternative, the rationale
32 behind it is maintaining the catch per unit effort gains that
33 were realized in the recent past in the shrimp fishery and so
34 take the first one, the first Alternative 6.
35

36 It references a number of 882 permits. If you went with
37 Alternative 6, Option a, essentially what you would be saying
38 is, all right, when the number of permits on the books, whether
39 latent, active, whatever, when that number of permits on the
40 books with NMFS reaches a level of 882 -- In other words, when
41 it decreases to that 882 level, at that point that will be a
42 trigger.
43

44 That trigger could possibly make one of two things happen.
45 Option a, it would trigger the formation of a vessel pool and
46 any permits after that point in time that are not renewed and
47 that become terminated, that would have normally exited the
48 fishery and not been available to get again, they will go into

1 the pool and they will sit there and be available for someone at
2 some future date in time.

3
4 Option b would be that soft target, which you weren't talking
5 about, but essentially at that point it would trigger us as a
6 council to say, okay, we need to look at this again and see what
7 we want to do and is it at a good level or not, but the part I
8 really want to be clear about is Option a.

9
10 That's permits on the books, 882, and the reason we put that in
11 there that way is because we knew that in that year, where the
12 catch per unit effort gains had been realized, that's how many
13 boats were out there actually shrimping. There were way more
14 permits on the books than that, but if we started a vessel pool
15 at that whatever it was, nineteen-hundred-and-something permits,
16 then we know if those people come back into the fishery, which
17 we would be allowing if we started a vessel pool at nineteen-
18 hundred-and-something permits, we just screwed all those guys
19 that are in the fishery, because we know they're not sustainable
20 at that level.

21
22 They are not profitable and they cannot make a go of it and the
23 whole point of the moratorium was to stabilize the fishery and
24 get it to a point where hopefully when it became profitable
25 again we wouldn't have another one of these boom-and-bust
26 cycles, where people rush into it and usually it's artificially
27 stimulated by whatever the case may be, easy financing through
28 big corporations, like Caterpillar, or right now we could even
29 be in an artificial stimulation, because of BP money.

30
31 The point being we didn't want to keep going through that
32 vicious cycle again and so I just wanted to make sure that
33 people understood what the 882 means. That's permits on the
34 books, whether they are active or inactive. When it hits that
35 level, that would be a trigger.

36
37 **MR. FISCHER:** But that's not what Assane said. He said that
38 it's 882 active boats for this criteria and we know not 100
39 percent of the boats fish and we know it right now. Out of the
40 1,463 boats, they're not all fishing and maybe only 700 or 800
41 of them are fishing.

42
43 That's why I feel this number has to be higher, because in any
44 year you just won't have -- Now, Assane might correct me, but
45 that's what I understood. He has got his hand up.

46
47 **DR. DIAGNE:** Maybe I didn't express it clearly. What I said is
48 these are active vessels, but their level of activity, and I put

1 that in quotes, we cannot guarantee is 100 percent for all of
2 them and so what I said is consistent with what Ms. Bosarge just
3 said, but we cannot assume that they were all active to the
4 maximum of their ability. That's what I meant.

5
6 **MR. FISCHER:** But we know we have many boats that are harvesting
7 zero right now and you know you will always have boats at zero
8 and so maybe I just don't understand, but I think we need a
9 sizeable amount more than this, knowing we're going to have
10 boats not fishing, to maintain the catches. I will let NOAA --

11
12 **CHAIRMAN BOSARGE:** NOAA.

13
14 **DR. CRABTREE:** I guess, Myron, I am having a hard time seeing
15 why we need any more vessels than we have now. I mean CPUEs are
16 high and we're catching close to what we've historically caught
17 and we're doing it with much less effort, which means less
18 bycatch of red snapper and less bycatch of turtles, and we still
19 have, I don't know, 300 or 400, or maybe more, latent permits
20 out there.

21
22 I have a difficult time seeing why we would do anything that
23 would increase the number of permits in the fishery. If
24 anything, the high proportion of latent permits would tend to
25 indicate there are more permits than we need at this point and
26 so I have a hard time seeing why we would even keep Alternative
27 2 and 3 in the document, because I just can't see why we would
28 want to take an action to increase the number of the permits,
29 because we seem to have more permits now than are needed to
30 catch the shrimp that can be caught. Clearly the key to keeping
31 these vessels economically viable is high CPUEs and that's what
32 I am struggling with this.

33
34 **MR. FISCHER:** The reason, even if it's a small pool, is just to
35 allow new entrants in, just to get a few more people that --
36 It's not as easy to purchase a permit from a fisherman retiring
37 as it may seem and that's why we do have permits expiring every
38 year. Like I say, just in case they have a few entrants that
39 want to get in, it's to create a pool to allow them and, in some
40 cases, it's also to allow what is happening now. When boats are
41 transiting and when they're moving around, they do go into
42 federal waters and to allow these boats to have permits so they
43 could go from A to B and they do cross into federal waters.

44
45 **CHAIRMAN BOSARGE:** Dr. Crabtree.

46
47 **DR. CRABTREE:** Well, I mean the way you become a new entrant is
48 to buy a permit from someone and I don't know and Leann might

1 know better, but my understanding is shrimp permits, as far as
2 permits go, aren't particularly expensive. Do you know what --

3
4 **CHAIRMAN BOSARGE:** No, they're not that expensive in the big
5 scheme of things. It's going to depend on who you're buying it
6 from, you know. It's going to vary, but in the big scheme of
7 things, that particular expense is going to be minimal compared
8 to the expense that will be incurred simply to get your vessel
9 ready to go into federal waters, from a regulatory standpoint,
10 the things that you have to have on that vessel, per Coast
11 Guard, and the things that you're going to have to do for that
12 vessel to qualify to step out into federal waters. The permit
13 is negligible compared to the rest of the expense.

14
15 **DR. CRABTREE:** Yes and so it just doesn't seem, to me, that
16 that's that big of a hurdle here and the level of attrition in
17 the fishery -- I mean we lost a good many permits early on, at
18 the beginning of this thing, but the level of attrition is not
19 that high anymore and we have -- Every permit that we have under
20 moratorium right now has all these same issues and we have never
21 gone in and done this in any of those and I don't know why we're
22 doing it here.

23
24 We probably have more issues with bycatch, particularly turtles
25 and things, in this fishery than anything else and so we have a
26 significant public interest in not having any more effort in
27 this fishery than is necessary to catch the available shrimp and
28 I think we have a responsibility to make sure that we don't
29 allow excess capacity in this fishery.

30
31 I just think that the issue of the new participants -- It just
32 doesn't make sense to me. If you've got a permit that is \$6,000
33 or \$7,000, you've got to buy a shrimp boat and you've got to buy
34 the nets. A lot of these boats put \$10,000 or \$20,000 worth of
35 fuel in them to go make a fishing trip and so it just doesn't
36 seem, to me, that buying a permit is that high of a hurdle.

37
38 **CHAIRMAN BOSARGE:** Myron.

39
40 **MR. FISCHER:** We do have an industry that's not overfished and
41 not undergoing overfishing. It's an annual crop, those not
42 harvested, unlike the reef fish, that we need them for future
43 years. What is not harvested dies and we are nowhere near MSY.
44 We are not fishing MSY and so we just feel that a small pool and
45 not going back to the numbers of the 1,900 or the numbers at the
46 beginning of the inception of the moratorium. Somewhere in the
47 middle and just trying to get a few more permits in the pool to
48 allow some new entrants into the fishery.

1
2 If not, you're going to have a dying fishery, through attrition.
3 We are slowly eating away at it. We're losing too much
4 infrastructure on our coastline. Grand Isle, where our lab is,
5 once had eight fish houses and we now have one fish house. It's
6 not healthy for the industry to be losing this much
7 infrastructure for this argument. We just feel that a couple
8 more permits in the pool would actually be healthy in getting
9 new entrants in.

10
11 **CHAIRMAN BOSARGE:** Dr. Branstetter, did you have a comment?

12
13 **DR. STEVE BRANSTETTER:** Yes and I think maybe, Myron, some of
14 your answers are in Table 2.2.1 of the document. At the most,
15 when permits first came in, there were about almost 2,000
16 permits that were active. When we underwent the moratorium,
17 there was less than 1,550 active, large and small, vessels in
18 2006. As Dr. Crabtree mentioned, there is an attrition rate
19 going down from there, while the CPUEs are going up.

20
21 **CHAIRMAN BOSARGE:** Myron.

22
23 **MR. FISCHER:** Also recall the shrimp biomass is very
24 environmentally influenced. It's highly environmentally
25 influenced as compared to the other reef fish and species we
26 manage. I do agree about the CPUE. However, when you have a
27 year that the various environmental factors, temperature and
28 salinity in the estuarine areas pushing the shrimp out -- When
29 it's a good year, they have a bumper crop and we would like just
30 to have boats out there to harvest them.

31
32 **CHAIRMAN BOSARGE:** Dr. Lucas.

33
34 **DR. KELLY LUCAS:** Thank you, Madam Chair. I am not on your
35 committee, but I did have a question and it's possibly for you,
36 being in the business, or maybe for NOAA, but how easy is it for
37 people who may wish to be in the commercial shrimping business
38 to find out about a permit that may be coming available? I mean
39 is there a way to connect these people who might potentially be
40 looking at a permit that's in the grace period or whatever? I
41 mean if I was the person who wanted to get into it, could I find
42 that information easily?

43
44 **CHAIRMAN BOSARGE:** I think that that is an excellent question,
45 because some of the issues or concerns that I hear people
46 raising, some of it could be alleviated simply by communication,
47 open communication, and access to the information that they need
48 in order to get in the fishery.

1
2 Now, of course, if you're a businessperson, that's also a part
3 of business. You have to do the legwork, but that doesn't mean
4 we can't make it easier. If we see that as an issue, as a
5 hindrance or a hurdle, maybe we can do something about that.
6 Dr. Crabtree or Mara may correct me and this may be private
7 information that cannot be released, but you get one of these
8 permits and a year later it expires, right?

9
10 But then you have a year from that expiration date before it's
11 actually terminated and leaves the fishery and so I guess for
12 any other kind of circumstance you would call that your grace
13 period, kind of like your mortgage is due on the first, but they
14 give you until the tenth before they hit you with a fee or
15 something like that.

16
17 While you're in that year grace period, after it's expired, but
18 it hasn't been terminated yet, would it be possible for it to
19 show up on the NMFS/NOAA website somewhere that these particular
20 permits are in their grace period, but haven't been terminated
21 yet, and this is the name associated with the permit or the port
22 associated with the permit? In other words, let's not give out
23 Social Security numbers and phone numbers, but at least some
24 information that might could direct you to those people as a way
25 to allow those new entrants to more easily gain access to the
26 fishery.

27
28 The difference between that a pool -- I am trying not to speak
29 too much, because I'm the Chairman and so I am trying to not
30 voice my opinion, but then I'm also from the shrimp industry and
31 so it's tough and bear with me. The difference, in my opinion,
32 between that and a pool is that you still let the market control
33 itself.

34
35 It's not the government or the council or NOAA or NMFS
36 interfering with the market and tailoring itself to where it
37 needs to be for these boats to be profitable. When we create
38 the pool, then those permits are there indefinitely and when
39 things finally get better -- Who knows? There may be 500
40 permits in that pool and we may have only 1,000 boats in the
41 industry at that point and so you're going to allow at that
42 point, once things get better and these guys are profitable, for
43 it to shoot right back up by 500 permits.

44
45 Then you get into that boom-and-bust cycle and this would not be
46 that. What I was speaking to, you would still have a private
47 person that owns the permit and another private person that
48 wants to get into the fishery and they get together and they

1 decide what the price of the permit would be and if it's
2 worthwhile to get in it at that point in time and not five years
3 down the road, but right then. Is this something I want to get
4 into or not? Dr. Crabtree.

5
6 **DR. CRABTREE:** Part coming to Kelly's question, I mean you can
7 go on our website and we have posted a list of all the permit
8 holders and so you can find the vessel ID and the vessel name
9 and the permit number and the name of the company or the
10 individual and their address on our website.

11
12 I guess, in theory, if you were looking for a shrimp permit, you
13 could start on this list and just go down and contact all of
14 them until you found someone willing to sell.

15
16 **CHAIRMAN BOSARGE:** A follow-up, Dr. Lucas, and then David
17 Walker.

18
19 **DR. LUCAS:** To that point though, is it identified in some way
20 of where it may be, like the permit has either been reactivated
21 versus they're kind of in that lag period or whatever? I mean
22 we just had seven -- I think you identified seven that exited as
23 of last year and if somebody was looking to get into the
24 commercial shrimp business, was there a way to kind of connect
25 that before that occurred?

26
27 **DR. CRABTREE:** I don't think that is available on the website.
28 I think it just has a list of the permit holders, but does it
29 have the expiration date? Okay. It does have the expiration
30 date of the permit on it. Now, I don't know if this is only of
31 non-expired permits or if it includes -- You can see the
32 expiration date.

33
34 **CHAIRMAN BOSARGE:** David.

35
36 **MR. WALKER:** I am not on your committee, but I was just going to
37 add that it seems to me that it makes more sense to keep your
38 CPUEs up and your discards down. I mean intensifying effort is
39 not the solution.

40
41 **CHAIRMAN BOSARGE:** Okay. We've had some good discussion thus
42 far and it does look like we do have certain public access to
43 this information and maybe that can be enhanced and we can
44 overcome some of these hurdles for new entrants that currently
45 have an avenue to get into with the situation we have now, where
46 we still have permits that are tapering off and being terminated
47 on their own every year.

48

1 That's a possibility to help the situation. It sounds like -- I
2 am going to get to whoever raised their hand just a second ago.
3 Roy, but I want to have some clarification for staff on things
4 we've discussed.

5
6 For staff, it sounded like we had a little confusion on what
7 some of these alternatives mean, because I think Myron and I
8 were thinking that Alternative 6 said two different things. We
9 may need to have some more discussion and clarify that in the
10 discussion that comes after these alternatives, so that we
11 understand what, for example, that 882 permits means, if that is
12 permits on the books, whether active or inactive.

13
14 I don't think thus far we have had any discussion about actively
15 trying to eliminate latent permits. I don't think that's been
16 one of our goals thus far and so if it reads as such in the
17 document, we may need to have a little clarity on that. All
18 right, Roy.

19
20 **MR. ROY WILLIAMS:** You're kind of getting at my question, and
21 I'm not on your committee, but I appreciate your indulgence.
22 That 882 that's referenced in Alternative 6, where does that
23 come from? That 882 number doesn't appear in Table 2.2.1, nor
24 do any of those -- You sum the last two columns on the right and
25 they don't come out to that 882 and so do you know, Carrie,
26 where that's derived from?

27
28 **CHAIRMAN BOSARGE:** If you look on page 17 of the document, at
29 Table 2.2.2, that's the table that goes into your actual CPUE
30 numbers, your catch per unit effort numbers, and then out beside
31 that, it actually gives you landings and so you can compare
32 landings to changes in CPUE to changes in active permitted
33 vessels, estimated active permitted vessels, and so if you look
34 at 2008, that's where your expected active permitted vessels,
35 882, number comes from.

36
37 **MR. WILLIAMS:** Could I have a follow-up question, too? So if we
38 reduce to 882 permits, active permits, I guess the expected
39 landings -- I see that now too and it's just under seventy-five-
40 million pounds. Is that approaching the yield in this fishery?
41 I don't know what the potential theoretical yield in this
42 fishery -- Are we forsaking a lot of yield if we reduce to 882
43 permits?

44
45 **CHAIRMAN BOSARGE:** That's an excellent question and there are
46 several facets to that question and I think this is something
47 that we probably need to have more discussion in the document
48 about as well and I am going to speak a lot on this, even though

1 I'm the Chairman, and so jump in if anybody wants to.

2
3 In the document, we need to have some discussion as to what
4 drives landings. Is it -- What is it that determines if we have
5 an excellent landings year or an average landings year or a
6 below average landings year?

7
8 As we know, environmental conditions are very important in this
9 fishery, but there still are other criteria that affect it and
10 so is it primarily driven -- Outside of the environmental
11 factors, is it primarily driven by the number of boats, aka the
12 number of active permits, in the fishery or is it driven more so
13 by the economic constraints in that particular year that those
14 vessels have to deal with?

15
16 In other words, is it the price of imports which drives the
17 market price for domestic shrimp and the price of fuel? Are
18 those the things that will constitute whether a boat leaves the
19 dock to go land these shrimp or it doesn't or is it purely
20 driven by whether there is a thousand boats at the dock to leave
21 versus 2,000 boats at the dock to leave? Which one is
22 controlling that level of landings or is having the greatest
23 effect on that level of landings? Assane.

24
25 **DR. DIAGNE:** Thank you, Ms. Bosarge. In fact, I mean you
26 mentioned some of the things that I wanted to mention. In some
27 ways, maybe we are putting more emphasis than needed on the
28 number of permits, per se, because if we look at the literature,
29 what are the drivers of the shrimp industry in general?

30
31 We can mention three main things: the price of shrimp, the price
32 of fuel, and, in general, environmental conditions which would
33 affect shrimp abundance, if you would. In the literature, there
34 is a term that people use and it's the cost price squeeze,
35 essentially the cost of harvesting. The major one, of course,
36 is price of fuel and the price of shrimp.

37
38 As mentioned, you have a worldwide market, really. Price of
39 imports are significant drivers when it comes to price of shrimp
40 and so you can have whatever number of permits and if the
41 economic conditions are not right, some of those, or many of
42 those, would stay at the dock, because when they look at the
43 numbers, it would not make sense for them to go fishing.

44
45 We could have let's say these 900 permits and if you have a
46 bumper crop, they are more than capable of harvesting that,
47 because the economic conditions would make it right. Unless we
48 reach a very, very low number of permits, a bottom threshold,

1 number of permits would not be a concern.

2
3 The major factor here would be your bioeconomic conditions and,
4 again, the abundance and the differential between the cost and
5 the price of shrimp.

6
7 **MR. WILLIAMS:** So if we targeted -- Let's say we changed the
8 moratorium to target 900 permits in the future, to allow them to
9 deteriorate or to decline to 900 through attrition, would we
10 still be able, at that 900 permits, to catch most of the
11 potential yield out there? My feeling is we probably could.
12 That's the drift I get from this. Each boat would have a much -
13 - The active boats would have a much better catch per effort,
14 but are we only going to be catching half the potential yield or
15 would we be catching 75 or 80 percent of the potential yield?
16 Do you know? I mean I know that's a difficult figure to come up
17 with, but can you give me any sense of how the number of permits
18 is going to affect the potential yield, in terms of MSY?

19
20 **DR. DIAGNE:** I think around that number, without any study, and
21 those will come from the Science Center, because they are doing
22 additional work for this amendment. Provided that the economic
23 conditions are right, they would be more than capable of
24 harvesting the shrimp for the Gulf of Mexico.

25
26 The main, main driver really would be that, how much you can
27 sell it for, essentially, and there is another factor here,
28 which I guess we can add to this, and that's the behavior of the
29 shrimpers themselves.

30
31 Because they behave in a very, I guess, narrow set of
32 preferences and by that, I mean that when they go out fishing,
33 they have a certain revenue target in mind. If they don't hit
34 that target, some of them will prolong the trip and try to make
35 it, because they know how much they spent before going in fuel,
36 et cetera, to make it, but the sooner they make that, the sooner
37 then they return to port and so there are -- These numbers would
38 allow you to harvest the shrimp available at this time, yes.

39
40 **CHAIRMAN BOSARGE:** Dr. Lucas.

41
42 **DR. LUCAS:** A clarification. Which Alternative 6 -- It says
43 "or" and which one was the original and which one is the
44 current?

45
46 **CHAIRMAN BOSARGE:** I believe the second Alternative 6 was the
47 original and they are both currently in the document. I mean
48 they're open for discussion and that's part of what we need to

1 do today, is look at it and tailor these things and narrow it
2 down for staff and tell them what we're thinking and what we
3 want them to analyze further.

4
5 **DR. LUCAS:** The 6 that was added, you did some analysis to
6 arrive at 882, because I look at Table 2.2.2 and see the
7 expected active permit vessels, the last column, and then you
8 start looking at the observed and the expected CPUE and there
9 seems to be a whole range in there that anything could have been
10 picked from. Assane, how was the 882 --

11
12 **CHAIRMAN BOSARGE:** Yes and actually, the IPT -- I don't know if
13 they are conferenced in or if they can email somebody on this,
14 but I know they're listening in and maybe they can give --
15 Morgan is very familiar with this, but obviously there is
16 important things she needs to focus on right now and she
17 shouldn't be here, but they are the ones that have done a lot of
18 this analysis.

19
20 If you remember in the last draft, we had relatively no
21 information on truly active vessels in the fishery. All we had
22 was permits on the books with NOAA, whether they were latent or
23 active.

24
25 That's what we asked for and so that's where this analysis has
26 come from and if you read in the description after these
27 alternatives, and I don't have it highlighted, but there is
28 somewhere in here that they go into using this expected number
29 of active permitted vessels versus the actual, which usually
30 there is only a handful of permits difference between the two,
31 and so the difference between Table 2.2.1, active permitted
32 vessels, and Table 2.2.2, expected active permitted vessels,
33 because of some sort of modeling and using more than one year
34 versus only one year -- It goes into detail and it get a little
35 over my head, but that's where that 882 number is coming from.
36 That's because that is the year where you saw the peak in CPUE.

37
38 **DR. LUCAS:** I thought on that description though that it starts
39 talking about using a number other than the 2008 or 2010 to
40 achieve it and it says that setting a target higher than the
41 target based on 2008, but the 2008 number seems to be what's in
42 there and so I'm sorry, but I was just a little confused.

43
44 **CHAIRMAN BOSARGE:** In the second Alternative 6, they give you
45 essentially a range that you could pick from pretty much any
46 year since the initiation of the permit moratorium and figure
47 out which one of those years you want to use in order to
48 maintain landings where you want them to be and that's why I

1 said we need to have some discussion in the document as to
2 whether landings is in fact driven by the level of permits or if
3 it's not, if they're not highly correlated, then that may not be
4 the best route to go, but it may be, but we need some
5 discussion, because obviously there is questions about that.
6 Kevin.

7
8 **MR. KEVIN ANSON:** Thank you, Madam Chair. I am not on your
9 committee, but going back to your discussion earlier about the
10 going rate for a permit, you didn't answer the question or give
11 a range and I know it depends on where the boat may -- The size
12 of the boat or whatever are the things that go in with buying a
13 boat, potentially, but generally is it \$2,000 or it is \$5,000 or
14 \$10,000 or \$20,000, I mean just kind of a ballpark average?

15
16 **CHAIRMAN BOSARGE:** I would hate to speak for the entire fleet,
17 but I would say that I haven't heard of anything getting above
18 the \$10,000 level and I have heard it being closer to the \$5,000
19 or less. The reason I didn't want to put a particular range on
20 it is because there are some people in the fishery that may sell
21 it to you for less than \$1,000, because it's a small fishery and
22 because these people are connected and have long histories with
23 each other.

24
25 It really just depends on who you approach. I mean these people
26 are essentially letting them expire and making nothing off of
27 them and so you have to infer from that that it couldn't be too
28 extremely expensive. Don't ask me any more questions, so I
29 don't have to put my opinion out there as Chairman, so I can be
30 quiet. Myron.

31
32 **MR. FISCHER:** Madam Chair, so we have a document that's going
33 out to the public and we want the public to comment on all of
34 these items and so I think I just see something in here that I
35 would like changed and so what I will do is -- I like the Table
36 2.2.2 and it does look like the CPUE did increase as permits
37 declined and around the 2007 or 2008 range, the same --
38 Actually, we had better CPUE in 2008 than we did in 2013.

39
40 **I would like to make a motion that under Alternative 3 of Action**
41 **2.1, where we have the 1,933 permits, that we use it as an a and**
42 **have an a, b, and c and use the amount of permits that were in**
43 **the 2010, 2012, and 2014. Well, 2014 would be status quo and**
44 **maybe go to 2009, 2011, and 2013, which would be for 1,933**
45 **permits, as is in the document, because I would like to hear**
46 **what the fishermen have to say also about 1,722 and 1,582 and**
47 **1,501 and using those as the ceilings.**

48

1 It would be the amount of permits that were in the years 2013,
2 2011, and 2009, working backwards. That way, we will get some
3 comments, because people may not like the 1,933 number, but are
4 willing to find some target in between where we are today and
5 where the moratorium went into effect.

6
7 I don't have this -- I am not on any kind of email right now.
8 Every device I have is dead and I keep asking when they're going
9 to get my password fixed and so I can't email staff, but what I
10 would like to do is under that 1,933, go with a b, c, and d
11 which would be 1,722, 1,582, and 1,501, which would be the
12 amount of permits that were corresponding to the years 2009,
13 2011, and 2013, which, going back to Table 2.2.2, we had pretty
14 high CPUE.

15
16 **CHAIRMAN BOSARGE:** He is in Action --

17
18 **MR. FISCHER:** Action 2.1, Alternative 3. Madam Chair, I could
19 walk over to the table and assist, if they choose.

20
21 **MR. ANSON:** Let's go ahead and take about a ten-minute break at
22 this time, while we resolve the motion.

23
24 (Whereupon, a brief recess was taken.)

25
26 **MR. FISCHER:** My motion would be in Action 2.1, Alternative 3,
27 to set the target number of shrimp vessel permits based on the
28 number of valid permits issued at the beginning of the
29 moratorium, which was 1,933, or to use the number that was in
30 2009, 1,722, or the number in 2011, which was 1,582, or the
31 number in 2013, 1,501. Option a and Option b remains the same.
32 It might need a slight bit of wordsmithing in that first
33 sentence, just to make it grammatically correct. I am not
34 certain. I am from Louisiana.

35
36 **CHAIRMAN BOSARGE:** Okay and so you're good with what we have on
37 the board, Myron, right?

38
39 **MR. FISCHER:** Yes.

40
41 **CHAIRMAN BOSARGE:** We have a motion on the board. Is there a
42 second to this motion for discussion?

43
44 **MR. DAVE DONALDSON:** I will second it.

45
46 **CHAIRMAN BOSARGE:** It's seconded by Dave. Is there discussion
47 about this motion? Dr. Crabtree.

48

1 **DR. CRABTREE:** It seems to me, one, that adding these three
2 options -- It's all within the range of what's already in the
3 document and so I don't know that it gives the public anything
4 and it bothers me to just be pulling years out and saying that's
5 the number of permits, because there doesn't seem to be any
6 justification behind that, other than that's how many there just
7 happened to be at some point in time.

8
9 But how does that mean it's the appropriate number of permits,
10 that it's the optimal number of permits? I just don't see that
11 and so I don't really think we gain anything by adding this in.

12
13 **CHAIRMAN BOSARGE:** Myron.

14
15 **MR. FISCHER:** Where some of the other alternatives are tied to
16 CPUE or tied to other events, this was tied to how many permits
17 were at the beginning and then it reduces coming up to today's
18 date, which would be status quo. Someone may not like the
19 1,933, but they wouldn't mind settling somewhere in between and
20 we have to remember this is just an options paper going out for
21 the public to comment and this is far from our final review.

22
23 The public might get here and don't want any part of this and
24 that's what it's about. It's to give them opportunities to
25 comment on something and by us isolating just the 1,933 with no
26 other choices, they may say this isn't a solid option, because
27 we don't want 1,933. It shows them the flexibility if we were
28 to choose to go somewhere in between.

29
30 **CHAIRMAN BOSARGE:** Mara.

31
32 **MS. MARA LEVY:** My concern with just the way it's set up from a
33 practical standpoint is that we now have an alternative that I
34 guess is asking you to select 1, 2, 3, or 4 and then an Option a
35 or b. It's really four different alternatives, each with an
36 Option a and b under it, and the way that the rest and the
37 action and alternatives are structured is really -- They should
38 be separate, right, so it's either at the beginning of the
39 moratorium or all these other numbers should really be separate
40 alternatives, each with an a and b under it.

41
42 If staff is actually going to have to analyze all of these,
43 that's how, in a practical sense, they're going to have to
44 analyze them, because it's going to get extremely messy to be
45 Alternative 3, Option 1 or Number 1, Option a. Do you see what
46 I'm saying in terms of how it's set up versus how the other
47 alternatives are set up in the action?

1 I do agree with Roy that if you decide to go down this path that
2 there would have to be a lot more discussion about why any one
3 of these years is appropriate just because it happens to be the
4 number of permits that ended up at the end of the year.

5
6 **CHAIRMAN BOSARGE:** Okay, Myron. I have a question for Myron.
7 All right. So we had a discussion earlier about where we're at
8 right now in the fishery with the level of permits that we're at
9 and essentially all of the options in this motion would increase
10 permits from where they are currently and if you look at active
11 boats in the fishery, it increases them considerably from where
12 they are right now.

13
14 What is our rationale for wanting to make drastic increases
15 available to the fleet size in this fishery that I am concerned
16 about, the fishery itself having a long-term future?

17
18 **MR. FISCHER:** I share those concerns. That's why I am trying to
19 reduce the number from 1,933 and give options that would be less
20 than the 1,933 number.

21
22 **CHAIRMAN BOSARGE:** I guess that's where you and I differ in how
23 we look at the fleet, because you look at the fleet as
24 sustainable at approximately 1,500 permits right now and what I
25 see is no, there is far fewer than 1,500 boats working right
26 now. If we actually had all those boats working and we had
27 1,500 boats working, we would not be a sustainable fishery.

28
29 We have closer to that 900 range actually working right now and
30 those people are barely surviving. They are not coming ahead
31 and profiting. They can only go forward at that 900 level if
32 economic conditions improve from here and so it scares me that
33 we're putting in even more options that increase the fleet from
34 the active number of boats that we have right now barely
35 sustaining.

36
37 I feel like we're doing them an injustice and we already have
38 two of those options in the paper. We asked for those to be in
39 there so that we would have a reasonable range of alternatives
40 and I just don't -- I have to speak up for this, because there
41 is only five of us on the committee and so if you can convince
42 me, give it a shot.

43
44 **MR. FISCHER:** I didn't think I had to convince the chairperson
45 to allow the motion. I know I won't get your vote, but I think
46 it's a viable range of alternatives in this action to allow it
47 to go to the public to hear what the people have to say. That's
48 what I am trying to do, is spur the public comment.

1
2 **CHAIRMAN BOSARGE:** So you want the current Alternative 2 and 3
3 and then add this to the one that speaks to -- Is it Alternative
4 4 that speaks to the 1,933?
5

6 **MR. FISCHER:** Alternative 3.
7

8 **CHAIRMAN BOSARGE:** Just for the record, I was getting you to
9 convince me of voting for it, Myron. All right. Any more
10 discussion on this motion? We have a question from Dr. Lucas.
11

12 **DR. LUCAS:** Myron said that when you -- I guess this could be in
13 the discussion somewhere, but you picked those numbers based, I
14 guess, on catch per unit effort in those given years and I mean
15 would you add that somewhere for clarity, so that when the
16 public is commenting on it that they may note why you chose
17 those years or why those years were chosen?
18

19 **MR. FISCHER:** Sure and in discussion of the 882, when Steve
20 Branstetter referred us to Table 2.2.2, it appeared that the
21 CPUE in the year 2008 was actually higher than it was in 2013,
22 the last year in the table. It appears that the amount of boats
23 we had in 2008, everyone could survive, that the fleet could
24 survive. It was to take some calendar years between 2015 and
25 that date and I was just staggering the years. It was
26 definitely not because they highlighted higher CPUEs, but it was
27 just staggering the years to give like a full range.
28

29 **CHAIRMAN BOSARGE:** Assane, for clarification on that Table
30 2.2.2, and I don't know if it was you or Sue Gerhart that would
31 answer this, but those CPUE numbers that you see there, like for
32 2008, that's based -- That is based and correlated to that 882
33 boats actually working and not the 1,930 boats that were
34 permitted that year.
35

36 That's how many boats had permits attached to them, but that
37 CPUE is only attainable if 882 of those boats actually work the
38 fishery actively.
39

40 **DR. DIAGNE:** Yes, that is correct. If you use the 1,900 plus,
41 that CPUE would shrink roughly by half and a little bit more,
42 yes, and so it is attached to the 882, which are assumed to be
43 active permits, yes.
44

45 **CHAIRMAN BOSARGE:** David.
46

47 **MR. WALKER:** I was just going to add to that. Probably the
48 CPUE, but if you go from 882 to 1,500 or 1,600 or whatever, you

1 also have the potential to double the discards too, increase the
2 discards, and I don't think that's something that's going to go
3 too well with a lot of people.

4
5 **CHAIRMAN BOSARGE:** Dr. Crabtree.

6
7 **DR. CRABTREE:** I think David makes a very good point and I would
8 remind you we're mired in litigation now over the shrimp
9 fishery, based on turtle takes, and the proxy we use for turtle
10 takes in this fishery is effort and if effort goes up, it's
11 going to create a lot of problems for us and so I don't know.

12
13 To me, there is a balance here, but we want to maintain these
14 high CPUEs and we want to keep bycatch down and low, which means
15 effort down as low as we can and still catch the fish, and I
16 just don't think these alternatives that increase the number of
17 permits beyond what we have now do that. They just seem to
18 create these problems and they are going to reduce CPUE and they
19 don't make sense to me in this fishery. I just don't think it's
20 a good balance.

21
22 **CHAIRMAN BOSARGE:** Any further discussion on this motion? I
23 think we've had a good discussion. All those in favor of the
24 motion say aye; all those opposed. Do we need to raise our
25 hands? **All those in favor please raise your hand; all of those**
26 **opposed please raise your hands. The motion passes three to**
27 **two.**

28
29 Do you want to continue on with this action or -- Was there
30 anything else that we want to discuss on this action? Is there
31 anything that we can streamline? We have added some things and
32 I think staff wanted us to streamline it and delete some things,
33 but is there anything that we're not considering that staff does
34 not need to further analyze or is there any more discussion that
35 we want to clarify certain things in these tables or anything
36 else that the committee would like to see in the document? All
37 right. Hearing no discussion, you can carry on, please, ma'am.

38
39 **DR. SIMMONS:** Okay. Thank you, Madam Chair. That means we have
40 essentially eleven alternatives, I believe, in this action. I
41 think we may have to reorganize the motion that just passed a
42 little bit more for the next draft and so remember we're going
43 to bring this back to the council before it goes out to public
44 hearings, but that's a lot of alternatives and so if there's
45 anything else the committee could whittle down, we would
46 appreciate it, especially if Alternative 2 -- I think there was
47 some question about MSY and how those species were combined to
48 attain MSY and if Alternative 2 should stay in the document at

1 this time. I don't know if you had a chance to discuss that or
2 not yet.

3
4 **CHAIRMAN BOSARGE:** Is there any discussion on Alternative 2 from
5 the committee? This is the alternative that addresses MSY. Go
6 ahead, Dr. Crabtree.

7
8 **DR. CRABTREE:** I will try a motion to remove it to the
9 considered but rejected, based on the comments and what I have
10 already spoken to. This seems to be the highest number of
11 permits in here. I will make that motion.

12
13 **CHAIRMAN BOSARGE:** Okay. Is that your motion, Dr. Crabtree, on
14 the board?

15
16 **DR. CRABTREE:** Yes, Alternative 2 in Action -- That's it.

17
18 **CHAIRMAN BOSARGE:** All right. We have a motion on the board.
19 Do we have a second? Second by Ms. Bosarge. Any discussion on
20 the motion?

21
22 **MR. FISCHER:** If you wanted a friendly motion to add 4, 5, 6,
23 and 7 to it and is that what you're looking for?

24
25 **CHAIRMAN BOSARGE:** No, Myron, no. All right. We now have the
26 language that's associated with that Alternative 2 on the board,
27 so that we know what we're voting on here. Myron.

28
29 **MR. FISCHER:** Are we sending a message that we do not want to
30 fish at MSY if do something like this?

31
32 **CHAIRMAN BOSARGE:** That's a good point. I think that there
33 probably does need to be further discussion in the document
34 definitely about MSY and levels that we currently fish at. I
35 think it is touched on some in the document, Myron, but it may
36 need to be elaborated on, especially if we do pass this motion,
37 because that is one of the mandates, obviously, that we all live
38 with.

39
40 If this motion was to pass, I would think that there needs to be
41 some discussion in the document that in a purely commercial
42 fishery such as the shrimp fishery that the maximum sustainable
43 yield curve is ultimately reduced by the maximum economic yield
44 curve, meaning the economics of the fishery may dictate that you
45 cannot reach MSY, no matter what you do, in a purely commercial
46 fishery. If this passes, then yes, you're right that we would
47 need to have some sort of discussion to that extent, to make
48 sure that it's still addressed in the document. Dr. Crabtree.

1
2 **DR. CRABTREE:** I don't -- We almost never fish at MSY. The
3 statute tells us we're supposed to fish at optimum yield, which
4 is reduced from MSY. Given all the bycatch issues in this
5 fishery and the need to maintain high CPUEs, we have lots of
6 reasons why we wouldn't want to fish at MSY and so that doesn't
7 bother me.

8
9 **CHAIRMAN BOSARGE:** Okay. Any further discussion on the motion?
10 We might as well raise our hands, since there is only five of
11 us. **All of those in favor of the motion raise your hand; all**
12 **opposed raise your hands. The motion fails.**

13
14 I would like to -- If we're past that, I would like to have a
15 little discussion about the biological alternatives that we have
16 in the document. I think our original goal, we wanted some
17 alternatives that had to do with maintaining CPUE. We have
18 those and we wanted some alternatives that were possibly
19 biologically based, because you have to have rationale for what
20 you pick.

21
22 We do have one biological alternative in there, but today we
23 seem to have had a lot of discussion about the turtle
24 interactions and the industry. Dr. Crabtree, do you think it
25 would behoove us to have a biological alternative that addresses
26 those thresholds?

27
28 **DR. CRABTREE:** Well, if you wanted to do something like that,
29 you could put something in here that was aimed at maintaining
30 effort at or below the level that was specified in the
31 incidental take statement in the last biological opinion. Now,
32 how well we can translate that into permit numbers and things is
33 not entirely clear to me, but that would seem to be the way that
34 would make sense with it, if you wanted to do something like
35 that.

36
37 **CHAIRMAN BOSARGE:** Okay. So that's a possibility and it does
38 address it a little bit in the document. I noticed in the
39 discussion portion, when it's addressing some of the other
40 bycatch issues, it does talk about the biological opinion and
41 certain thresholds that we need to stay below and I believe it
42 even -- It may give a target, at least a target year, that maybe
43 could be somehow related to a certain level of permits and so
44 that may be something that we're looking at. Are there any
45 alternatives that we don't need, that we are ready to remove
46 from the document for staff? All right. Dr. Crabtree is on a
47 roll and he gives us and so let's move on then. Myron.

48

1 **MR. FISCHER:** When you talk about language in the document, even
2 though they may have an inference to what I'm going to say, I
3 think we have to get a little deeper in the fact that the shrimp
4 crop is an annual crop and it's really based on environmental
5 factors and it's definitely not based on any kind of overfishing
6 the previous years.

7
8 It's based on salinity and temperature and rainfall and
9 everything coming out of the estuarine areas and I think that
10 has to be in the document and just highlighted somewhere more
11 than just mentioning environmental factors, because that is what
12 controls the size of the biomass.

13
14 It's one of the main factors controlling the size of the biomass
15 and, therefore, that's what has a lot of play on CPUE and a lot
16 of play on just what's going to be harvested in general and what
17 our total landings are going to be. I just don't want staff to
18 have to do much more research, but I think something should be
19 mentioned in the document to that.

20
21 **CHAIRMAN BOSARGE:** So noted and I'm glad you brought that up.
22 There was one other thing that I was hoping to get a little more
23 discussion on in the paper. As far as the Option b listed under
24 all of the alternatives in the vessel pool action, we discuss it
25 a little bit in the paper following these alternatives, but I
26 think maybe we should get a little more specific in the sense
27 that, okay, if we go that route, if we have this soft target
28 instead of forming the pool immediately when we hit some certain
29 level of permits, it will instead trigger us to take a look at
30 this and say are we where we need to be and what do we need to
31 do, but we need to know what is encompassed in that?

32
33 Is this going to be a plan amendment that would have to be done
34 at that point to examine that? Is it a framework action? You
35 know what kind of timeline are we looking at? We don't want to
36 narrow it down to the point that if we go that route we don't
37 have many options or flexibility, but we at least want to know
38 kind of what we're looking at if we were to go that route, from
39 a timeframe perspective. If staff could maybe elaborate on a
40 little bit of the logistics involved there in the paper, I would
41 appreciate that.

42
43 **DR. SIMMONS:** Okay. We will move on, but I guess, hopefully by
44 full council, maybe we could think a little bit more about the
45 current two Alternative 6's. The second Alternative 6, we have
46 the CPUE and the landings combined, but we don't really talk
47 about a year or provide any justification for using that Table
48 2.2.2 and so we probably should get some guidance by full

1 council about that alternative and how we want to move forward
2 with that one, at least as far as years go and why we would
3 choose a specific year, potentially, if we leave that in,
4 instead of the range. Still back on the same action, 2.1, but
5 we're moving on.

6
7 Page 20, Issuance of Reserve Gulf Shrimp Vessel Permits, page
8 20, Alternative 1 is no action, individuals must submit a
9 completed application to NMFS to be issued from this reserved
10 vessel permit pool.

11
12 Eligible applicants will receive a Gulf shrimp vessel permit,
13 reserve permit, if it's available. Alternative 2 would allow
14 the reserved vessel permits to be available from NMFS and will
15 be issued to the eligible applicants in the order in which the
16 applicants are received.

17
18 Alternative 3 would allow this reserve permit pool to be
19 available from NMFS once per year and those would be eligible in
20 the order in which the applicants are received, but it would be
21 only completed once a year.

22
23 Alternative 4 would take the reserve pool and it would allow --
24 Those permits would be available from NMFS once per year. If
25 the number of applicants is greater than the number of the
26 reserve Gulf shrimp vessel permits, NMFS would conduct a lottery
27 to determine which individuals may be issued the available
28 permits.

29
30 Under each of these alternatives, we have various criteria.
31 Option a is to be U.S. citizen or business and Option b is to
32 assign the permit to a vessel that is of at least X length on
33 the application. Option c would assign the permit to a vessel
34 with a U.S. Coast Guard certificate of documentation on the
35 application. Those are the current same options we have under
36 each of the alternatives.

37
38 Staff has provided some analysis on page 22 about vessel length
39 for the committee to think about, Table 2.2.3, the proportion of
40 vessels with valid or renewable commercial shrimp permits in
41 each size class as of January 6, 2015.

42
43 Method 1 takes the vessel length and the proportion of vessels
44 that are less than sixty feet, which is approximately 24.3
45 percent of the vessels in the fleet, and the number that are
46 greater than sixty feet is 75.7 percent.

47
48 Method 2 takes the vessel length and the proportion of vessels

1 within the various lengths and divides it up into twenty-five-
2 feet increments. Approximately 2.8 percent of the fleet is less
3 than twenty-five feet. Twenty-five to fifty feet is 13.6
4 percent of the fleet and fifty to seventy-five feet is 42.8
5 percent of the fleet and greater than seventy-five feet is 40.8
6 percent of the fleet.

7
8 Staff is looking for some feedback regarding Option b as far as
9 the length of the vessel that would be needed for the
10 application. Also, some IPT questions for the council are would
11 each individual be limited to one application and how long would
12 the applications be valid and would these permits be
13 transferable?

14
15 **CHAIRMAN BOSARGE:** Discussion on this action? Myron.

16
17 **MR. FISCHER:** Just a question. A vessel has to be a U.S. Coast
18 Guard documented vessel to obtain a permit, because this does
19 not seem to allow state vessels to have permits.

20
21 **CHAIRMAN BOSARGE:** That was listed as an option, if I remember
22 correctly, Myron. It came into discussion at the AP meeting,
23 when they were trying to come up with a length category, so that
24 people didn't put these permits on -- Go and get them for
25 speculation and put them on a skiff.

26
27 There seemed to be some gray area with the length, which staff
28 is trying to work out for us with these tables, but the
29 alternative to that was saying, okay, then what about tonnage?
30 The discussion was around the five net tons and that essentially
31 anything below that was not going to be a Gulf boat and that
32 that was a good threshold.

33
34 The reason it mentions the documentation is because fishing
35 vessels, and I think it clarifies this in the discussion, but
36 fishing vessels that are five net tons have to be documented and
37 so that's where that comes from. It's really the five-net-ton
38 threshold, which therefore kicks in documentation.

39
40 Is there any discussion around the length, since it has a big
41 "X" by it that is highlighted? Do we want to put a length in
42 there or at least have some discussion? We don't necessarily
43 need to make a decision, but let's have some discussion about
44 lengths and what that may or may not entail.

45
46 Does the fact that you have the net tonnage, does that alleviate
47 the length problem? Staff did provide us with some lengths in a
48 table and they said that boats that were sixty feet or greater,

1 that was essentially 75.7 percent of the permitted vessels and
2 boats that were greater than seventy-five, that's 40.8 percent
3 and the fifty to seventy-five range is 42.8 percent and so there
4 are some decent percentages there to guide us or maybe we can
5 just leave it for public comment and let them tell us if they
6 want that or not. Dale.

7
8 **MR. DALE DIAZ:** I am not on your committee, but I think, to me,
9 length is not a good way to go. I mean it depends on where
10 you're at whether length is important, probably, but in certain
11 areas of the Gulf, you can be three miles off the coastline of a
12 state that might only have a three-mile boundary recognized by
13 the feds now and the depth of water tapers off gradually and
14 it's very conceivable that these smaller boats would be out
15 beyond three miles. That's not a big stretch in a lot of areas.
16 Anyway, I have not thought that was a good idea since the first
17 time I heard it, but I'm not on your committee.

18
19 **CHAIRMAN BOSARGE:** Mara, did you have a chance to research the
20 be a U.S. citizen or business? I think we had questions about
21 that and are we okay putting that in the document or no?

22
23 **MS. LEVY:** I apologize, but I did not research anything and now
24 I am trying to struggle as to what I was supposed to research.
25 Was the question whether we could limit it to U.S. citizens, the
26 permit, and that's what I was supposed to be looking at?

27
28 **CHAIRMAN BOSARGE:** I believe that's correct and you can get back
29 to us on it. It's okay. I didn't mean to put you on the spot.
30 Myron, was there something else we had a question about with
31 that?

32
33 **MR. FISCHER:** Right and I don't know if mine is Mara or Morgan
34 or I'm not certain who, but I just want to make certain that the
35 document on a vessel over five tons is mandatory. I don't want
36 to have this in our document and we find out that it's not
37 mandatory. I don't know that a vessel over five tons has to be
38 U.S. Coast Guard documented.

39
40 **CHAIRMAN BOSARGE:** If you look on page 22, it says vessel which
41 engage in either coast-wide trade or fisheries on navigable
42 waters of the U.S., on or in the EEZ, must be documented subject
43 to certain exclusion or exemption provisions. Vessels of less
44 than five net tons are excluded from such documentation. I
45 can't think, off the top of my head, of a Gulf boat that's not
46 documented.

47
48 We have discussed, in the last action, certain issues that

1 actually probably pertain to this action item. Myron, you
2 mentioned would these permits be transferable or not
3 transferable and we mentioned possible landings requirements to
4 be attached to these new entrants and I guess you would call
5 vessel pool permits, so that someone doesn't buy them on
6 speculation and sit there and hold them and that there may be a
7 certain timeframe attached to if you get this permit that you
8 have to have landings on it within a certain period of time,
9 whether that be a year or whatever the case may be. That may be
10 something that is a viable option.

11
12 Based on the support for the last few motions, going down the
13 vessel pool avenue, in committee at least, I don't know that I
14 might not want to see a little more added to this particular
15 action item as well. I guess what scares me is we don't have
16 any timeframe on these permits that go into this vessel pool.

17
18 Almost everything that we do at this council has some sort of
19 expiration to it. I mean if you look at that possible borrowing
20 of allocation between recreational and commercial for king
21 mackerel, we had to set a timeframe that that would expire and
22 if you look at sunset provisions on all the other documents that
23 we've done recently, there is always some sort of timeframe and
24 it does not happen indefinitely into the future.

25
26 I don't know that I may want to see something added to this that
27 as these permits go into this pool they don't sit there
28 indefinitely and that we don't end up where we have a fleet of
29 900 vessels out there actively fishing and we've got 500 or 600
30 permits or more in a pool.

31
32 I don't think that that's conducive to stabilizing the fishery
33 and so maybe we could have something in here that if the pool is
34 formed, the permit would go into the pool and it will
35 essentially have a time clock associated with it and it will
36 stay in that pool for a certain length of time and if it has not
37 been claimed within that whatever it may be, a year or two
38 years, it drops out of the pool, so that you don't have a
39 continuously growing pool and it's all dependent on how many are
40 going in and falling off. Myron.

41
42 **MR. FISCHER:** You could have a pool -- You could put a cap on
43 the size of the pool and that pool can't exceed whatever we
44 think it is today and so what we vote today -- Not today, but
45 when we vote this up, if that's the route we go and we're going
46 to have 250 boats in a pool or 150 boats, you could set that as
47 a cap and the other permits expire and that's the most the pool
48 could get up to. That's one alternative.

1
2 Another alternative would be I know there was discussion, a
3 sidebar discussion, about entities purchasing up these permits
4 to secure them, so they can't go to boats trying to fish. Then
5 you could have a qualifier, such as a harvest rate, so many
6 pounds necessary, in order to maintain the permit. That way, I
7 can't go buy up the entire pool to avoid other people from using
8 it. You could add different qualifiers that probably solve your
9 problem.

10
11 **CHAIRMAN BOSARGE:** I don't know that it's customary for the
12 Chairman to make a motion. Can I make a motion?

13
14 **MR. FISCHER:** I will make it for you, Leann. I will make it for
15 you.

16
17 **CHAIRMAN BOSARGE:** Let me tell you what it is. I don't think I
18 want to leave it open to your interpretation. **I would like to**
19 **see some alternatives or they would be options under each**
20 **alternative which address the timeframe that each permit would**
21 **be allowed to remain in the vessel pool, as well as issues**
22 **relative to transferability of the permits to go into the pool.**
23 Mr. Fischer.

24
25 **MR. FISCHER:** I will tell you how I could support it.

26
27 **CHAIRMAN BOSARGE:** Tell me, Myron.

28
29 **MR. FISCHER:** Instead of a timeframe, is create a cap, because
30 what a timeframe is going to do, it's just going to terminate
31 the pool. If you have so many permits -- All these original
32 permits that are in the pool and you say you have a five-year
33 timeframe, the permits not issued -- There will no longer be a
34 pool and they are cut off and so even if twenty people took
35 permits, then all these unused permits are going to cut off and
36 so that really ends the pool. What I would rather do is see a
37 cap, a maximum amount that could be in the pool, and other
38 qualifiers.

39
40 **CHAIRMAN BOSARGE:** I wanted to avoid a cap, because we have so
41 many issues trying to pick a number as it is with the action
42 item before this and we really can't seem to come around to
43 justification for what we're trying to accomplish as far as
44 picking that number. We are just picking numbers.

45
46 I would rather see there be some timeframe attached to the
47 permit as it goes into the pool, so that if there are no
48 entrants that want to come into the fishery, it doesn't sit

1 there forever, but we let the fishery determine where it's
2 going, as opposed to us picking the level of this is where you
3 need to be and we're going to leave it here so that this is
4 where you will go, even though that may or may not be the right
5 avenue for the fishery. I would rather let the fishery
6 determine that.

7
8 **MR. FISCHER:** I see if you put a five-year timeframe and there
9 is 200 permits in the pool and the word spreads after four
10 years, those 200 permits will be snapped up. People are going
11 to -- They will just want to sit on them. I think other
12 qualifiers is what is necessary, such as a harvest rate and cap
13 the pool.

14
15 **CHAIRMAN BOSARGE:** But if that were true, we wouldn't have any
16 permits falling off now, because people would just sit on them,
17 but they're not. Let me remind you this is simply to add it for
18 discussion into the document. This isn't picking a preferred or
19 anything else and so, Myron, do you want to ask if there's a
20 second to my motion? Is there a second to the motion? Lance
21 seconds the motion for discussion.

22
23 Is there any further discussion on the motion to add these
24 options to the document for evaluation? All right. All in
25 favor of the motion say aye; all opposed to the motion say aye.
26 Let's do a show of hands. **All in favor of the motion raise your**
27 **hand; all opposed to the motion raise your hand. It's a tie and**
28 **therefore, the motion fails.** Is there any further discussion on
29 this action in the document? Yes, sir.

30
31 **DR. BRANSTETTER:** I am being informed by the lead of the IPT
32 that this document has already become so complicated from this
33 afternoon's committee that you will not have a public hearing
34 draft by October. The analyses that are required for this just
35 cannot be completed in time for the October council meeting to
36 take it out to public hearings.

37
38 **CHAIRMAN BOSARGE:** Well that's a definite issue, because we are
39 on a tight schedule with this document. What are our options to
40 address that issue, besides removing things from the document?
41 Myron, do you have a suggestion?

42
43 **MR. FISCHER:** I think, due to the time constraints, we will wait
44 until Thursday, but we take a serious look at deleting some of
45 these alternatives.

46
47 **CHAIRMAN BOSARGE:** All right. We need to have some probably
48 serious discussion in full council about where we're headed with

1 this and make sure we stay on track and what some possible
2 options are to make sure that we stay on track and we have a
3 very small committee, as you see right now. We only have five
4 of us and so it may be that we can make some progress in full
5 council, when we get everybody around the table and see where
6 we're headed. Maybe we can get some more feedback from the IPT
7 as well before full council to help us. Let's move on to the
8 royal red fishery, which surely must be a little less
9 convoluted.

10
11 **DR. SIMMONS:** Thank you, Madam Chair. Action 3, the royal red
12 shrimp endorsement, begins on page 23. You have two
13 alternatives right now. The first alternative is no action,
14 continue to require the royal red shrimp endorsement to the
15 federal Gulf shrimp vessel permit to harvest royal red shrimp
16 from the EEZ. Endorsements are open access for entities with a
17 federal Gulf shrimp vessel permit.

18
19 Alternative 2 would discontinue the endorsement and only the
20 Gulf shrimp vessel permit would be required. In Amendment 13,
21 the endorsement was required for royal red shrimp fishing and
22 the purpose was primarily to help inform data collectors about
23 who the royal red shrimpers were and collect better information
24 about the fishery. However, it's unclear if the establishment
25 of the endorsement has helped with this. Madam Chairman.

26
27 **CHAIRMAN BOSARGE:** Any discussion around Action 3? We only have
28 two alternatives and are we good with our two alternatives? Is
29 there any other clarification or discussion that we want to see
30 from staff regarding this action item? Seeing none, I believe
31 we can move on.

32
33 **DR. SIMMONS:** I will just get with Morgan and the Regional
34 Office staff and we will draft the committee report and try to
35 be ready for full council and help inform the discussion for
36 full council.

37
38 **CHAIRMAN BOSARGE:** That concludes the Amendment 17 discussion
39 agenda item and, Myron, if you are still in the room -- Myron is
40 coming back to join us and he has a very brief, quick update on
41 TEDs.

42 43 **OTHER BUSINESS**

44 **UPDATE ON CHANGES IN TED REGULATIONS IN LOUISIANA**

45
46 **MR. FISCHER:** Thank you, Madam Chair. I was requested to update
47 the council on changes in Louisiana regarding the enforcement of
48 TEDs. In Baton Rouge at our last legislature, House Bill 668

1 was passed and it was signed into law on July 1. It goes into
2 effect on August 1 of this year.

3
4 What it does is it repeals all Louisiana laws that prohibit the
5 enforcement of the federal TED and BRD laws by the Louisiana
6 Department of Wildlife and Fishery enforcement agents. Federal
7 TED regulations, they have always been in effect in Louisiana
8 and they have just been enforced by NOAA Enforcement officers
9 and the U.S. Coast Guard.

10
11 The passage of this gives our enforcement agents authority to
12 enforce the law also and we are moving into that phase as we
13 speak. August 1 just took place and there is educational
14 classes taking place and enforcement agents are being trained in
15 various TED regulations, the angles and what's necessary. They
16 can't use zip strips to tie them shut and just everything
17 necessary in the enforcement of TEDs and I am certain they are
18 going to do a bang-up job.

19
20 **CHAIRMAN BOSARGE:** Excellent. It sounds like a continued focus
21 on sustainability in the fishery and so that's good news and we
22 like that. A gold star for Louisiana. Dr. Crabtree, I have
23 heard that there may be other upcoming changes with TEDs and do
24 we foresee any other changes in the future?

25
26 **DR. CRABTREE:** Well, you may recall -- I guess it's been
27 probably two years ago now, but we did put out a proposed rule
28 that would have required TEDs in skimmer trawls and during the
29 comment period on that, we reviewed the observer data that we
30 had and it was apparent that most of the turtles that were being
31 taken were very small Kemp's ridley turtles that were able to
32 pass between the bars in the currently certified TEDs that we
33 had.

34
35 We withdrew that proposed rule, because we felt like we didn't
36 have a good TED solution that would work in the skimmer trawl
37 fishery. Since then, we have been doing TED testing to look at
38 closer bar spacing and a TED that would work with smaller
39 turtles.

40
41 That work is still going on and we'll need to do shrimp loss
42 estimates for those TEDs. That is underway, but I think that
43 it's possible that we will be back to reconsidering that if we
44 have a TED that looks like it will work with acceptable shrimp
45 loss. We would reevaluate the issue of whether or not to
46 require TEDs in skimmer trawls and so that's an issue that I
47 think we will come back to at some point.

48

1 **CHAIRMAN BOSARGE:** Thank you for the update. In light of that,
2 when Ms. Lee was here several meetings back and she gave us the
3 biological review as far as turtles are concerned with the
4 shrimp fishery and those interactions, I believe Dale and myself
5 asked her a couple of questions about the voluntary inspections
6 that we have from enforcement, where you can call and ask
7 enforcement to come and check your TEDs before you leave the
8 dock, to ensure that they meet the requirements, and were those
9 voluntary inspections, because they are written up on the same
10 form as a violation would be and being submitted, were they
11 being counted as violations.

12
13 She was under the impression that yes, they were and so in light
14 of a lot of these changes that are being made and that may be
15 coming, I would, in the near future, like to maybe revisit the
16 TED enforcement boarding form and obviously this is a NMFS form
17 and so the council doesn't create this document, but I would
18 like maybe the council to take a look at it and if we have any
19 recommendations for things that we would like to see added to
20 this form so that we have the data that we need to know which
21 inspections were voluntary and which are actual violations.

22
23 I say this because if TEDs do indeed become required in skimmer
24 trawls -- We are looking at a fleet of otter trawl boats right
25 now and just at the federal level it's 1,500 boats and I believe
26 -- Myron can correct me if I'm wrong, but I think you all have
27 about 3,500 skimmer gear permits in Louisiana and so we're
28 talking about a substantial increase in the number of vessels
29 that are going to have TEDs and therefore be subject to possible
30 boardings.

31
32 Even if only a handful of them have something wrong with their
33 TEDs, it's going to look like a huge spike in violations and so
34 I think, if nothing else, we need to look at the form and make
35 sure that we get all the data that we need to analyze it
36 properly and have options and flexibility going forward, to make
37 sure that the fishery remains sustainable. Maybe we can get
38 staff to work on lining something up in that respect.

39
40 I am glad to hear that there's a lot of outreach and training
41 going on in Louisiana for the officers and I hope that maybe at
42 our next meeting we can have some more discussion about training
43 and outreach for the fishermen, in light of these upcoming
44 changes. Maybe even a certification program. We will see. If
45 there is no other business to come before the Shrimp Committee -
46 - Dale, do you have anything?

47
48 **MR. DIAZ:** I guess I do want to -- Dr. Crabtree, is there

1 anything that you can do to help with that situation? It's my
2 understanding that if somebody asks voluntarily to come inspect
3 my TEDs and an agency like Mississippi Marine Patrol goes out
4 and as a public service goes out -- They want to be compliant
5 and they're asking us to come inspect them at the dock and for
6 that to count against the shrimp industry, it just seems to me
7 like the wrong way to go about it and it's my understanding that
8 it does and so I mean is there anything you can do to intervene
9 and help with the fact that on these voluntarily requested
10 things and the things that we do as a public service to help the
11 industry to make sure that those do not penalize the shrimp
12 industry, because it's a dockside thing.

13

14 People are trying to be complaint and I think if they know it's
15 going to count against them that it's a deterrent for them being
16 compliant.

17

18 **DR. CRABTREE:** We can look at that and we are working on a
19 compliance policy now that addresses how we're going to do some
20 of these things and gets at the form and things and it's posted
21 on our website and we could talk about it at a future council
22 meeting if you like. We have shared this with I think all of
23 the state law enforcement panels.

24

25 We can look at that, but I don't agree with you that it's been a
26 deterrent, because, in fact, compliance has improved
27 dramatically over the last few years from the efforts and the
28 things that we've done and so the fact is that the policies
29 we've adopted and what we're doing right now with TED
30 enforcement and all of this is working, because the compliance
31 has been good and well within where we're trying to get with the
32 biological opinion.

33

34 I am open and we can look at how we're going to treat those
35 kinds of things, but we're trying to get a picture of what is
36 the actual compliance rate in the fisheries and there are
37 problems with all the different ways that you do that and we
38 would have to look and see what proportion of the information
39 we're using comes from those voluntary type things versus what
40 comes from law enforcement and I don't know how those numbers
41 would come out, but that's something we can come back and take a
42 look at.

43

44 **CHAIRMAN BOSARGE:** I think, Dale -- I brought a copy of the form
45 with me and I think just simply putting something on the form,
46 which it sounds like they are already discussing in Dr.
47 Crabtree's group, but if we can put out some things, a wish list
48 essentially, that we would like to see on the form going

1 forward, then maybe it will happen, but I think we have to make
2 it clear and at least say these are the things we would like to
3 see and so hopefully we can accomplish that. All right. Any
4 other business to come before the Shrimp Committee? Seeing
5 none, the committee is adjourned.

6

7 (Whereupon, the meeting adjourned at 4:15 p.m., August 10,
8 2015.)

9

10

- - -

11

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Shrimp Management Committee Meeting
October 7, 2015
Galveston, TX

Shrimp Management Committee Meeting: Action Guide and Next Steps

Agenda Item IV: Public Hearing Draft for Shrimp Amendment 17A – Addressing the Expiration of the Shrimp Permit Moratorium

Timeline Status: Public Hearing Draft

Committee Input and Next Steps:

- The Committee should review the purpose and need
- The Committee should review the alternatives and analyses
- The Committee should select preferred alternatives
- The next step will be to go to public hearings in January. The Council will be presented with a final amendment at the January Council meeting.

Agenda Item V: Draft Options Paper for Shrimp Amendment 17B – Establishing Optimum Yield, Target Number of Permits, Permit Pool, and Addressing Transit Provisions Through Federal Waters

Timeline Status: Draft Options

Committee Input and Next Steps:

- The Committee should review the purpose and need
 - The Committee should review the actions and alternatives
 - For Action 1 and Action 2, the Committee is requested to consider establishing a working group to evaluate what aggregate MSY and OY should be. The working group may also be able to present additional alternatives for Actions 1 and 2.
 - For Action 3, the Committee is requested to review all alternatives and to edit, add or eliminate alternatives that it does/does not wish to consider
 - For Action 5, the Committee is requested to discuss the need for eligibility metrics. The Committee should evaluate the eligibility metrics presented in the alternatives and the two additional options presented in the text. The Committee should remove or add any eligibility requirements that it does/does not want
 - For Action 6, the Committee is requested to review the three alternatives to edit, add or eliminate alternatives that it does not wish to consider
 - The Committee may select preferred alternatives or may wait until a public hearing draft is presented
 - The next step is to develop a public hearing draft for the April or June 2016 meeting based on the Council's guidance
-

Agenda Item VI: Other Business

Timeline Status: Information

Committee Input and Next Steps:

- The Committee may discuss any non-agenda items here.

Shrimp Permit Moratorium



Public Hearing Draft for Amendment 17A to the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters

October 2015



This is a publication of the Gulf of Mexico Fishery Management Council Pursuant to National Oceanic and Atmospheric Administration Award No. NA10NMF4410011.

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Gulf of Mexico Shrimp Amendment 17A

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Type of Action

Administrative
 Draft

Legislative
 Final

ABBREVIATIONS USED IN THIS DOCUMENT

ACL	annual catch limit
ALF	annual landings form
AM	accountability measure
BECI	bio-economic conditions index
BRD	bycatch reduction device
CPUE	catch per unit effort
Council	Gulf of Mexico Fishery Management Council
DWH	Deepwater Horizon MC 252
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
EJ	environmental justice
ELB	electronic logbook
ESA	Endangered Species Act
FMP	fishery management plan
GMFMC	Gulf of Mexico Fishery Management Council
GSS	Gulf Shrimp System
Gulf	Gulf of Mexico
HAPC	habitat area of particular concern
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
mp	million pounds
MSY	maximum sustainable yield
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OY	optimum yield
PBR	potential biological removal
RA	Regional Administrator
RQ	regional quotient
Secretary	Secretary of Commerce
SEFSC	Southeast Fisheries Science Center
SEIS	Supplemental Environmental Impact Statement
SERO	Southeast Regional Office of NMFS
SPGM	federal Gulf commercial shrimp permit
TEDs	turtle excluder device
USCG	United States Coast Guard
VOOP	vessel of opportunity program

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CHAPTER 1. INTRODUCTION

1.1 Background

The Gulf of Mexico Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) began managing the shrimp fishery in the Gulf of Mexico (Gulf) in 1981. The Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters (FMP) includes four species: brown shrimp, *Farfantepenaeus aztecus*; pink shrimp, *Farfantepenaeus duorarum*; white shrimp, *Litopenaeus setiferus*; and royal red shrimp, *Pleoticus robustus*.

In 2001, the Council established a federal commercial permit for all vessels harvesting shrimp from federal waters of the Gulf through Amendment 11 (GMFMC 2001). Approximately 2,951 vessels had been issued these permits by 2006. After the establishment of the permit, the shrimp fishery experienced economic losses, primarily because of high fuel costs and reduced shrimp prices caused by competition from imports. These economic losses resulted in the exodus of vessels from the fishery, and consequently, reduction of effort. The Council determined that the number of vessels in the offshore shrimp fleet would likely decline to a point where the fishery again became profitable for the remaining participants, and new vessels might want to enter the fishery. That additional effort could negate, or at least lessen, profitability for the fleet as a whole. Consequently, the Council established a 10-year moratorium on the issuance of new federal commercial shrimp vessel permits through Amendment 13 (GMFMC 2005a). The final rule implementing the moratorium was effective October 26, 2006; permits became effective in March 2007.

To be eligible for a commercial shrimp vessel permit under the moratorium, vessels must have been issued a valid permit by NMFS prior to and including December 6, 2003. An exception was made for owners who lost use of a qualified vessel, but obtained a valid commercial shrimp vessel permit for the same vessel or another vessel prior to the date of publication of the final rule. NMFS estimated 285 of the 2,951 vessels would not meet the control date; thus, the number of permitted vessels under the moratorium would be 2,666. Of those 285 ineligible vessels, 126 were inactive during 2002 (the last year of data available during the time the Council deliberated on this issue). Of the remaining 159 active vessels, only 72 operated in federal waters and were excluded under the moratorium. Of those 72 vessels, 45 were large and 27 were small. The large vessels were expected to be the most affected because the small vessels could continue to fish in state waters, where a federal permit is not required.

Vessel owners had one year to obtain the new permit; NMFS issued 1,933 moratorium permits in that time. As of September 21, 2015, 1,464 moratorium permits were valid or renewable (within one year of expiration); therefore, the number of permits has decreased by 469 since the moratorium began (Table 1.1.1). These permits have been permanently removed and are no longer available to the fishery. A permit is valid if it has been renewed; a permit is renewable one year from its expiration. After a year with no renewal, a permit is terminated and permanently removed from the permit pool.

Table 1.1.1. Number of valid, surrendered, and terminated Gulf commercial shrimp permits as of December 31 each year since implementation of the moratorium. Valid permits are those that were fishable at least one day each year. Surrendered permits are those that were voluntarily returned to NMFS by the permit holder – these permits were valid for part of the year, before being lost from the fishery. Terminated permits are those that were lost from the fishery due to non-renewal by the permit holder.

Year	Number of Valid Permits Each Year	Number of Surrendered Permits Each Year	Number of Permits Terminated Each Year*	Cumulative Number of Permits Lost from the Fishery
2007	1,933	0	NA	NA
2008	1,907	0	26	26
2009	1,722	1	184	211
2010	1,633	1	88	300
2011	1,582	0	51	351
2012	1,534	0	48	399
2013	1,501	0	33	432
2014	1,470	0	31	463

Source: NMFS Southeast Regional Office (SERO) Permits Database

The moratorium on federal commercial shrimp permits will expire October 26, 2016. The Council may: 1) allow the moratorium to expire and revert all federal shrimp permits to open access; 2) extend the moratorium for another period of time; or 3) establish a limited access system for Gulf shrimp permits that would not have an expiration date.

Royal red shrimp can only be harvested with a royal red shrimp endorsement. Anyone with a federal commercial shrimp permit is eligible to obtain a royal red shrimp endorsement for an additional fee. The establishment of the royal red shrimp endorsement was intended to help identify the universe of royal red shrimp fishermen for analytical purposes. The Council may eliminate the royal red shrimp endorsement if they determine it is not accomplishing its purpose. As of September 21, 2015, 298 royal red shrimp permits were valid.

1.2 Purpose and Need

Purpose for Action

The purpose is to determine if limiting access to federal permits is necessary on a temporary or permanent basis to maintain the biological, social, and economic benefits to the shrimp fishery achieved under the moratorium and to determine if the endorsement to harvest royal red shrimp is still necessary to monitor participation and activity in that component of the fishery.

Need for Action

The need is to protect federally managed Gulf shrimp stocks while promoting catch efficiency, economic efficiency and stability, and obtain the best available information with which to manage the fishery.

1.3 History of Management

The FMP, supported by an environmental impact statement (EIS), was implemented on May 15, 1981. The FMP defined the shrimp fishery management unit to include brown shrimp, white shrimp, pink shrimp, royal red shrimp, seabobs (*Xiphopenaeus kroyeri*), and brown rock shrimp (*Sicyonia brevirostris*). Seabobs and rock shrimp have since been removed from the FMP. The actions implemented through the FMP and its amendments have addressed the following objectives:

1. Optimize the yield from shrimp recruited to the fishery.
2. Encourage habitat protection measures to prevent undue loss of shrimp habitat.
3. Coordinate the development of shrimp management measures by the Council with the shrimp management programs of the Gulf States, when feasible.
4. Promote consistency with the Endangered Species Act and the Marine Mammal Protection Act.
5. Minimize the incidental capture of finfish by shrimpers, when appropriate.
6. Minimize conflict between shrimp and stone crab fishermen.
7. Minimize adverse effects of obstructions to shrimp trawling.
8. Provide for a statistical reporting system.

The purpose of the plan was to enhance yield in volume and value by deferring harvest of small shrimp to provide for growth. The main actions included: 1) establishing a cooperative Tortugas Shrimp Sanctuary with Florida to close a shrimp trawling area where small pink shrimp comprise the majority of the population most of the time; 2) a cooperative 45-day seasonal closure with Texas to protect small brown shrimp emigrating from bay nursery areas; and 3) a seasonal closure of an area east of the Dry Tortugas to avoid gear conflicts with stone crab fishermen.

Amendment 1/environmental assessment (EA)(1981) provided the Regional Administrator (RA) of the NMFS Southeast Regional Office (SERO) with the authority (after conferring with the Council) to adjust by regulatory amendment the size of the Tortugas Sanctuary or the extent of the Texas closure, or to eliminate either closure for one year.

Amendment 2/EA (1983) updated catch and economic data in the FMP.

Amendment 3/EA (1984) resolved a shrimp-stone crab gear conflict on the west-central coast of Florida.

Amendment 4/EA (1988) identified problems that developed in the fishery and revised the objectives of the FMP accordingly. The annual review process for the Tortugas Sanctuary was simplified, and the Council and Regional Administrator (RA) review for the Texas closure was extended to February 1. A provision that white shrimp taken in the exclusive economic zone (EEZ) be landed in accordance with a state's size/possession regulations to provide consistency and facilitate enforcement with Louisiana was to have been implemented at such time when Louisiana provided for an incidental catch of undersized white shrimp in the fishery for seabobs. This provision was disapproved by NMFS with the recommendation that it be resubmitted after Louisiana provided for a bycatch of undersized white shrimp in the directed fishery for seabobs. This resubmission was made in February of 1990 and applied to white shrimp taken in the EEZ and landed in Louisiana. It was approved and implemented in May of 1990.

In July 1989, NMFS published revised guidelines for FMPs that interpretatively addressed the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (then called the Magnuson Fishery Conservation and Management Act) National Standards (50 CFR 602). These guidelines required each FMP to include a scientifically measurable definition of overfishing and an action plan to arrest overfishing should it occur.

Amendment 5/EA (1991) defined overfishing for Gulf brown, pink, and royal red shrimp and provided measures to restore overfished stocks if overfishing should occur. Action on the definition of overfishing for white shrimp was deferred, and seabobs and rock shrimp were removed from the management unit. The duration of the seasonal closure to shrimping off Texas was adjusted to conform to the changes in state regulations.

Amendment 6/EA (1992) eliminated the annual reports and reviews of the Tortugas Shrimp Sanctuary in favor of monitoring and an annual stock assessment. Three seasonally opened areas within the sanctuary continue to open seasonally, without need for annual action. A proposed definition of overfishing of white shrimp was rejected by NMFS because it was not based on the best available data.

Amendment 7/EA (1994) defined overfishing for white shrimp and provided for future updating of overfishing indices for brown, white, and pink shrimp as new data become available. A total allowable level of foreign fishing for royal red shrimp was eliminated; however, a redefinition of overfishing for royal red shrimp was disapproved.

Amendment 8/EA (1995), implemented in early 1996, addressed management of royal red shrimp. It established a procedure that would allow total allowable catch for royal red shrimp to be set up to 30% above maximum sustainable yield (MSY) for no more than two consecutive years so that a better estimate of MSY could be determined. This action was subsequently negated by the 1996 Sustainable Fisheries Act amendment to the Magnuson-Stevens Act that defined overfishing as a fishing level that jeopardizes the capacity of a stock to maintain MSY and does not allow optimum yield (OY) to exceed MSY.

Amendment 9/supplemental environmental impact statement (SEIS) (1997) required the use of a NMFS certified bycatch reduction device (BRD) in shrimp trawls used in the EEZ from Cape San Blas, Florida to the Texas/Mexico border, and provided for the certification of BRDs and specifications for the placement and construction. The purpose of this action was to reduce the bycatch mortality of juvenile red snapper by 44% from the average mortality for the years 1984 through 1989. This amendment exempted shrimp trawls fishing for royal red shrimp seaward of the 100-fathom contour, as well as groundfish and butterfish trawls, from the BRD requirement. It also excluded small try nets and no more than two ridged frame roller trawls of limited size. Amendment 9 also provided mechanisms to change the bycatch reduction criterion and to certify additional BRDs.

Amendment 10/EA (2002) required BRDs in shrimp trawls used in the Gulf east of Cape San Blas, Florida. Certified BRDs for this area are required to demonstrate a 30% reduction by weight of finfish.

Amendment 11/EA (2001) required owners and operators of all vessels harvesting shrimp from the EEZ of the Gulf to obtain a federal commercial vessel permit. This amendment also prohibited the use of traps to harvest royal red shrimp from the Gulf and prohibited the transfer of royal red shrimp at sea.

Amendment 12/EA (2001) was included as part of the Generic Essential Fish Habitat (EFH) Amendment that established EFH for shrimp in the Gulf.

Amendment 13/EA (2005) established an endorsement to the federal shrimp vessel permit for vessels harvesting royal red shrimp; defined the overfishing and overfished thresholds for royal red shrimp; defined MSY and OY for the penaeid shrimp stocks in the Gulf; established bycatch reporting methodologies and improved collection of shrimping effort data in the EEZ; required completion of a Gulf Shrimp Vessel and Gear Characterization Form by vessels with federal shrimp permits; established a moratorium on the issuance of federal commercial shrimp vessel permits; and required reporting and certification of landings during the moratorium.

Amendment 14/EIS (2007) was a joint amendment with Reef Fish Amendment 27. It established a target red snapper bycatch mortality goal for the shrimp fishery in the western Gulf of 72% and defined seasonal closure restrictions that can be used to manage shrimp fishing efforts in relation to the target red snapper bycatch mortality reduction goal. It also established a framework procedure to streamline the management of shrimp fishing effort in the western Gulf.

A **Framework Action** (2008) made revisions to BRD specifications and testing protocols, including lowering the needed bycatch reduction for BRDs in the western Gulf from 44% to 30% to be consistent with the eastern Gulf and the South Atlantic.

A **Framework Action** (2009) decertified three BRDs.

A **Framework Action** (2010) provisionally certified two BRDs.

The Generic Annual Catch Limit (ACL)/Accountability Measures (AMs) Amendment/EIS (2011) set an ACL and AM for royal red shrimp. Penaeid shrimp were exempt from the ACL/AM requirements because of their annual life cycle.

A **Framework Action** certified two BRDs that were provisionally certified in 2010. It also lowered the effort reduction threshold established in Amendment 14 from 72% to 67%.

The Shrimp Electronic Logbook (ELB) Framework Action (2013) established a cost-sharing system for the ELB program and described new equipment and procedures for the program.

Amendment 15/EA (2015), if implemented, would redefine stock status criteria for the three penaeid species of shrimp, including MSY and overfished/overfishing thresholds. The general framework procedure would also be updated.

Amendment 16/SEIS (2015) eliminated duplicative AMs and the quota for royal red shrimp. The ACL was set equal to the acceptable biological catch and a post-season AM was established.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1 – Address the Expiration of the Federal Shrimp Permit Moratorium in the Gulf of Mexico

Alternative 1 – No Action. The moratorium on the issuance of new Gulf of Mexico (Gulf) federal commercial shrimp vessel permits expires on October 26, 2016. With expiration of the federal Gulf commercial shrimp permit moratorium, the commercial shrimp vessel permits would become open access permits, as they were prior to the moratorium, and therefore be available to any eligible applicants.

Preferred Alternative 2 – Extend the moratorium on the issuance of federal Gulf commercial shrimp vessel permits. The moratorium would be extended for:

Option a. 5 years

Preferred Option b. 10 years

Alternative 3 – Create a federal limited access permit for commercial shrimp vessels in the Gulf. To be eligible for a commercial shrimp vessel permit under the limited access system, vessels must have a valid or renewable federal Gulf commercial shrimp vessel permit on October 26, 2016. Federal Gulf commercial shrimp vessel permits will need to be renewed every year and all previous renewal, transfer, and reporting requirements would still be in effect.

Discussion: The moratorium on the issuance of federal Gulf commercial shrimp permits was established in Shrimp Amendment 13 (GMFMC 2005a). The purpose of the amendment was to help stabilize the shrimp fishery. Increasing fuel costs, decreasing shrimp prices and increasing foreign shrimp imports all contributed to the overcapitalization of the commercial shrimp fleet. Since the implementation of the moratorium, the number of permits has decreased each year with terminations highest in 2009 when initially issued permits were terminated due to non-renewal (Table 1.1.1). Vessels were expected to continue to exit the fishery until the reduced number of permits allowed the resource to be harvested profitably (GMFMC 2005a). Effort in the offshore fishery has decreased, and landings have slightly declined (Figure 2.1.1). Additionally, the catch per unit effort (CPUE) for the offshore fishery has remained relatively constant since implementation of the moratorium (Figure 2.1.1).

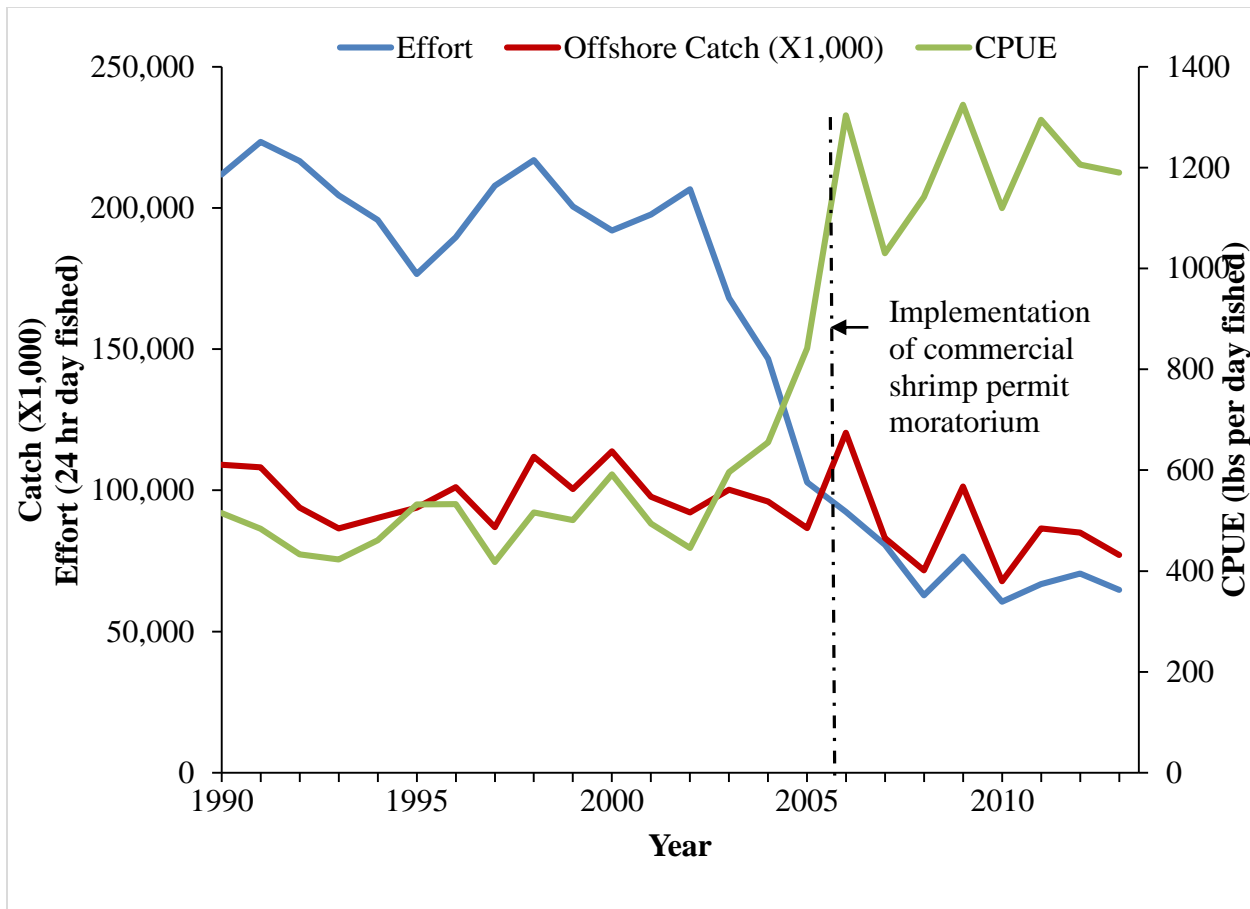


Figure 2.1.1. Catch, effort and CPUE from 1990-2013 for all shrimp caught in offshore waters¹ and landed in Gulf ports.²

Alternative 1 would allow the moratorium to expire and federal Gulf shrimp permits would become open access. This would allow new entrants into the commercial shrimp fishery and could have negative effects if the fishery became overcapitalized. This (overcapitalization and/or effort increases) could lead to increases in protected resources and red snapper bycatch and potentially result in additional requirements for bycatch reduction or closures. This alternative would revert the fishery back to an open access fishery and thus could undo any positive effects of the moratorium. Under this alternative, permits would no longer be transferrable because they would be freely available from the National Marine Fisheries Service (NFS) and therefore, would have no market value.

¹ Offshore waters are waters outside the COLREGS lines. The COLREGS lines are the set of demarcation lines that have been established by the Convention on the International Regulations for Preventing Collisions at Sea, 1972 (commonly called COLREGS). COLREGS define boundaries across harbor mouths and inlets for navigation purposes.

² Although landings information can be obtained from both the Gulf Shrimp System (GSS) and Annual Landings Form (ALF) databases, effort is not reported on the ALF and it is not possible to determine whether the reported landings on the ALF came from offshore or inshore waters. Thus, landings estimates are based solely on GSS data, and only shrimp landed at Gulf ports is taken into account. Further, because separate permits are not required to harvest each of the penaeid species, and multiple species of shrimp may be harvested simultaneously, these estimates include all shrimp harvested from offshore waters, regardless of whether they are federally managed.

Preferred Alternative 2 would extend the permit moratorium for a specified number of years. This could reduce the number of federal permits if additional permits are terminated. Extending the moratorium for an additional 5 years (**Option a**) would require the Council to review the status of the fishery sooner than if the 10 year option (**Preferred Option b**) was selected.

Option a gives the least flexibility as the time required to produce an amendment to address an additional expiration date would be between 18 and 24 months, thus not allowing for more than 3 or 4 years of data to be incorporated before re-evaluating the expiration of the federal Gulf commercial shrimp permit (SPGM) extension. The recent/current instability of shrimp and fuel prices and the resulting uncertainty regarding future profitability would require more years of data collection to be properly evaluated. **Preferred Option b** would allow for more data collection and may result in a stable number of permits if fewer fishermen exit the fishery. The number of permits that have terminated has declined from 2010 until 2014, but the number of permits has not yet reached a minimum as the number of terminated permits per year has not reached zero.

Alternative 3 would create a federal limited access permit for commercial shrimp vessels in the Gulf. Current permit holders would receive the limited access permit if their vessel has a valid or renewable federal Gulf commercial shrimp permit on October 26, 2016. The new Federal Gulf commercial shrimp vessel permits would need to be renewed every year and all previous renewal, transfer, and reporting requirements would still be in effect. This alternative would make the federal commercial shrimp fishery a limited access fishery until the Council took action to change that status, unlike a permit moratorium which has an expiration date. Additionally, the number of permits could continue to decline due to non-renewal of permits unless the Council implements other measures. For both **Preferred Alternative 2** and **Alternative 3**, persons wishing to enter the fishery could purchase a valid permit from another permit holder. A permit must be valid to be transferred; permits that have expired but are still renewable cannot be transferred unless and until they are renewed prior to termination.

2.2 Action 2 – Royal red shrimp endorsement

Alternative 1 – No Action. Continue to require a royal red shrimp endorsement to the federal Gulf shrimp vessel permit to harvest royal red shrimp from the Gulf EEZ. Endorsements are open access for entities with a federal Gulf shrimp vessel permit.

Alternative 2 – Discontinue the royal red shrimp endorsement. Only the federal Gulf shrimp vessel permit will be required to harvest royal red shrimp from the Gulf EEZ.

Discussion: In Shrimp Amendment 13 (GMFMC 2005a), an endorsement for royal red shrimp was required to conduct commercial harvest of royal red shrimp. The purpose was to help inform data collectors about who the royal red shrimpers were and collect better information about the fishery. Royal red shrimp are primarily harvested from deep waters requiring greater capital investment, so historically, only a small number of boats has been engaged in harvesting royal red shrimp. Information for the fishery was lacking, particularly for catch, effort, operating costs and maximum sustainable yield estimates. With the extensive number of endorsements and the small number of active royal red shrimping vessels (Table 2.3.1), it does not appear if the establishment of the endorsement has helped with collecting the desired data outlined in Shrimp Amendment 13.

Table 2.3.1. Number of royal red shrimp endorsements and the number of vessels actively landing royal red shrimp (as of May 26, 2015).

Year	Number of Royal Red Shrimp Endorsements	Number of Unique Vessels Actively Landing Royal Red Shrimp
2003		17
2004		17
2005		12
2006		6
2007	369	8
2008	388	8
2009	339	6
2010	325	7
2011	331	8
2012	351	7
2013	332	15
2014	323	7

Source: NMFS Southeast Fisheries Science Center (SEFSC).

Alternative 1 would continue the royal red shrimp endorsement requirement. Anyone with a federal Gulf commercial shrimp permit would also need a royal red shrimp endorsement to harvest royal red shrimp. These endorsements are available to anyone with a federal Gulf commercial shrimp permit. This alternative would continue to provide a readily accessible royal red shrimp database.

Alternative 2 would eliminate the requirement for a royal red shrimp endorsement; however, a federal Gulf commercial shrimp permit would still be required to harvest royal red shrimp. This would decrease administrative costs to NMFS and be a minor cost savings of ten dollars to applicants.³ Additionally, an economic database specific to royal red shrimp would not be maintained. This may hinder data collection in the future on this fishery. However, royal red shrimp landings data are still collected. Further, many more royal red shrimp endorsements are issued than the number of vessels actually harvesting royal red shrimp.

³ To purchase or renew a commercial permit costs \$25 for the first permit and \$10 for each additional permit or endorsement.

CHAPTER 3. AFFECTED ENVIRONMENT

3.1 Description of the Fishery

The Environmental Impact Statement (EIS) for the original shrimp fishery management plan (FMP) and the FMP as revised in 1981 contain a description of the Gulf of Mexico (Gulf) shrimp fishery. Amendment 9 (GMFMC 1997) with supplemental environmental impact statement (SEIS) updated this information. This material is incorporated by reference and is not repeated here in detail. The management unit of this FMP consists of brown, white, pink, and royal red shrimp. Seabobs and rock shrimp occur as incidental catch in the fishery.

Brown shrimp is the most important species in the U.S. Gulf shrimp fishery with most catches made from June through October. Annual commercial landings in 2003 through 2013 have ranged from about 45 to 88 million pounds (mp) of tails (Table 3.1.1). The fishery is prosecuted to about 40 fathoms and is highly dependent on environmental factors such as temperature and salinity. The maximum sustainable yield (MSY) established in Shrimp Amendment 15 is 146,923,100 lbs of tails (GMFMC 2015).

White shrimp are found in nearshore waters to about 20 fathoms from Texas through Alabama. The majority are taken from August through December, although there is a small spring and summer fishery. From 2003 through 2013, annual commercial landings have ranged from approximately 55 to 87 mp of tails (Table 3.1.1). The MSY established in Shrimp Amendment 15 is 89,436,907 lbs of tails (GMFMC 2015).

Pink shrimp are found off all Gulf States but are most abundant off Florida's west coast, particularly in the Tortugas grounds off the Florida Keys. Annual commercial landings in 2003 through 2013 have ranged from approximately 3 to 11 mp of tails (Table 3.1.1); most landings are made from October through May in 30 fathoms of water. In the northern and western Gulf States, pink shrimp are sometimes mistakenly counted as brown shrimp. The MSY established in Shrimp Amendment 15 is 17,345,130 lbs of tails (GMFMC 2015).

Royal red shrimp occur only in federal waters. Commercial fishing for royal red shrimp is most common on the continental shelf from about 140 to 300 fathoms, and east of the Mississippi River (GMFMC 2005a). The peak fishing season is March through June. Royal red shrimp are available in other areas and at other times, but costs are generally too high to make fishing practical (GMFMC 2005a). Thus far, landings have not reached the current MSY estimate of 392,000 lbs of tails in the years 2003 through 2013 and have ranged from approximately 130,000 to 353,000 lbs of tails (Table 3.1.1). In 2013, 74% of landings were from federal waters off Alabama, 24% were from off Florida, and 2% were from off Louisiana.

The three species of penaeid shrimp (brown, white and pink) are short-lived and provide annual crops; royal red shrimp live longer, and several year classes may occur on the fishing grounds at one time. The condition of each penaeid shrimp stock is monitored annually, and none has been overfished for more than 40 years.

Table 3.1.1. Landings (pounds of tails) of shrimp from the Gulf, 2003-2013.

Year	All Species	Brown	White	Pink	Royal Red
2003	155,242,184	83,949,224	60,996,687	9,943,414	352,859
2004	157,739,916	74,430,438	72,873,648	10,133,819	302,011
2005	132,780,625	58,574,505	65,314,218	8,722,912	168,990
2006	181,475,558	87,441,817	86,216,341	7,654,077	163,323
2007	138,509,322	70,560,173	64,305,379	3,414,746	229,024
2008	118,991,711	50,236,551	63,728,659	4,888,385	138,116
2009	155,591,111	75,500,221	75,296,070	4,621,755	173,065
2010	110,757,364	45,236,923	59,596,612	5,796,471	127,358
2011	136,277,325	73,107,015	58,265,392	4,709,564	195,354
2012	136,041,709	65,204,529	67,246,784	3,412,738	177,658
2013	126,048,427	66,305,319	56,360,746	3,182,863	199,499
Average	140,859,568	68,231,520	66,381,867	6,043,704	202,478

Source: NMFS SEFSC Rick Hart, pers. comm. 2015.

Cooperative management of penaeid shrimp species includes: simultaneous closure in both state and federal waters off the coast of Texas, the Tortugas Shrimp Sanctuary, and seasonally closed zones for the shrimp and stone crab fisheries off the coast of Florida. The royal red shrimp fishery is only prosecuted in deeper waters of the exclusive economic zone (EEZ). An endorsement to the federal permit is required for vessels engaging in royal red shrimp fishing.

As of September 21, 2015, there were 1,464 valid or renewable federal Gulf shrimp permits and 288 endorsements for royal red shrimp. There has been a moratorium on the issuance of new Gulf shrimp permits since 2007. Permits are fully transferrable, and renewal of the permit is contingent upon compliance with recordkeeping and reporting requirements. State licensing may vary and vessels may have more than one state license. If selected, a vessel with a Gulf shrimp permit must carry a National Marine Fisheries Service (NMFS) approved observer. The size of the shrimp industry and its total effort has been substantially reduced since the benchmark 2001-2003 time period established in Amendment 14 (GMFMC 2007). This effort reduction reflects both a reduction in the number of vessels estimated to be participating in the fishery, and a reduction in the level of activity for those vessels remaining in the fishery. Approximately 500 vessels with a federal Gulf commercial shrimp permit (SPGM) have electronic logbooks (ELBs) which help monitor shrimping effort in the Gulf.

Commercial shrimp vessels are classified by NMFS as part of either a nearshore or an offshore fleet. More than half of the commercial shrimp vessels fall into a size range from 56 to 75 feet. The number of vessels prosecuting the fishery at any one time varies because of economic factors such as the price and availability of shrimp and cost of fuel. In addition to the federal shrimp vessel permits, NMFS maintains three types of databases/files, two of which are largely dependent on port agent records. One, the shrimp landings file or GSS database, is based almost entirely on trip ticket data; another is the annual landings form which is submitted by the permit holders; the last is the vessel operating units file. In the past, NMFS estimated fishing effort independently from the number of vessels fishing. NMFS used the number of hours actually spent fishing from interview data with vessel captains to develop reports as 24-hour days fished;

NMFS currently uses the number of hours spent towing from the ELB program to calculate effort.

A recreational shrimp trawl fishery occurs seasonally inside state waters. However, not all states have a permitting system for recreational shrimping in state waters and not all states track the amount of bait shrimp landed. In 2014, there were more than 750 recreational shrimp permits for Texas, Louisiana, Mississippi, and Alabama; it should be noted that Florida and Alabama do not require special recreational shrimp permits for state waters. For state commercial shrimping licenses, there are approximately 9,500, more than half of which are licensed through Louisiana. It should be noted that the commercial licenses issued by the states include out of state licenses, and a commercial shrimp fisherman may have more than one state license. Therefore, it is likely that there are less than 9,500 individual vessels commercially shrimping in state waters in the Gulf.

Bait landings of juvenile brown, pink, and white shrimp, occur in all states. Estimates from 2014 suggest landings of at least 2.6 mp (whole weight). Total values for this component of the fishery cannot be calculated as not all states estimate values.

Various types of gear are used to capture shrimp including but not limited to: cast nets, haul seines, stationary butterfly nets, wing nets, skimmer nets, traps, and beam trawls. The otter trawl, with various modifications, is the dominant gear used in offshore waters, and there has been a decline in the number of otter trawls in recent years (NMFS 2014). Details about the specifics of each gear type as well as the historical development of the fishery can be found in Amendments 13 and 14 (GMFMC 2007). Royal red shrimp have been a small component of Gulf shrimp landings since the early 1960s. A few vessels in the Gulf shrimp fishery have targeted royal red shrimp, but fishing effort has been variable and inconsistent. Participation in this fishery requires larger vessels and heavier gear than used for shallow-water penaeid shrimp. Although the industry continuously works to develop more efficient gear designs and fishing methods, the quad rig is still the primary gear used in federal waters. In recent years, the skimmer trawl has become a major gear in the inshore shrimp fishery in the northern Gulf. All trawls used in federal waters are required to have bycatch reduction devices (BRDs) unless: the vessel is fishing for and catching more than 90% royal red shrimp; the vessel is using a try net; the trawl is a rigid frame roller trawl; or the vessel is testing the efficacy of a BRD under an authorization by NMFS.

3.2 Description of the Physical Environment

The EIS for the original Shrimp FMP and the FMP as revised in 1981 contains a description of the physical environment. The physical environment for penaeid shrimp is also detailed in the Generic Essential Fish Habitat (EFH) Amendment (GMFMC 2005b). This material is incorporated by reference and is not repeated here in detail.

The Gulf is a semi-enclosed oceanic basin of approximately 600,000 square miles (Gore 1992). It is connected to the Atlantic Ocean by the Straits of Florida and to the Caribbean Sea by the Yucatan Channel. Oceanic conditions are primarily influenced by the Loop Current, the discharge of freshwater into the northern Gulf, and a semi-permanent, anticyclonic gyre in the

western Gulf. Gulf water temperatures range from 12° C to 29° C (54° F to 84° F) depending on depth and season. In the Gulf, adult penaeid shrimp are found in nearshore and offshore on silt, mud, and sand bottoms; juveniles are found in estuaries. Primary fishing grounds for royal red shrimp are: the Desoto Canyon about 75 miles off Mobile, Alabama; offshore of Tampa Bay, Florida; and the Dry Tortugas northwest of the Florida Keys.

Several area closures, including gear restrictions, may affect targeted and incidental harvest of penaeid shrimp species in the Gulf. These are described in detail in Amendment 13 (GMFMC 2005a) and incorporated by reference. Areas such as the Flower Garden Banks and Tortugas North and South Reserves have either incorrect areas associated with them (Flower Garden Banks) in Amendment 13 or incorporate state water closures in the total area (Tortugas North and South Reserves). The areas include:

- Cooperative Texas Shrimp Closure
- Tortugas Shrimp Sanctuary
- Southwest Florida Seasonal Closure
- Central Florida Seasonal Closure
- Longline/Buoy Gear Area Closure
- Madison-Swanson and Steamboat Lumps Marine Reserves
- The Edges Marine Reserve
- Tortugas North and South Marine Reserves
- Tortugas Shrimp Sanctuary
- Alabama Special Management Zone

Reef and bank areas designated as Habitat Areas of Particular Concern (HAPCs) in the northwestern Gulf include: East and West Flower Garden Banks, Stetson Bank, Sonnier Bank, MacNeil Bank, 29 Fathom, Rankin Bright Bank, Geyer Bank, McGrail Bank, Bouma Bank, Rezak Sidner Bank, Alderice Bank, and Jakkula Bank, Florida Middle Grounds HAPC and Pulley Ridge HAPC.

Generic Amendment 3 addressed EFH requirements (GMFMC 2005b) and established that a weak link in the tickler chain is required on bottom trawls for all habitats throughout the Gulf EEZ. A weak link is defined as a length or section of the tickler chain that has a breaking strength less than the chain itself and is easily seen as such when visually inspected. The amendment established an education program on the protection of coral reefs when using various fishing gears in coral reef areas for recreational and commercial fishermen.

3.3 Description of the Biological Environment

The EIS for the original Shrimp FMP and the FMP as revised in 1981 contains a description of the biology of the shrimp species. In its appendix, the EIS of February 1981 includes the habitats, distribution, and incidental capture of sea turtles. Amendment 9 (GMFMC 1997) updated this information which has essentially remain unchanged, except with respect to protected species as discussed below. This material is incorporated by reference and is not repeated here in detail.

3.3.1 Target Species

Brown, white, and pink shrimp use a variety of habitats as they grow from planktonic larvae to spawning adults (GMFMC 1981). Brown shrimp eggs are demersal and occur offshore. Post-larvae migrate to estuaries through passes on flood tides at night mainly from February until April; there is another minor peak in the fall. Post-larvae and juveniles are common in all U.S. estuaries from Apalachicola Bay, Florida to the Mexican border. Brown shrimp post-larvae and juveniles are associated with shallow, vegetated, estuarine habitats, but may occur on silt, sand, and non-vegetated mud bottoms. Adult brown shrimp occur in marine waters extending from mean low tide to the edge of the continental shelf and are associated with silt, muddy sand, and sandy substrates. More detailed discussion on habitat associations of brown shrimp is provided in Nelson (1992) and Pattillo et al. (1997).

White shrimp eggs are demersal and larval stages are planktonic in nearshore marine waters. Post-larvae migrate through passes mainly from May until November with peaks in June and September. Juveniles are common in all Gulf estuaries from Texas to the Suwannee River in Florida. Post-larvae and juveniles commonly occur on bottoms with large quantities of decaying organic matter or vegetative cover such as mud or peat. Juvenile migration from estuaries occurs in late August and September and is related to juvenile size and environmental conditions (e.g., sharp temperature drops in fall and winter). Adult white shrimp are demersal and inhabit nearshore Gulf waters to depths of 16 fathoms on soft bottoms. More detailed information on habitat associations of white shrimp is available from Nelson (1992) and Pattillo et al. (1997).

Pink shrimp eggs are demersal, early larvae are planktonic, and post-larvae are demersal in marine waters. Juveniles inhabit almost every U.S. estuary in the Gulf but are most abundant in Florida. Juveniles are commonly found in estuarine areas with seagrass where they burrow into the substrate by day and emerge at night. Adults inhabit offshore marine waters with the highest concentrations in depths of 5 to 25 fathoms.

The life history of royal red shrimp is poorly known. Royal red shrimp occur exclusively in the EEZ, live longer than penaeid shrimp and many year classes may be present on fishing grounds at one time. Royal red shrimp become mature at three years, do not fully recruit to the fishery until they are 2-3 years old, and many year classes may occur in the same location (Reed and Farrington 2010). Royal red shrimp decrease in size with depth; juveniles likely occur in deeper habitats (Paramo and Saint-Paul 2011), and females are larger than males (Tavares 2002; Paramo and Saint-Paul 2011).

3.3.2 Bycatch

Between 2007 and 2010, 185 species were observed as bycatch in the shrimp fishery (Scott-Denton et al. 2012). By weight, approximately 57% of the catch was finfish, 29% was commercial shrimp, and 12% was invertebrates. The species composition is spatially and bathymetrically dependent, but for the Gulf overall, Atlantic croaker, sea trout, and longspine porgy are the dominant finfish species taken in trawls (approximately 26% of the total catch by weight). Other commonly occurring species include portunid crabs, mantis shrimp, spot, inshore lizardfish, searobins, and Gulf butterflyfish. Although red snapper comprise a very small

percentage (0.3% by weight) of overall bycatch, the mortality associated with this bycatch affects the recruitment of older fish (age 2 and above) to the directed fishery and ultimately the recovery of the red snapper stock.

To address finfish bycatch issues, especially bycatch of red snapper, the Gulf of Mexico Fishery Management Council (Council) initially established regulations requiring BRDs specifically to reduce the bycatch of juvenile red snapper. In 1998, all shrimp trawlers operating in the EEZ, inshore of the 100-fathom contour, west of Cape San Blas, Florida were required to use BRDs; later BRDs were required in the eastern Gulf (GMFMC 2002). Only three Gulf states (Florida, Louisiana, and Texas) require the use of BRDs in state waters. Shrimp trawls fishing for royal red shrimp seaward of the 100-fathom contour are exempt from the requirement for BRDs. The shrimp fishery is also a source of bycatch mortality on sea turtles (see Section 3.3.3). Bycatch is currently considered to be reduced to the extent practicable in the Gulf shrimp fishery.

If the Council were to select Action 1 **Alternative 1**, there may be an increase in bycatch in the shrimp fishery if the number of permits were to increase. Bycatch levels and associated implications will continue to be monitored and issues will be addressed based on new information. More details about bycatch in Gulf shrimp fishery can be found in the bycatch practicability analysis in Appendix B.

3.3.3 Protected Species

Species in the Gulf protected under the Endangered Species Act (ESA) include: five marine mammal species (sei, fin, humpback, sperm whales, and manatees); five sea turtles (Kemp's ridley, loggerhead, green, leatherback, and hawksbill); two fish species (Gulf sturgeon and smalltooth sawfish); and four coral species (elkhorn coral, lobed star coral, boulder star coral, and mountainous star coral). Seven species of fish and invertebrates in the Gulf are currently listed as species of concern.

Otter trawls may directly affect smalltooth sawfish that are foraging within or moving through an active trawling location via direct contact with the gear. The long toothed rostrum of the smalltooth sawfish causes this species to be particularly vulnerable to entanglement in any type of netting gear, including the netting used in shrimp trawls.

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles are all highly migratory and are known to occur in areas subject to shrimp trawling. Bycatch of the species by commercial fisheries is a major contributor to past declines and a potential threat to future recovery (NMFS and USFWS 1991, 1992a, 1992b, 2008; NMFS et al. 2011). Historically, southeastern U.S. shrimp fisheries (both Gulf and South Atlantic) have been the largest threat to benthic sea turtles. Regulations requiring turtle excluder devices (TEDs) have reduced mortalities from trawl fisheries on sea turtles. During a four year study period, 55 sea turtles were captured in shrimp trawls; 80% were released alive and conscious (Scott-Denton et al 2012).

The most recent biological opinion evaluated the continued implementation of the sea turtle conservation regulations under the ESA and the continued authorization of the southeast U.S.

shrimp fisheries in federal waters (NMFS 2014). The Gulf shrimp fishery was considered specifically as part of this larger consultation. The biological opinion, which was based on the best available commercial and scientific data, concluded the continued authorization of the southeast U.S. shrimp fisheries in federal waters (including the Gulf shrimp fishery) is not likely to jeopardize the continued existence of threatened or endangered species (NMFS 2014). The biological opinion implemented measures to minimize the impacts of incidental take to sea turtle or smalltooth sawfish. After the completion of the biological opinion, NMFS designated new critical habitat for the Northwestern Atlantic distinct population segment of loggerhead sea turtles defined by five specific habitat types. Two of those habitat types (nearshore reproductive and *Sargassum*) occur within the GMFMC's jurisdiction. NMFS determined that all federal Gulf fisheries operate outside the nearshore reproductive habitat and will not affect it. Gulf fisheries (including the shrimp fishery) could overlap with the *Sargassum* habitat. However, NMFS determined any effects from those fisheries would be insignificant and were not likely to adversely affect the *Sargassum* habitat unit.

The shrimp fishery is classified in the 2015 List of Fisheries as a Category II fishery (79 FR 77919; January 28, 2015). This classification indicates the annual mortality and serious injury of a marine mammal stock is greater than 1% but less than 50 % of the stocks potential biological removal (PBR), not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. This fishery was elevated to Category II from Category III (mortality or serious injury to <1% of the PBR) in 2011 based on increased interactions reported by observers, strandings, and fisheries research data.⁴

3.3.4 Status of the Shrimp Stocks

The three species of penaeid shrimp harvested by the shrimp fishery are short-lived and provide annual crops; royal red shrimp live longer (2-5 years) and multiple year classes can be found on the same fishing grounds. The condition of each shrimp stock is monitored annually, and none has been classified as overfished or undergoing overfishing (Hart 2013). Specific landings and values are provided in Table 3.1.1.

3.4 Description of the Economic Environment

Descriptions of the Gulf shrimp fishery are contained in previous amendments and NMFS regulatory actions and are incorporated herein by reference [see Shrimp Amendment 13 (GMFMC 2005a); Shrimp Amendment 14/Reef Fish Amendment 27 (GMFMC 2007); Regulatory Impact Review and Regulatory Flexibility Act Analysis for Making Technical Changes to TEDs to Enhance Turtle Protection in the Southeastern United States Under Sea Turtle Conservation Regulations (NMFS 2002); Regulatory Impact Review and Regulatory Flexibility Act Analysis, and Social Impact Assessment for the Proposed Rule to Revise the Gulf/South Atlantic Bycatch Reduction Device Testing Manual and Modify the Bycatch Reduction Criterion for Bycatch Reduction Devices Used in the Penaeid Shrimp Fishery West of Cape San Blas, Florida (NMFS 2006), Framework Action to Establish Funding Responsibilities

⁴ http://www.nmfs.noaa.gov/pr/pdfs/fisheries/lof2012/southeastern_us_atlantic_gulf_shrimp_trawl.pdf.

for the Electronic Logbook Program in the Shrimp Fishery of the Gulf of Mexico (GMFMC 2013), Shrimp Amendment 16 (GMFMC 2014)]. The following discusses certain key characteristics of the Gulf shrimp fishery.

The Gulf shrimp fishery consists of three major sectors: harvesting sector, dealer/wholesaler sector, and processing sector. The following discussion provides summary statistics and selected characteristics for the harvesting sector (including royal red harvesters), shrimp dealers, and the processing sector. Imports are also presented.

The harvesting sector is composed of two types of fleets: 1) an inshore segment, mostly active in state waters and very diverse; and 2) an offshore segment, largely active in federal waters and almost always using trawl gear. In 2003, a federal shrimp permit was instituted requiring vessels to possess the permit when fishing for penaeid shrimp in the Gulf EEZ. A moratorium on the issuance of new federal shrimp permits was established in 2006. Currently, vessels must possess a shrimp moratorium permit (SPGM) when fishing for penaeid shrimp in the Gulf EEZ. In addition, a royal red shrimp endorsement, which is an open access permit for those holding a SPGM, is required for harvesting royal red shrimp in the Gulf.

Selected Characteristics of Participating Vessels in the Shrimp Fishery

Selected characteristics of participation in the Gulf shrimp fishery in 2003 through 2013 are summarized in Table 3.4.1. Estimates of the total number of active shrimp vessels are based on the number of unique vessels landing shrimp as recorded in the Gulf Shrimp System (GSS) database. The number of active permitted vessels was generated by cross referencing GSS landings data with the NMFS permit database. The number of active vessels (permitted and non-permitted) is likely to be an underestimate of the “actual” number of active vessels/permits based on other research (Travis 2010). However, this determination of active vessels provides a means of standardizing active participation in the Gulf shrimp fishery over a longer time frame.

Table 3.4.1. Selected characteristics of participation in the Gulf shrimp fishery, 2003-2013.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of active vessels*	7,136	6,481	5,467	4,871	4,717	4,152	4,640	4,510	5,285	5,191	4,669
Percent of active vessels with a federal permit	31	33	36	34	33	30	27	25	22	22	24
Number of active vessels with federal permits	2,226	2,120	1,951	1,644	1,553	1,237	1,232	1,132	1,187	1,148	1,110
Percent of active vessels without a federal permit	69	67	64	66	67	70	73	75	78	78	76
Number of active vessels without a federal permit	4,910	4,361	3,516	3,227	3,164	2,915	3,408	3,378	4,098	4,043	3,559
Number of federally permitted vessels**	2,688	2,791	2,713	2,578	2,514	1,930	1,764	1,685	1,641	1,587	1,544
Percent Active	83	76	72	64	62	64	70	67	72	72	72
Percent Inactive	17	24	28	36	38	36	30	33	28	28	28
Landings (million lbs, heads off)	161	162	135	183	140	120	155	111	137	134	128
Gross revenues (million 2001 dollars)	347	341	320	348	306	304	261	270	346	314	389
Percent of landings by Federally permitted vessels	65	65	69	71	68	66	69	63	67	63	60
Percent of gross revenues by Federally permitted vessels	76	77	78	79	78	77	76	74	78	72	72

*Active means a vessel had at least 1 lb of Gulf shrimp landings in a year based on GSS data provided by J. Primrose, July 27, 2015. **The number of federally permitted vessels each year was based on permit counts in the year the survey was undertaken. These numbers would slightly differ from what is currently known about the number of permits issued for those survey years. "Active" vessels are those landing shrimp as recorded in the GSS database. Source: Liese, 2011, 2013, 2014; Liese and Travis, 2010; Liese et al., 2009a, 2009b. The Annual Economic Survey of Federal Gulf Shrimp Permit Holders, NMFS-SEFSC.

The number of permitted and non-permitted active vessels (i.e., vessels reporting landings in the Gulf shrimp fishery) has generally been above 4,000 (Table 3.4.1). Approximately 22% to 36% of active vessels are federally permitted vessels (vessels with SPGM permit). Despite being fewer in number, federally permitted vessels have accounted for the majority of shrimp landings (60% to 71%) and revenues (72% to 79%) by all active vessels.

Vessels with Royal Red Shrimp Endorsements

The royal red shrimp sector is a relatively small segment of the Gulf shrimp fishery. As of September 21, 2015, there were 1,464 valid or renewable SPGM permits and 298 valid GRRS endorsements. On average (2006-2013), royal red shrimp accounted for less than 1% of total Gulf shrimp landings and dockside revenues. The deep-water nature of the fishery, the limited geographic location of known fishing grounds, and the equipment needed to fish for royal red shrimp may have contributed to the relatively low share of the royal red shrimp landings and revenues to the overall shrimp landings and revenues in the Gulf. A detailed discussion of vessels participating in the royal red shrimp fishery is provided in Shrimp Amendment 16 (GMFMC, 2015).

Key Economic and Financial Characteristics of Federally Permitted Shrimp Vessels

The following descriptions are based on a series of annual reports on the economics of the federal Gulf shrimp fishery for the years 2006 through 2013 (Liese 2011, 2013, 2014; Liese and Travis 2010; Liese et al. 2009a, 2009b). These reports present the results of the Annual Economic Survey of Federal Gulf Shrimp Permit Holders. The first survey, which was administered in 2007, collected data for the 2006 fishing year.

The type of economic data the survey collects is based on an accounting framework of money flows and values associated with the productive activity of commercial shrimping. With these data, three financial statements, the balance sheet, the cash flow statement, and the income statement, are prepared to give a comprehensive overview of the financial and economic situation of the offshore shrimp fishery.⁵ Table 3.4.2 shows a summary of these three financial statements. In this table, financial statements for 2010 and onward include costs and revenues related to the Deepwater Horizon MC 252 (DWH) oil spill. Dollar values are averages in 2012 dollars.

The year 2010 was unique for the operations of many shrimp vessels in the Gulf because of the DWH oil spill. This oil spill and BP's responses had a confounding effect on the economics of the Gulf shrimp fishery in 2010 and onward. In 2010, the majority of vessels (66%) reported receiving oil spill-related revenues. The two primary sources of this revenue were damage claims (passive income) and revenue generated by participation in BP's vessel of opportunity program (VOOP) where vessels were hired to clean up oil. Of the surveyed vessels in 2010, 28% participated in the VOOP. Both sources provided substantial revenue for participating vessels, thereby obscuring the economics of the Gulf shrimp fishery. Further, vessels

⁵ For more detailed descriptions of these three financial statements, see Liese et al. 2009a. The Annual Economic Survey of Federal Gulf Shrimp Permit Holders: Report on the Design, Implementation, and Descriptive Results for 2006. NOAA Technical Memorandum NMFS-SEFSC-584.

participating in VOOB incurred non-negligible costs unrelated to commercial fishing. For more details on DWH-related revenues, see Liese (2011, 2013, and 2014). It is noted that some shrimp vessels continued to receive DWH-related revenues after 2010, but the amounts in these later years were small relative to that received in 2010. The average vessel shows a fair amount of equity that rose through the years (Table 3.4.2). This resulted from a combination of an increasing market value of the assets (vessel being the main asset) and declining liabilities (mainly loans), except for a dip in asset value in 2008.

Except for 2007, the average vessel shows positive net cash flows. The absolute amount of net cash flows may be relatively low in general, but it does indicate a certain level of solvency for continued operation in the shrimp fishery, at least in the short term. Cognizant of the importance of the DWH-related revenues, the three years after the DWH oil spill recorded the three highest net cash flows for the years 2006 through 2013. Revenues from shrimp were the major source of cash inflows while fuel and labor (crew and hired captain) costs were the top sources of cash outflows.

The income statement generally reflects the relatively fragile financial condition of an average permitted shrimp vessel. Before the occurrence of DWH-related activities, net revenues from fishing operations were generally negative, except for 2009. As is true of most averages, many shrimp vessels deviated from the average and were profitable. A very different financial scenario characterized the average shrimp vessel when including DWH-related activities, as in the years 2010 and thereafter. These activities materially affected the cash flow and income statement of the average vessel. Net cash flows were significantly positive for these years relative to those of the previous years. In addition, the bottom line profits (net revenue before tax) were also relatively high for these years.

Table 3.4.3 provides a summary of the financial statements for active vessels. Active vessels are defined as vessels with at least one pound of Gulf shrimp landings in a year (based on GSS data provided by J. Primrose, July 27, 2015). Similar to averages for all federally permitted vessels, average equity for active vessels have been increasing. However, averages focusing on active vessels highlight the fragile economic state of shrimp harvesters, as illustrated by average net cash flows and economic returns for active vessels (Table 3.4.3).

The future economic and financial prospects for the shrimp industry could revert to those of the previous years as DWH-related activities dwindle. It may only be noted that shrimp imports have fallen in recent years as a result of diseases (early mortality syndrome) that affected cultured shrimp in some major exporting countries, allowing domestic prices for shrimp to temporarily increase. In addition, fuel prices, a major cost item for shrimp vessel operation, have fallen in recent months, but it is not known if prices would rebound to their previous high levels in the near future.

Table 3.4.4 provides a summary of the 2012 financial statements for federally permitted vessels with a royal red endorsement. Compared to active vessels without a royal red endorsement, vessels with a royal red endorsement had more equity in 2012. However, for 2012, the return on equity for royal red vessels was approximately equal to 50% of the return for active vessels in 2012.

Table 3.4.2. Economic and financial characteristics of an average vessel with federal Gulf commercial shrimp permit (SPGM), 2006-2013. Parentheses indicate negative values and all dollar values are averages in 2001 dollars.

Year	2006	2007	2008	2009	2010***	2011	2012	2013*
Number of observations	484	505	497	427	429	456	442	380
Balance Sheet								
Assets	156,942	173,087	172,811	175,304	190,512	237,108	230,995	223,251
Liabilities	81,757	73,436	60,033	51,274	41,262	33,417	39,517	33,119
Equity	75,185	99,650	112,778	124,030	149,250	203,691	191,478	190,132
Cash Flow								
Inflow	203,272	168,514	181,179	177,680	278,245	256,532	298,446	284,819
Outflow	187,800	173,488	177,520	170,755	199,234	227,930	243,243	241,767
Net cash flow	15,472	(4,975)	3,659	6,925	79,011	28,602	55,203	43,052
Income Statement								
Revenue (commercial fishing operations)	193,062	162,678	178,967	174,033	***	244,382	247,594	248,626
Expenses	195,347	177,693	183,046	173,427	199,970	233,190	244,465	244,059
<i>Variable costs – Non-labor</i>	50.6%	49.5%	53.7%	50.1%	42.4%	47.8%	52.0%	48.0%
<i>Variable costs – Labor</i>	25.9%	25.2%	25.3%	27.1%	32.6%	32.0%	28.2%	30.5%
<i>Fixed costs</i>	23.5%	25.4%	21.0%	22.8%	25.0%	20.2%	19.8%	21.5%
Net revenue from operations	(2,285)	(15,015)	(4,079)	606	***	11,192	3,129	4,567
Net receipts from non-operating activities	4,630	682	(1,715)	383	***	10,067	48,458	33,575
Net revenue before tax (profit or loss)	2,345	(14,333)	(5,794)	989	75,625	21,259	51,587	38,141
Returns								
Economic Return	(1.5%)	(8.7%)	(2.4%)	0.3%	***	4.7%	1.4%	2.0%
Return on Equity	3.1%	(14.4%)	(5.1%)	0.8%	50.7%	10.4%	26.9%	20.1%

Source: Liese et al. Various years. The Annual Economic Survey of Federal Gulf Shrimp Permit Holders, NMFS-SEFSC.

*2013 numbers are preliminary. *** In 2010, due to the Deep Water Horizon event, many sampled vessels (28%) participated in BP's vessel of opportunity program (VOOP) cleaning up oil. As a result, business operations and resulting costs---as reported on the survey and here---reflect both fishing and VOOP activities. In other years, operations were strictly commercial fishing. Since the survey did not ask respondents to separate revenue from participation in VOOP and damage claims (passive income), we cannot determine 'Revenue from Operations' and hence cannot calculate 'Net Revenue from Operations' or 'Economic Return'.

Table 3.4.3. Economic and financial characteristics of an average Gulf-shrimp-ACTIVE vessel with federal shrimp permit (SPGM), 2006-2013. Parentheses indicate negative values and all dollar values are averages in 2001 dollars.

Year	2006	2007	2008	2009	2010***	2011	2012	2013*
Number of observations	386	388	383	348	332	368	370	293
Balance Sheet								
Assets	170,433	160,065	154,965	162,908	173,344	181,805	189,456	192,927
Liabilities	92,397	80,867	58,054	55,116	41,974	33,216	39,645	28,695
Equity	78,036	79,198	96,911	107,792	131,370	148,589	149,811	164,231
Cash Flow								
Inflow	229,355	191,673	202,512	193,210	194,157	255,777	309,291	323,066
Outflow	215,023	196,807	199,527	188,222	194,785	234,828	257,267	273,576
Net cash flow	14,333	(5,135)	2,985	4,988	(628)	20,950	52,023	49,490
Income Statement								
Revenue (commercial fishing operations)	217,287	184,749	199,817	188,807	192,428	241,463	251,068	279,436
Expenses	223,849	201,642	207,130	191,630	196,086	240,350	258,924	278,224
<i>Variable costs – Non-labor</i>	51.6%	53.0%	56.6%	52.4%	50.8%	52.4%	55.6%	49.8%
<i>Variable costs – Labor</i>	25.3%	23.9%	24.2%	25.4%	27.2%	27.7%	25.1%	29.2%
<i>Fixed costs</i>	23.1%	23.0%	19.2%	22.2%	21.9%	19.9%	19.2%	20.9%
Net revenue from operations	(6,562)	(16,893)	(7,313)	(2,823)	(3,657)	1,113	(7,856)	1,212
Net receipts from non-operating activities	5,761	994	(1,154)	859	(565)	12,248	55,690	40,969
Net revenue before tax (profit or loss)	(801)	(15,899)	(8,467)	(1,964)	(4,222)	13,362	47,834	42,181
Returns								
Economic Return	(3.9%)	(10.6%)	(4.7%)	(1.7%)	(2.1%)	0.6%	(4.1%)	0.6%
Return on Equity	(1.0%)	(20.1%)	(8.7%)	(1.8%)	(3.2%)	9.0%	31.9%	25.7%

Source: Liese et al. Various years. The Annual Economic Survey of Federal Gulf Shrimp Permit Holders, NMFS-SEFSC.

* 2013 numbers are preliminary. *** 2010 numbers are adjusted to remove payments and costs (cleanup activities) related to DWI.

Table 3.4.4 Economic and financial characteristics of an average Gulf-shrimp-active vessel with federal shrimp permit (SPGM) and a royal red endorsement, 2012. Dollar values are averages in 2001 dollars.

Year	2012
Number of observations	70
Balance Sheet	
Assets	\$298,303
Liabilities	\$30,324
Equity	\$267,980
Cash Flow	
Inflow	\$369,366
Outflow	\$317,028
Net cash flow	\$52,339
Income Statement	
Revenue (commercial fishing operations)	\$327,903
Expenses	\$323,740
<i>Variable costs – Non-labor</i>	47.0%
<i>Variable costs – Labor</i>	29.3%
<i>Fixed costs</i>	23.7%
Net revenue from operations	\$4,162
Net receipts from non-operating activities	
Net revenue before tax (profit or loss)	\$43,595
Returns	
Economic Return	1.4%
Return on Equity	16.3%

Source: Personal communication, Christopher Liese (NMFS-SEFSC), September 4, 2015

Dealers and Processors

The shrimp dealer permit system is an open access program. Therefore the number of permits in the Gulf can fluctuate from year to year. Between 2003 and 2013, the number of shrimp dealers ranged from 558 (2008) to 839 (2003). In 2013, there were 600 dealers. Table 3.4.5 provides selected characteristics for Gulf shrimp dealers. As illustrated by the percentage of the value of shrimp purchases relative to total seafood purchases, shrimp dealers in the Gulf are very specialized. Between 2003 and 2013, annual shrimp purchases account for more than 75% of their total annual seafood purchases. Between 2003 and 2013, shrimp dealers in the Gulf annual shrimp purchases by dealers averaged \$320.2 million (in 2001 dollars).

Similar to the dealer permitting system, shrimp processing permits are managed in an open access system. Selected characteristics for Gulf shrimp processors are provided in Table 3.4.6. Between 2003 and 2013, the annual number of shrimp processors averaged 54, approximately. During the same time period, the annual value of processed shrimp averaged \$501.2 million (in 2001 dollars). Shrimp processors are also very specialized. Shrimp products accounted for more than 90 % of the total value processed between 2003 and 2013.

Imports

On average, between 2003 and 2013, the United States has imported more than 1.2 billion pounds (product weight) of shrimp products annually. The value of imported shrimp products averaged 3.6 billion (2001 dollars) annually. Table 3.4.7 provides annual pounds and value of shrimp imports and the share of imports by country of origin. Although Thailand continue to be the primary country of origin for shrimp products imported into the United States, several countries have increased their market share in recent years. For example, India's share of the imports rose from 10.9 % in 2003 to 19.1 % in 2013. Other countries that have significantly increased their market share include Ecuador and Indonesia. Conversely, imports from China have decreased from 11.8% in 2003 to 4.5% in 2013.

Table 3.4.5 Selected characteristics of Gulf shrimp dealers, 2003-2013. Dollar values are in 2001 dollars.

Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of Dealers	839	850	688	682	663	558	593	726	896	808	600
Million Pounds of shrimp purchased (whole weight)*	258.47	261.01	209.99	287.57	222.59	186.19	228.64	175.06	184.86	201.65	202.36
Average price per pound (mean, whole weight)	\$1.36	\$1.33	\$1.50	\$1.20	\$1.38	\$1.62	\$1.09	\$1.56	\$1.85	\$1.49	\$1.93
Value of purchased shrimp (Million 2001\$)	\$352.76	\$346.30	\$314.57	\$345.04	\$307.50	\$300.86	\$248.41	\$273.81	\$341.40	\$301.27	\$389.69
Total Value of all products purchased by Gulf shrimp dealers (Million 2001\$)	\$414.88	\$408.88	\$354.84	\$394.04	\$346.96	\$343.16	\$291.04	\$317.28	\$400.22	\$358.62	\$448.83
Average pounds of shrimp purchased per dealer (median, whole weight)	4,110	3,532	4,102	4,477	3,929	5,141	4,938	4,018	3,738	4,500	4,059
Average value of shrimp purchased per dealer (median, 2001\$)	\$7,933	\$6,601	\$7,583	\$8,144	\$6,556	\$10,313	\$7,616	\$7,429	\$7,831	\$9,763	\$8,337
Average total value of all products purchased by Gulf shrimp dealers, per dealer (median, 2001\$)	\$17,721	\$14,319	\$14,449	\$12,503	\$10,399	\$15,241	\$11,464	\$9,888	\$14,399	\$16,200	\$18,197
Average percent of total seafood purchased value is shrimp, per dealer (mean)	77	78	83	84	85	83	83	86	84	83	81

Source: NMFS-SERO, ALS 2003-2013. *Only shrimp species included in the GSS database are included in these estimates. A Gulf shrimp dealer is a dealer located in Gulf that purchased shrimp regardless of where shrimp harvested. Most averages are reported in terms of medians rather than means because the data distributions are highly skewed.

Table 3.4.6 Selected characteristics of the GULF shrimp processing industry, 2003-2013. Dollar values are in 2001 dollars.

Years	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of Processors	62	56	54	52	47	50	51	54	50	67	55
Million Pounds of shrimp processed (whole weight)*	343.99	338.91	297.67	354.74	273.01	260.82	335.02	271.12	294.43	355.60	283.78
Average processed price per pound (mean, whole weight)	\$1.71	\$1.60	\$1.57	\$1.51	\$1.35	\$1.56	\$1.34	\$2.18	\$1.52	\$1.53	\$2.02
Value of processed shrimp (Million 2001\$)	\$589.03	\$542.04	\$466.80	\$535.07	\$369.27	\$406.00	\$448.99	\$591.44	\$447.10	\$543.23	\$574.14
Total Value of all products processed by Gulf shrimp processors (Million 2001\$)	\$643.26	\$585.78	\$509.85	\$555.51	\$374.42	\$430.92	\$483.94	\$632.87	\$481.73	\$580.92	\$636.35
Average pounds of shrimp processed per processor (median, Million pounds whole weight)	2.22	2.71	3.36	4.80	3.98	2.56	2.87	1.87	3.06	2.35	1.80
Average value of processed shrimp per processor (median, Million 2001\$)	\$3.85	\$4.37	\$3.38	\$5.97	\$3.64	\$2.84	\$3.05	\$2.15	\$3.03	\$3.12	\$3.54
Average total value of all products processed by shrimp processors, per processor (median, Million 2001\$)	\$4.55	\$6.77	\$4.87	\$6.50	\$4.21	\$3.33	\$4.02	\$2.56	\$3.91	\$3.44	\$5.05
Average percent of total processed value is shrimp, per processor (mean)	86	88	91	96	96	94	94	88	90	93	87
Average number of employees per processor (median)	36	40	36	36	38	28	35	28	34	31	35

*Only includes shrimp processed for human consumption and thus excludes shrimp processed for bait or shrimp meal. Most averages are reported in terms of medians rather than means because the data distributions are highly skewed. Source: personal communication, Office of Science and Technology, Sept 8, 2015

Table 3.4.7 Annual Pounds and Value of Shrimp Imports and Share of Imports by Country, 2003-2013. Dollar values are in 2001 dollars.

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Pounds of Shrimp Imports (product weight, Million pounds)	1,012.9	1,112.2	1,165.9	1,301.4	1,227.8	1,243.9	1,209.3	1,231.5	1,267.9	1,176.6	1,118.6
Value of Shrimp Imports (Million 2001\$)	\$3,634.2	\$3,464.4	\$3,344.4	\$3,654.1	\$3,368.5	\$3,464.5	\$3,164.3	\$3,555.2	\$4,188.3	\$3,554.7	\$4,141.1
Share of Imports by Country											
THAILAND	26.5	23.7	26.8	30.9	31.7	31.4	35.8	35.3	33.3	26.9	17.1
VIET NAM	15.8	10.5	12.0	10.4	11.8	11.7	10.1	11.9	10.1	10.0	13.8
CHINA*	11.8	9.2	5.6	8.0	6.0	6.1	6.2	6.4	5.6	5.1	4.5
INDIA	10.9	9.8	8.6	6.1	5.0	3.5	4.4	7.2	10.2	12.9	19.1
MEXICO	7.8	8.9	8.7	7.8	9.2	8.3	8.8	5.3	5.6	5.7	5.0
ECUADOR	5.6	5.8	7.4	7.8	7.9	8.3	8.7	9.5	10.3	12.5	12.4
INDONESIA	4.5	9.2	10.2	10.4	11.4	15.4	13.0	11.5	13.5	14.8	17.2
BANGLADESH	2.2	4.7	3.7	4.6	3.9	3.1	2.4	2.1	1.2	0.9	1.0
MALAYSIA	0.2	3.3	3.2	3.3	3.9	4.5	3.0	3.5	4.1	3.8	1.5
ALL OTHERS	14.7	15.0	13.8	10.6	9.2	7.7	7.5	7.4	6.2	7.3	8.2

* Does not include imports from Hong Kong, Taipei, or Macao. Source: Pounds of Shrimp Imports (personal communication, GOM Data Management, Sept. 17, 2015 <http://www.st.nmfs.noaa.gov/commercial-fisheries/market-news/related-links/market-news-archives/index>). Values and market share by country (personal communication, Office of Science and Technology, Sept. 15, 2015)

3.5 Description of the Social Environment

Descriptions of the social environment associated with the Gulf shrimp fishery have been provided in previous amendments and documents (GMFMC 2005a, 2007, 2013) and will be incorporated herein by reference if appropriate. However, recent descriptions of the Gulf shrimp fishery's social environment do not provide a historical trend related to the moratorium or recent landings; therefore, more recent data are presented that will update descriptions and focus on the moratorium and changes over time.

The shrimp fishery is one of the more economically important fisheries within the Gulf. Over the years, since the implementation of the moratorium the fishery has seen a decline in active vessels harvesting several species of shrimp, which has likely affected many coastal communities along the Gulf coast. The reasons for this decline are numerous and are related to shrimp imports, fuel prices and shrimp prices and have obviously affected shrimp fishing households (GMFMC 2014, 2015). The major sectors that have been affected by this decline include: the harvesting sector, dealer/wholesaler sector, and processing sector. The following description focuses on all three sectors at the community level.

Regional Quotients by Community

The regional quotient (RQ) is a way to measure the relative importance of a given species across all shrimp fishing communities in the region and represents the proportional distribution of commercial landings of a particular species by community. This graphical representation of this proportional measure presented here does not provide the number of pounds or the value of the catch, data which might be confidential at the community level for some locations. The RQ is calculated by dividing the total pounds (or value) of a species landed in a given community, by the total pounds (or value) for that species for all communities within the Gulf region with shrimp landings. This measure includes all landings of a particular species, but it does not distinguish where they may have been caught. It is important to note that for some communities, especially in the Florida Keys, catches from South Atlantic vessels, that may not be affected by this amendment, may be included in summary data for certain shrimp species and the communities where they are landed. It is also important to note that location of the dealer in the ALS dataset may not always correspond to where seafood was initially landed. The landings associated with a dealer location within a community are derived from the reported address of that dealer. In some cases a dealer may have several locations, but landings are reported to one primary address.

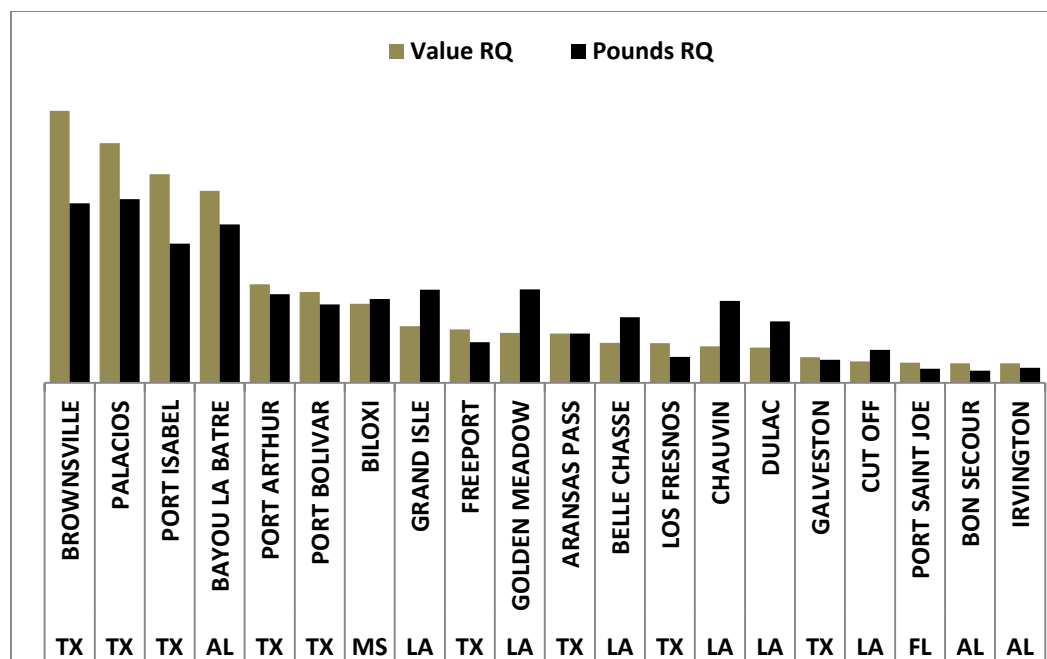


Figure 3.5.1. Top twenty communities ranked on value regional quotient (RQ) for brown shrimp in the Gulf.

Source: SERO ALS 2013

Depending upon which shrimp species is being targeted, the volume and value for RQ varies considerably by community. In Figure 3.5.1 which is brown shrimp landings only, the top five communities are in Texas except for Bayou La Batre, Alabama,. In fact, Texas and Louisiana communities dominate brown shrimp landings. Louisiana communities tend to have higher landings but lower value compared to dealers in other states, which may be indicative of size differentiation in harvest, with smaller sizes being landed from inshore fisheries in Louisiana that bring lower prices than larger shrimp from offshore waters.

Pink shrimp landings are primarily in Florida with the majority of landings in Fort Myers Beach (Figure 3.5.2). Tampa, Tarpon Springs, and Key West follow with Bayou La Batre, Alabama fifth in ranking. There are several Texas communities within the top twenty, although pink shrimp landed in Texas may have been harvested elsewhere since the majority of pink shrimp are harvested off the west coast of Florida. Mislabeling of brown shrimp in Texas may accounts for some pink shrimp landings in that state.

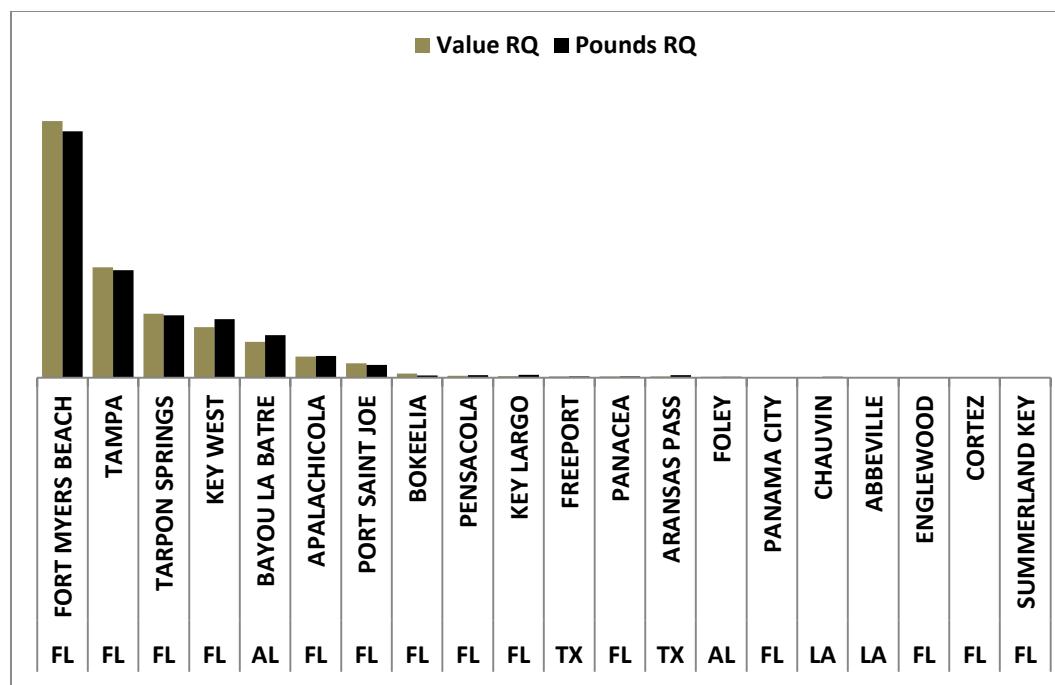


Figure 3.5.2. Top twenty communities ranked on value regional quotient (RQ) for pink shrimp in the Gulf.

Source: SERO ALS 2013

White shrimp landings (Figure 3.5.3) are primarily in the northern and western Gulf with Port Arthur, Texas having the highest RQ in terms of pounds and value. Other communities have comparable RQs with regard to pounds landed but are not near the value quotient found in Port Arthur.

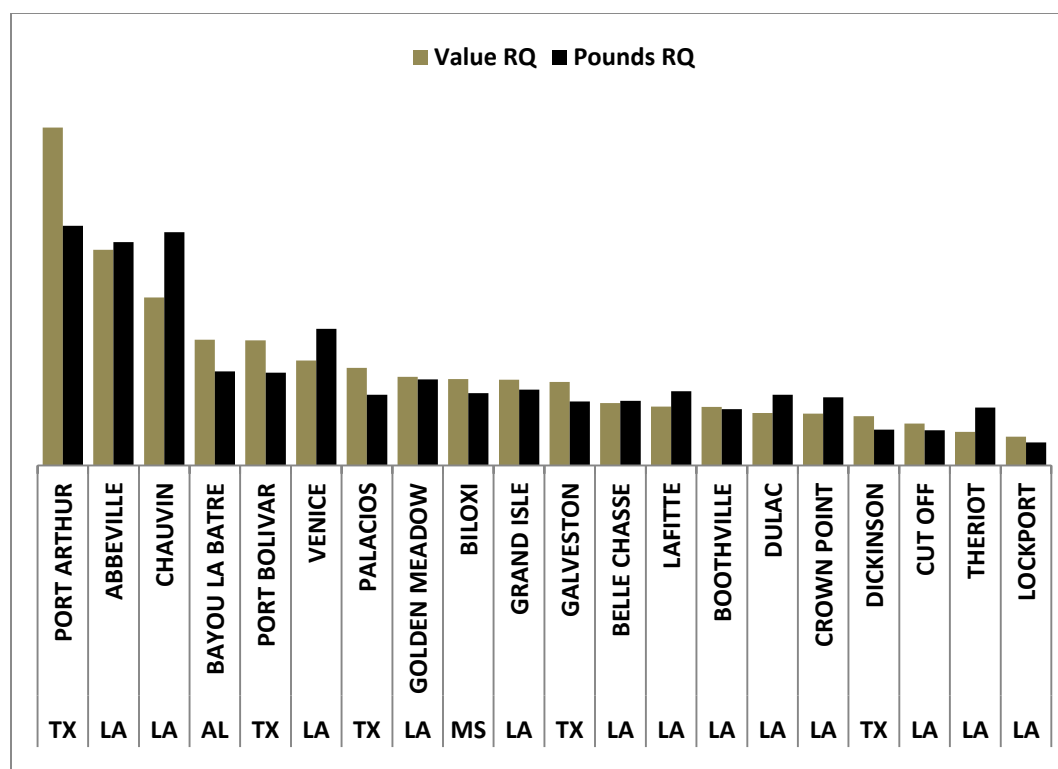


Figure 3.5.3. Top twenty communities based upon pounds and value regional quotient (RQ) for white shrimp in the Gulf.

Source: SERO ALS 2013

Royal red shrimp landings are primarily in Alabama and were documented in GMFMC 2014. The communities of Bon Secour and Coden, AL were the primary ports of landings.

When the combined landings of shrimp are compared in Figure 3.5.4, the landings are dominated by Texas communities with Bayou La Batre, AL third in terms of value. Overall, communities from Texas and Louisiana dominate the top twenty communities in terms of RQ of value for overall shrimp landings (brown, white, pink, royal red, rock, seabob). Again, many Louisiana communities have a higher RQ for pounds as displayed for some single species which indicates lower prices for smaller shrimp in most cases.

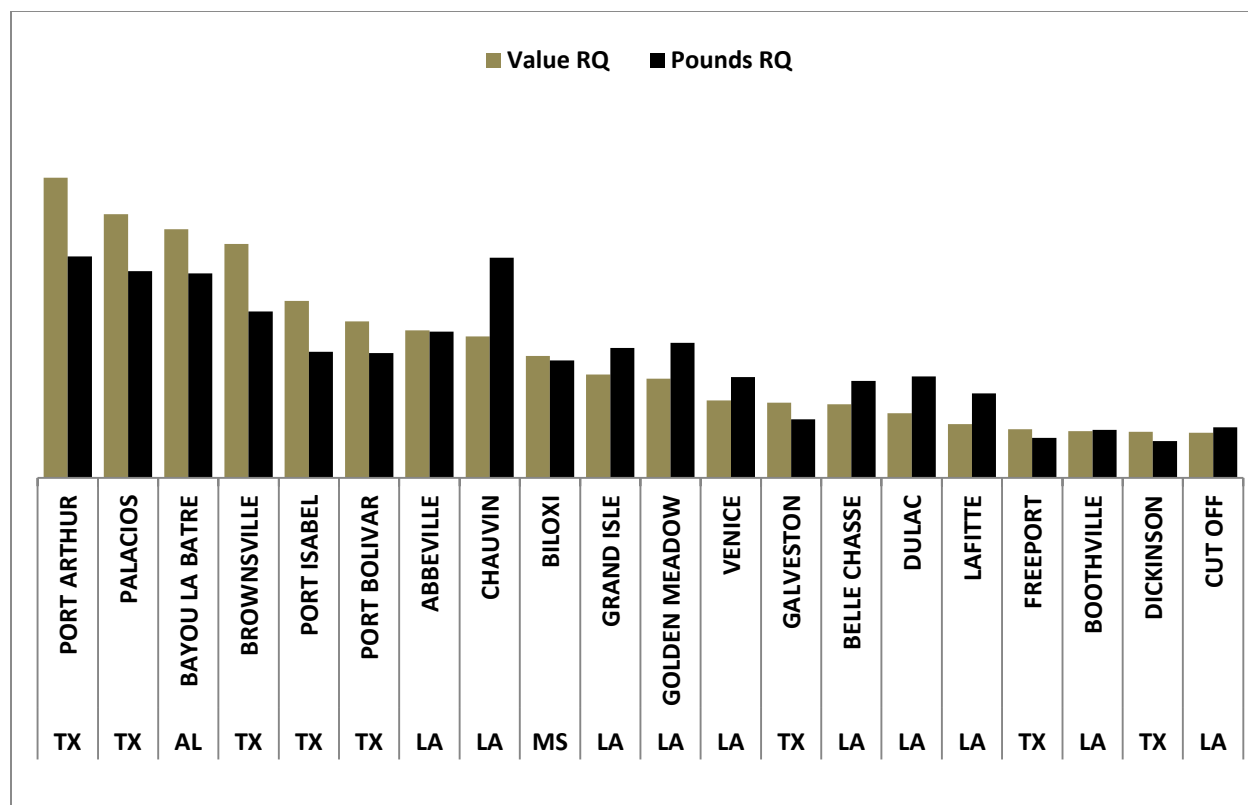


Figure 3.5.4. Top twenty communities ranked upon value regional quotient (RQ) for total shrimp in the Gulf.

Source: SERO ALS 2013

Demographics and Fleet Characteristics

Vessel Permits

As stated, as of September 21, 2015, there were 1,464 valid Gulf commercial shrimp permits, with 469 permits terminated since the inception of the moratorium. Figure 3.5.5 displays the distribution of all Gulf shrimp permits by homeport community as of 2014. The majority of permits were in the Western Gulf with New Orleans, Louisiana, Brownsville, Texas, and Bayou La Batre, Alabama having more permit holders than other communities.

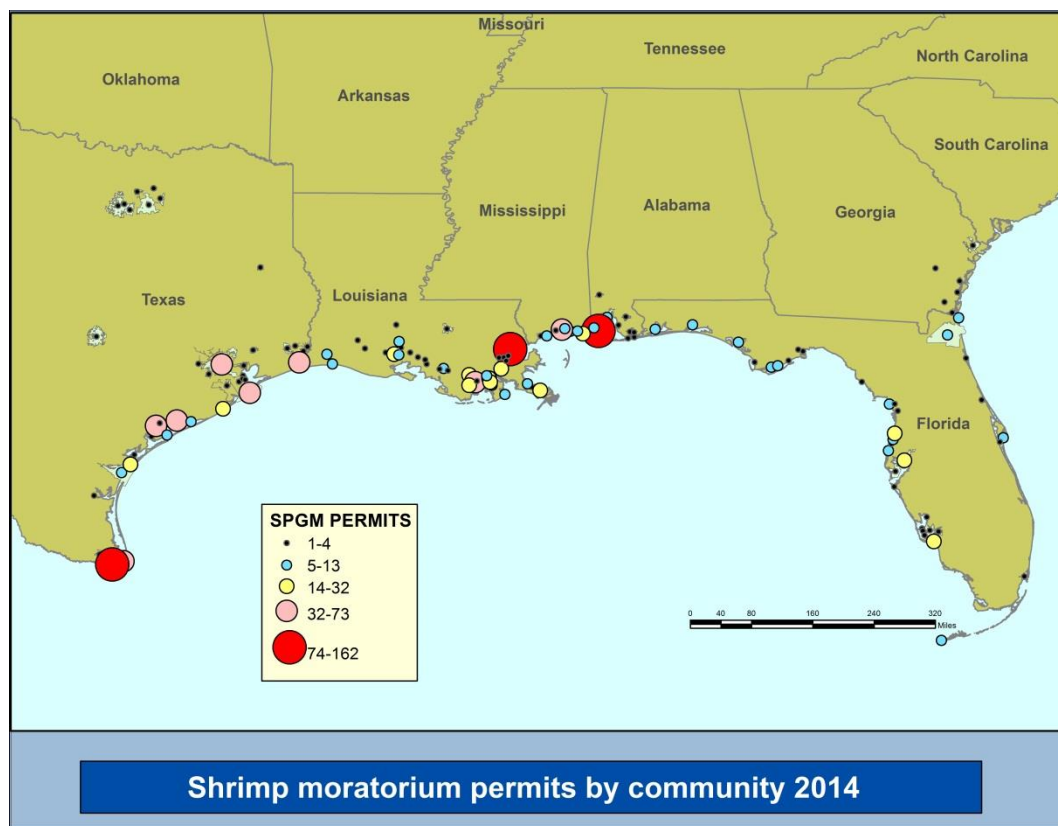


Figure 3.5.5. Number of Gulf shrimp permits by homeport communities.

Source: NMFS SERO Permits Database

As shown in Table 3.5.1, the three above mentioned communities have considerably more Gulf shrimp permits held by vessels homeported⁶ in those communities. It should be mentioned that while the designated homeport may not be where a vessel is docked most of the time, it is the best approximation given the data available to be able to co-locate people and infrastructure in a port. These three aforementioned communities also have the largest number of terminated permits since the inception of the moratorium. However, several communities have had a larger portion of permits terminated over the years. The states of Texas and Louisiana have the largest share of Gulf shrimp permits and terminated permits.

It should be noted that the reason for termination of a shrimp permit can vary and there is no information as to why each terminated permit was not renewed. Most terminated permits were voluntary and due to non-renewal. Of course, this may also be a result of economic conditions referenced. There has been considerable latent effort in the shrimp fishery which can be of some concern, especially with regard to the possibility of increased bycatch for some key species with an influx of new effort. The following tables and figures offer different perspectives on the geographical distribution of terminated permits; they do not infer any benefit or detriment as a result of the termination.

⁶ It should be noted that vessel homeport is derived from the permit application label hailing port. This term may be interpreted by permit applicants differently and therefore does not always represent the dock where a vessel can be located, in some cases a permittee may use their home address. Therefore some locations may inflated numbers for vessel homeport.

Table 3.5.1. Gulf shrimp permits and terminated permits for top 35 homeport communities.

State	Community	Current SPGM		Percent Terminated
		Permits	Terminated	
LA	HOUMA	14	9	39.1%
TX	ARANSAS PASS	17	10	37.0%
	FORT MYERS			
FL	BEACH	21	12	36.4%
FL	KEY WEST	11	6	35.3%
TX	HOUSTON	49	24	32.9%
AL	MOBILE	10	4	28.6%
TX	PORT ISABEL	53	21	28.4%
TX	BROWNSVILLE	109	41	27.3%
FL	TAMPA	16	6	27.3%
	INTRACOASTAL			
LA	CITY	15	5	25.0%
LA	VENICE	15	5	25.0%
LA	CAMERON	12	4	25.0%
AL	BAYOU LA BATRE	91	29	24.2%
LA	GRAND ISLE	13	4	23.5%
TX	PALACIOS	51	14	21.5%
LA	DULAC	16	4	20.0%
TX	FREEPORT	16	4	20.0%
FL	APALACHICOLA	8	2	20.0%
LA	LAROSE	8	2	20.0%
TX	PORT ARTHUR	49	12	19.7%
LA	NEW ORLEANS	162	35	17.8%
MS	BILOXI	73	15	17.0%
LA	GALLIANO	25	5	16.7%
LA	LAFAYETTE	10	2	16.7%
LA	ABBEVILLE	21	4	16.0%
TX	GALVESTON	37	7	15.9%
	HERNANDO			
FL	BEACH	32	6	15.8%
FL	JACKSONVILLE	12	2	14.3%
LA	CHAUVIN	48	7	12.7%
TX	PORT LAVACA	53	6	10.2%
LA	CUT OFF	27	3	10.0%
LA	LAFITTE	14	1	6.7%
MS	PASCAGOULA	18	0	0.0%
FL	PANAMA CITY	12	0	0.0%
TX	PORT BOLIVAR	12	0	0.0%

Source: NMFS Southeast Fisheries Science Center (SEFSC).

Figure 3.5.6 provides an overall geographical distribution of all terminated permits. It should be noted that some vessels with terminated shrimp permits had designated homeports outside of the southeast, and may not appear in the map.

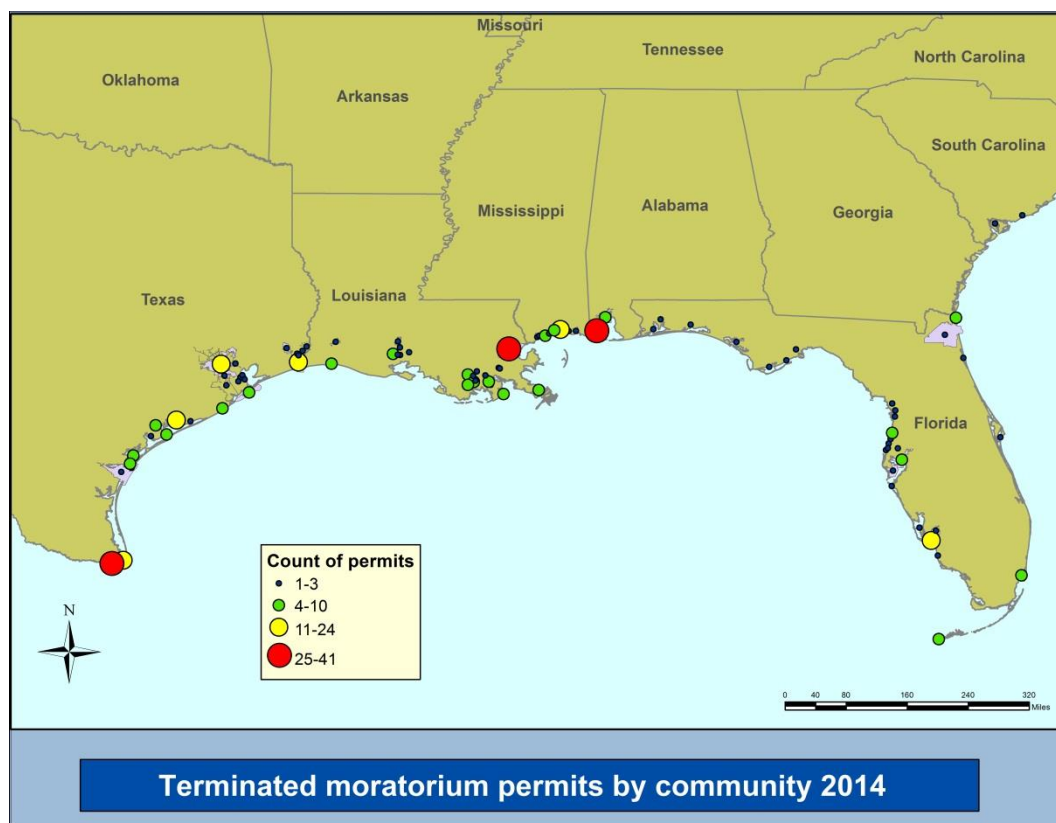


Figure 3.5.6. Terminated Gulf shrimp permits by community since moratorium.

Source: NMFS SERO Permits Database

A geographical breakdown of the percent of all terminated permits out of total permits by homeport community is displayed in Figure 3.5.7. Whereas Table 3.5.1 has only the top 35 communities listed, Figure 3.5.7 has the location of all terminated permits. Several locations within Texas have seen a large percentage of permits terminated. However, in some cases these communities may have had few permits to begin with. Several communities in Texas, like Seabrook, Beaumont and Seadrift, each had only three permits total and had two terminated each, therefore the percentage lost is large, but the actual number of permits lost is small. Other communities like Brownsville, Texas, Bayou La Batre, Alabama, and New Orleans, Louisiana had greater numbers of terminated permits as mentioned earlier.

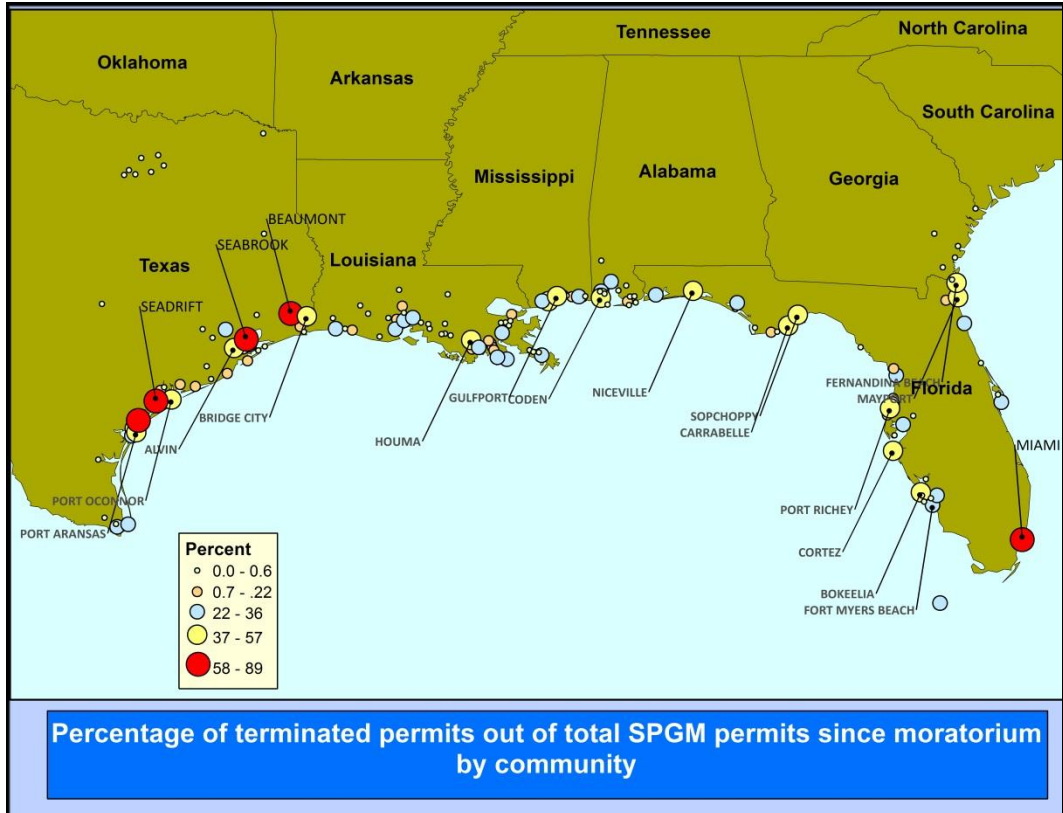


Figure 3.5.7. Percent of terminated Gulf shrimp permits by homeport communities.
Source: NMFS SERO Permits Database

Figure 3.5.8 provides the geographical distribution of shrimp processors in the Gulf and Florida east coast. Shrimp processors are distributed fairly evenly among the Gulf States with 16 in Louisiana, 15 in Texas, 15 in Alabama-Mississippi and 10 in Florida. While some processors may also be a wholesale dealer, some processors deal with product landed outside the state and may also process imported shrimp.

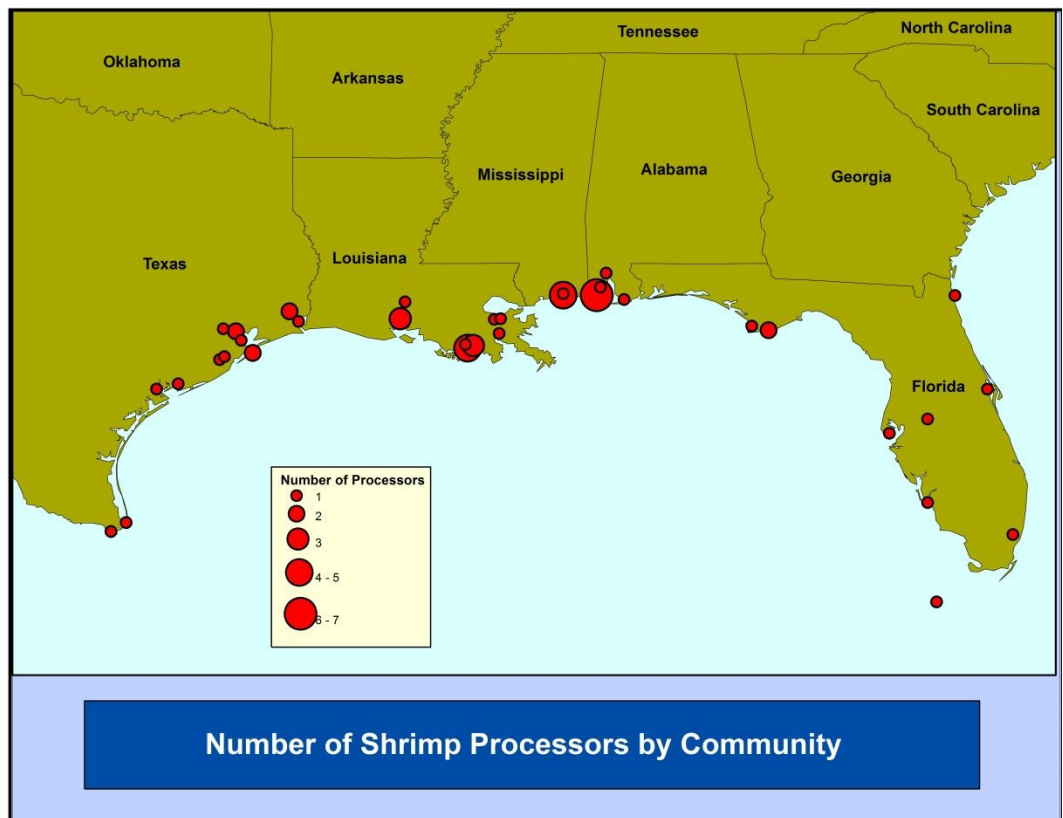


Figure 3.5.8. Number of Gulf shrimp processors by community.
Source: Personal Communication, Office of Science and Technology, Sept. 8, 2015.

While the number of processors may be evenly distributed throughout the Gulf States, the volume and value of shrimp processed is not. Figure 3.5.9 provides a geographical illustration of the real value of processed shrimp by community across the Gulf. Louisiana processors have the highest value of total shrimp processed followed by Texas, Mississippi, Florida and Alabama. Actual values are not presented to avoid revealing confidential information.



Figure 3.5.9. Value of processed shrimp by community.

Source: Personal Communication, Office of Science and Technology, Sept. 8, 2015.

Overall Fishing Engagement and Reliance

While it is possible to characterize the fleet landings with regard to those communities that have high RQs for landings and value, it is more difficult to characterize the fleet and its labor force regarding demographics and residence for captains and crew of vessels. There is little to no information on captains and crew including demographic makeup as NMFS does not collect these data.

To better understand how Gulf shrimp fishing communities are engaged and reliant on fishing overall, several indices composed of existing permit and landings data were created to provide a more empirical measure of fishing dependence (Jepson and Colburn 2013; Colburn and Jepson 2012; Jacob et al. 2012). Fishing engagement uses the absolute numbers of permits, landings, and value, while fishing reliance includes many of the same variables as engagement, but divides by population to give an indication of the per capita impact of this activity.

Using principal component and single solution factor analysis, each community receives a factor score for each index to compare to other communities. Factor scores of both engagement and reliance on commercial fishing for the top 20 communities (Figure 3.5.4) were plotted onto graphs in Figure 3.5.10. For some communities data were not available to calculate a factor score and do not appear on the chart. Each community's factor score is located on the Y axis, the higher the score, the more engaged or reliant. Factor scores are standardized, therefore, the mean is zero. Two thresholds of 1 and $\frac{1}{2}$ standard deviation above the mean are plotted onto the

graphs to help determine a threshold for significance. Because the factor scores are standardized, a score above 1 is also above one standard deviation. Those communities with factor scores above the thresholds should be considered to have high engagement and reliance upon commercial fishing. Those that exceed both thresholds might be considered dependent upon commercial fishing.

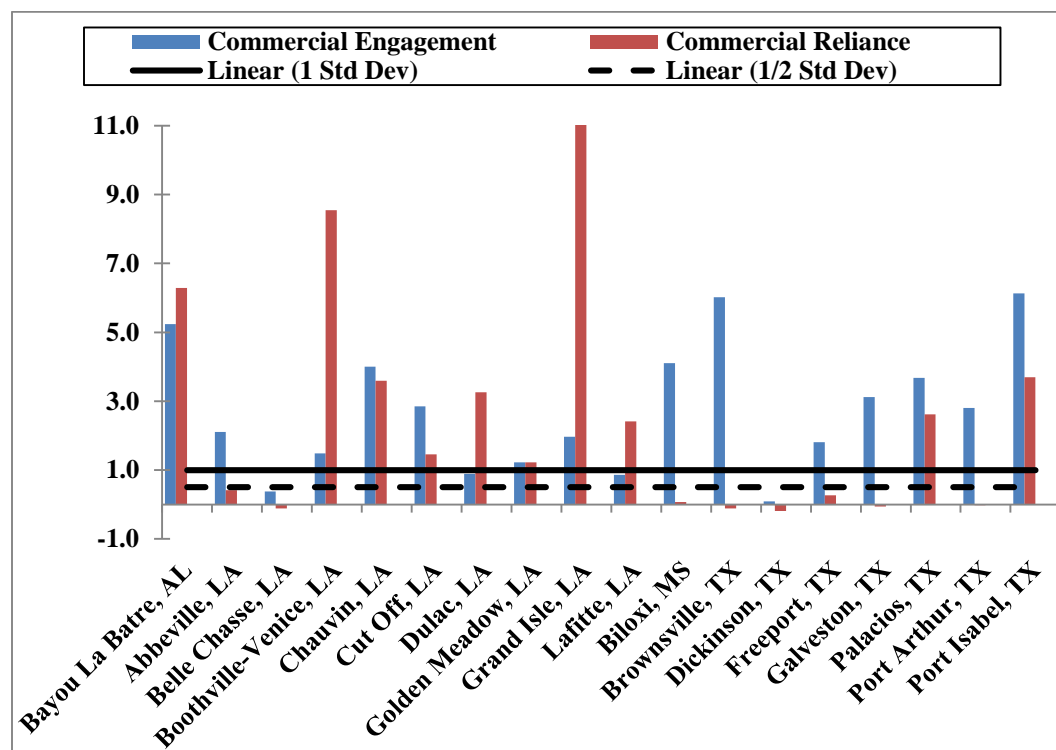


Figure 3.5.10. Commercial fishing engagement and reliance indices for top twenty communities in terms of pounds and value regional quotient for total shrimp in the Gulf.

Source: SERO Social Indicator Database

In Figure 3.5.10, all communities exceed either one or both of the thresholds of $\frac{1}{2}$ or 1 standard deviation, which means they are highly engaged or reliant on commercial fishing. Those that exceed thresholds for both indices have a substantial component of their local economy dependent upon commercial fishing. The ten communities that exceed both thresholds are: Bayou LaBatre, Alabama; Fort Myers Beach, Florida; Chauvin,; Cut Off,; Dulac,; Golden Meadow,; Grand Isle,; Lafitte,; and Boothville-Venice, Louisiana; and Port Isabel,; and Palacios, Texas. More in-depth profiles of some of these communities appear in previous amendments (GMFMC 2005a, 2007).

There have been relatively few if any recent descriptions of the Gulf shrimp fishery from both a social and economic perspective. Liese et al. (various years) have provided the most recent economic analysis of fleet-wide economic performance, but there is little information concerning the demographic makeup or characterization of the fleet. While demographic information for captains and crew is not available, a proxy can be used to examine the number of vessels that may have minorities associated with the vessel by looking at surnames from the permit file and counting those owners that have Southeast Asian surnames. This technique was first utilized in

a memorandum from Gulf Council Director Wayne Swingle to the Council's Shrimp Management Committee dated March 28, 2003. In that memorandum Dr. Swingle indicated that of the 1,836 federally permitted shrimp vessels, 524 (or 28.7%) had owners with Southeast Asian surnames or corporate names. A similar count conducted by SERO in 2009 resulted in 484 out of 1853⁷ (or 26.1%) of permit owners with Southeast Asian surnames. Unfortunately, we do not know if these are active vessels and whether the crew is also of Southeast Asian ethnicity. However, this does give a rough indication of the participation rate of Southeast Asians within the Gulf shrimp fishery.

Examining terminated permits using this same methodology, approximately 28% of terminated permits had owners or lessees with Southeast Asian surnames. Thus, the proportion of terminated permits held by those of Southeast Asian descent appears to be approximately the same as their participation in the shrimp fishery overall.

This methodology has not been attempted for other minority groups. It has been suggested that Hispanics make up a large portion of the crew on Gulf shrimp vessels in Texas and possibly other states in the western Gulf (Gary Graham, Texas A&M Sea Grant, pers. comm.). Unfortunately data on crew are unavailable and thus it is not possible to calculate a credible number for that participation.

3.5.1 Environmental Justice Considerations

Executive Order 12898 requires that federal agencies conduct their programs, policies, and activities in a manner to ensure individuals or populations are not excluded from participation in, or denied the benefits of, or subjected to discrimination because of their race, color, or national origin. In addition, and specifically with respect to subsistence consumption of fish and wildlife, federal agencies are required to collect, maintain, and analyze information on the consumption patterns of populations who principally rely on fish and/or wildlife for subsistence. This executive order is generally referred to as environmental justice (EJ).

In order to assess whether a community may be experiencing EJ issues, a suite of indices created to examine the social vulnerability of coastal communities (Colburn and Jepson 2012; Jacob et al. 2012) is presented in Figure 3.5.11 for those same communities in Figure 3.5.10. The three indices are poverty, population composition, and personal disruptions. The variables included in each of these indices have been identified as important components that contribute to a community's vulnerability. Indicators such as increased poverty rates for different groups, more single female-headed households and children under the age of 5, disruptions such as higher separation rates, higher crime rates, and unemployment all are signs of vulnerable populations. These indicators are closely aligned to previously used measures of EJ which used thresholds for the number of minorities and those in poverty. For those communities that exceed the threshold, it is expected that they would exhibit vulnerabilities to sudden changes or social disruption that might accrue from regulatory change.

⁷ This is a snapshot of permits at one point in time and not exclusive to shrimp vessels, so numbers may vary at different points in time. This is a very rough estimate of the number of vessels with owners of Southeast Asian background. It is not a precise count of persons involved in the fishery who may be of Southeast Asian descent or other minorities.

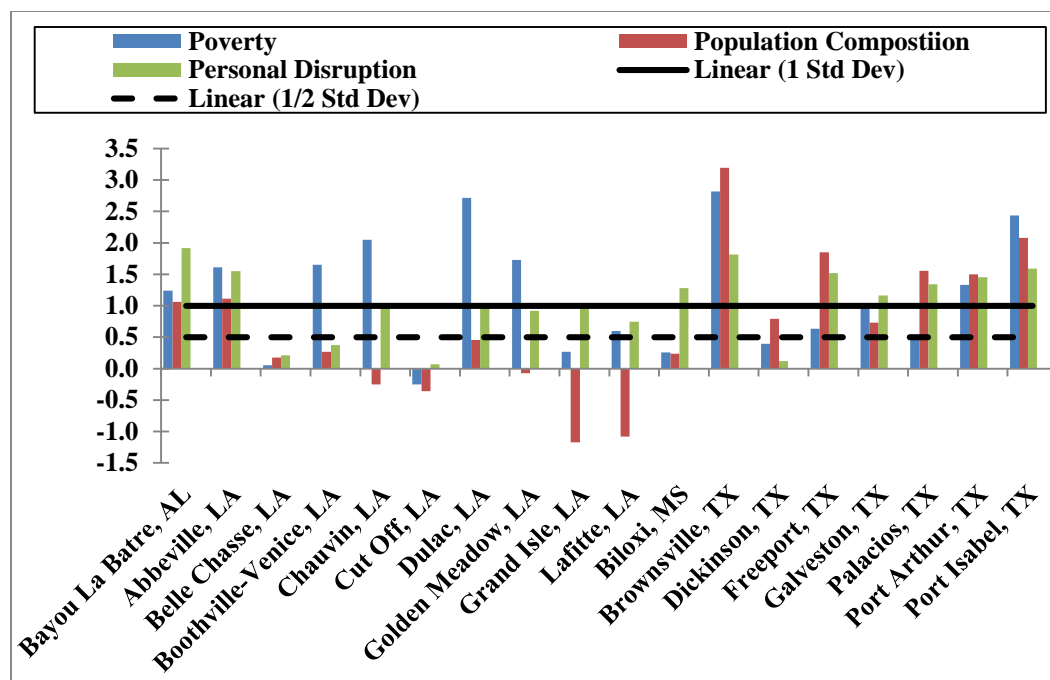


Figure 3.5.11. Social vulnerability indices for top twenty communities in terms of pounds and value regional quotient for total shrimp in the Gulf.

Source: SERO Social Indicator Database

In terms of social vulnerabilities, several of the top shrimp fishing communities exhibit medium to high vulnerabilities. In fact, only six communities are below the thresholds for two or more indices and do not exhibit vulnerabilities. Those that exceed both thresholds for two or more indices are: Bayou LaBatre, Alabama; Abbeville, Chauvin, and Dulac, in Louisiana; Brownsville, Freeport, Galveston, Palacios, Port Arthur and Port Isabel, in Texas (Figure 3.5.11). It is expected that these communities would be especially vulnerable to any social or economic disruption because of regulatory change, depending upon their engagement and reliance upon commercial fisheries. Because most of these communities are either highly engaged or reliant on commercial fishing, it is likely that any negative social effects from regulatory changes will have an impact. Whether that impact will be long-term or short-term would depend upon the regulatory change.

These indicators of vulnerability have been developed using secondary data at the community level. Because these types of data are not collected at the individual level by NMFS or other agencies, it is difficult to understand the social vulnerabilities that might exist on either a household or individual level. It is hard to recognize or attribute impacts that will directly affect individuals who are fishermen or work in a related business because we do not know what those specific vulnerabilities may be. Therefore, our measure of vulnerability is a broader measure at the community level and not specific to fishermen or the related businesses and their employees. Furthermore, there has been little research and relatively no data collected on subsistence fishing patterns of fishermen in the Southeast. Impacts on subsistence fishing within the Gulf shrimp fishery cannot be assessed, other than to say we know very little and it is unlikely to be affected because it is an offshore fishery.

3.6 Description of the Administrative Environment

3.6.1 Federal Fishery Management

Federal fishery management is conducted under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.), originally enacted in 1976 as the Fishery Conservation and Management Act. The Magnuson-Stevens Act claims sovereign rights and exclusive fishery management authority over most fishery resources within the EEZ, an area extending 200 nautical miles from the seaward boundary of each of the coastal states, and authority over U.S. anadromous species and continental shelf resources that occur beyond the EEZ.

Responsibility for federal fishery management decision-making is divided between the Secretary of Commerce (Secretary) and eight regional fishery management councils that represent the expertise and interests of constituent states. Regional councils are responsible for preparing, monitoring, and revising management plans for fisheries needing management within their jurisdiction. The Secretary is responsible for promulgating regulations to implement proposed plans and amendments after ensuring that management measures are consistent with the Magnuson-Stevens Act and with other applicable laws summarized in Appendix C. In most cases, the Secretary has delegated this authority to NMFS.

The Council is responsible for fishery resources in federal waters of the Gulf. These waters extend to 200 nautical miles offshore from the nine-mile seaward boundary of the states of Florida and Texas, and the three-mile seaward boundary of the states of Alabama, Mississippi, and Louisiana. The Council consists of 17 voting members: 11 public members appointed by the Secretary; one each from the fishery agencies of Texas, Louisiana, Mississippi, Alabama, and Florida; and one from NMFS. Non-voting members include representatives of the U.S. Fish and Wildlife Service, U.S. Coast Guard (USCG), and Gulf States Marine Fisheries Commission.

The Council uses its Science and Statistical Committee to review data and science used in assessments and fishery management plans/amendments. Regulations contained within FMPs are enforced through actions of the NMFS' Office for Law Enforcement, the USCG, and various state authorities.

The public is involved in the fishery management process through participation at public meetings, on advisory panels and through Council meetings that, with few exceptions for discussing personnel matters, are open to the public. The regulatory process is in accordance with the Administrative Procedures Act, in the form of "notice and comment" rulemaking, which provides extensive opportunity for public scrutiny and comment, and requires consideration of and response to those comments.

3.6.2 State Fishery Management

The purpose of state representation at the Council level is to ensure state participation in federal fishery management decision-making and to promote the development of compatible regulations in state and federal waters. The state governments have the authority to manage their respective

state fisheries including enforcement of fishing regulations. Each of the five states exercises legislative and regulatory authority over its state's natural resources through discrete administrative units. Although each agency listed below is the primary administrative body with respect to the state's natural resources, all states cooperate with numerous state and federal regulatory agencies when managing marine resources. The states are also involved through the Gulf States Marine Fisheries Commission in management of marine fisheries. This commission was created to coordinate state regulations and develop management plans for interstate fisheries.

NMFS' State-Federal Fisheries Division is responsible for building cooperative partnerships to strengthen marine fisheries management and conservation at the state, inter-regional, and national levels. This division implements and oversees the distribution of grants for two national Acts (Inter-jurisdictional Fisheries Act and Anadromous Fish Conservation Act). Additionally, it works with the Gulf States Marine Fisheries Commission to develop and implement cooperative State-Federal fisheries regulations.

Texas Parks & Wildlife Department - <http://www.tpwd.state.tx.us>

Louisiana Department of Wildlife and Fisheries <http://www.wlf.louisiana.gov/fishing>

Mississippi Department of Marine Resources <http://www.dmr.state.ms.us/>

Alabama Department of Conservation and Natural Resources

<http://www.outdooralabama.com/fishing-alabama>

Florida Fish and Wildlife Conservation Commission <http://www.myfwc.com>

CHAPTER 4. ENVIRONMENTAL CONSEQUENCES

4.1 Action 1 – Address the Expiration of the Federal Shrimp Permit Moratorium in the Gulf of Mexico

Alternative 1 – No Action. The moratorium on the issuance of new Gulf of Mexico (Gulf) federal commercial shrimp vessel permits expires on October 26, 2016. With expiration of the federal Gulf commercial shrimp permit moratorium, the commercial shrimp vessel permits would become open access permits, as they were prior to the moratorium, and therefore be available to any eligible applicants.

Preferred Alternative 2 – Extend the moratorium on the issuance of federal Gulf commercial shrimp vessel permits. The moratorium would be extended for:

Option a. 5 years

Preferred Option b. 10 years

Alternative 3 – Create a federal limited access permit for commercial shrimp vessels in the Gulf. To be eligible for a commercial shrimp vessel permit under the limited access system, vessels must have a valid or renewable federal Gulf commercial shrimp vessel permit on October 26, 2016. Federal Gulf commercial shrimp vessel permits will need to be renewed every year and all previous renewal, transfer, and reporting requirements would still be in effect.

4.1.1 Direct and Indirect Effects on the Physical Environment

Alternative 1 would allow the permit moratorium is allowed to expire; therefore, it is possible that both effort and shrimp landings will increase. This can have negative effects on the physical environment as it may increase trawling effort. Trawling is recognized for its impacts to benthic environments because the heavy doors drag along the bottom and the tickler chains scrape along the sea floor. The shrimp fishery is prosecuted primarily over soft substrates such as mud or silt that are more resilient to disturbance than other bottom types. Areas that have been closed to shrimp trawling seasonally, such as the Texas closure, are not physically altered relative to areas continuously open to shrimp trawling, and longer term parameters such as currents and storms may have more effects on the physical characteristics of an area (Sheridan and Doerr 2005).

The proposed action may modify the way the fishery is prosecuted, but most likely negative effects will only result if effort increases above threshold levels; this is only likely if **Alternative 1** is selected. **Preferred Alternative 2** and **Alternative 3** would likely maintain the fishery at current or, at most, high moratorium levels and more likely lower levels. Therefore, these alternatives would be expected to have less effects on the physical environment as shrimp permit numbers and active shrimping vessels may decrease over time.

4.1.2 Direct and Indirect Effects on the Biological Environment

Effort in the shrimp fishery is closely monitored to not exceed bycatch limits, so if the number of permits were to change, this monitoring could effectively limit how the fishery is prosecuted to

keep bycatch to acceptable levels. Amendment 14 (GMFMC 2007) established a target effort level in specific areas of the western Gulf (statistical zones 10-21, 10-30 fathoms) to protect juvenile red snapper. This target was originally set at 74% less than the effort in the benchmark years of 2001-2003. That target was reduced in 2012 to 67% less than the benchmark years because the red snapper rebuilding plan was proceeding as planned. If effort in the area increases above this target, selected areas of the exclusive economic zone (EEZ) must be closed to shrimp fishing. In 2011, the effort level for the area exceeded the original target effort level; however, it was just below the new target effort level, which was in the process of being implemented. Any increase in effort over that level would exceed the target and trigger closures.

In the 2014 biological opinion (NMFS 2014), the effects analyses were based on 2009 effort levels. If effort exceeds that level, the National Marine Fisheries Service (NMFS) will infer that take has been exceeded and that effects on sea turtles were greater than analyzed. If sea turtle effects exceed those in the opinion for any given year, then NMFS, must decide whether it must reinitiate consultation, and whether rule-making to address the activities leading to the greater effects is warranted.

Alternative 1 is the most likely to result in changes in the fishery such as increases in effort and bycatch as it would allow unlimited number of participants to enter the fishery. If the permit moratorium is allowed to expire in 2016, red snapper and other protected species bycatch (as described in Section 3.3) may be affected if the expiration of the permit moratorium results in the issuance of more permits and an expansion in the shrimping industry. However, because trends such as effort and fishing mortality have decreased over time and the number of permit renewals has been decreasing since the institution of the permit moratorium, it is unlikely that effort will resume to historical pre-moratorium levels.

Preferred Alternative 2 would maintain the permit moratorium. Currently, with the moratorium in place, shrimping effort has decreased and the number of permit holders has decreased. The effects on the biological environment would change minimally, or decrease if effort decreased. The same effects would be observed if the Council should choose **Alternative 3**.

4.1.3 Direct and Indirect Effects on the Economic Environment

Alternative 1 (no action) would let the moratorium on federal commercial shrimp permits expire in October 2016. Therefore, **Alternative 1** would revert the commercial shrimp fishery to open access and would establish a management environment that could curtail the potential economic benefits of the moratorium.

Potential benefits expected to result from a moratorium on the issuance of new federal shrimp permits include a reduction in overcapitalization in the fishery and improvements in the economic profitability of shrimp harvesters. However, the dynamics of the shrimp fishery and resulting bio-economic conditions are primarily determined by factors largely beyond the control of shrimp harvesters and fishery managers in the Gulf.

Primary determinants of the economic conditions in the industry are environmental conditions, shrimp prices, and fuel prices. For annual species such as shrimp, abundance and therefore catch per unit effort are primarily dependent on environmental conditions. Fuel prices constitute a key factor in the economic conditions in the fishery because they typically account for a significant portion of shrimp harvesters' total costs. Liese (personal communication, February 18, 2015) estimated that between 2006 and 2012 fuel costs accounted for more than 42% of total costs. Finally, because shrimp prices are determined within a global integrated market, disruptions in the domestic market are mitigated by adjustments in the quantity of imports (and vice versa) without much changes in prices. The market integration between the domestic wild-caught shrimp and farmed-raised imported shrimp is discussed in Aasche et al (2012). The integration between the domestic, European, and Japanese shrimp markets is discussed in Vinuya (2007).

The overall economic climate faced by shrimp harvesters has been characterized by a bio-economic conditions index (BECI) based on three factors: environmental conditions (shrimp abundance), fuel, and shrimp prices (Jones, 2012). The BECI provides the average shrimp revenue generated per dollar spent on fuel. Therefore, larger BECI values correspond to more favorable bio-economic conditions for shrimp harvesters. Between 2006 and 2012, BECI estimates provided by Liese (personal communication, February 18, 2015) range from 2.26 to 2.03. In other terms, in 2012, shrimp harvesters in the Gulf generated \$2.03 in shrimp revenues per dollar spent on fuel. The decrease in estimated BECI between 2006 and 2012 suggests that bio-economic conditions have deteriorated since the establishment of the moratorium. However, precarious bio-economic conditions have long prevailed in the shrimp industry and have resulted in a significant contraction of the fleet before the establishment of the moratorium. For example, Ran et al. (2014) reported that the number of vessels in the shrimp fleet decreased by 18% between 2001 and 2004. Therefore, it is not a forgone conclusion that the implementation of a moratorium on shrimp permits is primarily responsible for the ongoing attrition in the number of permits. It could only be suggested that, in conjunction with changing bio-economic conditions, the moratorium may have contributed, probably to a very limited extent, to the observed decrease in the number of shrimp permits.

Based on the preceding discussion, economic effects expected to result from the expiration of the moratorium on the issuance of new shrimp permits (**Alternative 1**) would depend on the evolution of bio-economic conditions, as measured by the BECI or comparable indices, faced by shrimp harvesters. If the conditions improve (BECI increases) as a result of increases in shrimp abundance, decreases in fuel prices, or increases in shrimp prices (or as a result of a combination of these factors) then **Alternative 1** would be expected to result in adverse economic effects because it would prevent harvesters currently active in the fishery from fully benefitting from the more favorable bio-economic conditions. Under this scenario, **Alternative 1** would curtail opportunities to potentially improve the economic profitability of currently permitted shrimp harvesters and possibly lessen the economic returns of the entire fleet, new entrants included. If bio-economic conditions worsen (BECI decreases) as a result of decreases in shrimp abundance, increases in fuel prices, or decreases in shrimp prices (or as a result of a combination of these factors), **Alternative 1** would be expected to result in limited, if any, economic effects because deteriorating conditions would be expected to hasten the exit of some of the harvesters.

In addition to these effects, **Alternative 1** could result in adverse economic effects stemming from the detrimental effects of increased sea turtle takes and juvenile red snapper bycatch if effort increases following the expiration of the moratorium. If they occurred, both of these increases would be expected to result in corrective measures that would likely place additional restrictions on shrimp effort, thereby resulting in adverse economic effects for the fleet. In summary, plausible scenarios under which the expiration of the moratorium (**Alternative 1**) would be expected to result in economic benefits for the shrimpers or for the Nation do not appear likely.

Preferred Alternative 2 would extend the moratorium for 5 years (**Option a**) or 10 years (**Preferred Option b**). If bio-economic conditions for the shrimp fleet improve (BECI increases), **Preferred Alternative 2** would be expected to result in economic benefits. The extension of the moratorium would shield existing shrimpers from previously discussed detrimental effects that could result from possible increases in the size of the fleet, thereby allowing potential economic benefits from improved conditions to materialize. **Preferred Option b**, which would provide a longer extension to the moratorium would offer greater protection. If bio-economic conditions worsen (BECI decreases), **Preferred Alternative 2** would not be expected to result in noticeable economic effects because deteriorating conditions would be expected to continue to foster reductions in the size of the shrimp fleet. In effect, **Preferred Alternative 2** would serve as a safeguard to protect the current fleet, if needed, from the potentially detrimental economic effects of open access. It is also noted that if changes in bio-economic conditions result in drastic reductions in the number of permits over time, **Preferred Alternative 2** could potentially adversely affect onshore operations (dealers and processors) by decreasing their access to shrimp harvested in the Gulf.

Alternative 3 would establish, once for all, a moratorium on permits by creating a limited access shrimp permit. Although they would be longer lasting, economic effects expected to result from **Alternative 3** are expected to be comparable to effects discussed under **Preferred Alternative 2**. However, as opposed to **Preferred Alternative 2**, **Alternative 3** would not require a re-examination of the moratorium in 5 or 10 years if the Council wants to extend it further.

4.1.4 Direct and Indirect Effects on the Social Environment

In 2012, there were approximately 4,000 shrimp permits for state waters in Texas, Louisiana, and Mississippi, with over 75% of these sold in Louisiana; these state water permits are open access. In Alabama and Florida, an estimated 3,500 small boats are shrimping under state licenses (Section 3.1). As of September 21, 2015, there were 1,464 federal shrimp permits, which are under a moratorium but renewable for \$25 per year.⁸ The federal shrimp permits were put under a moratorium to help stabilize the fishery, which was negatively affected by increasing fuel prices, decreasing shrimp prices, and increased competition with foreign imports.

Alternative 1 (No Action) would allow the shrimp vessel permits to become open access permits on October 27, 2016. From that date, anyone would be able to purchase a federal shrimp permit for \$25. This would allow an unspecified number of new entrants to the fishery. Negative

⁸ To buy or renew federal permits costs \$25 for the first permit, and \$10 for each subsequent permit, including the royal red shrimp endorsement.

effects would be expected for the shrimp industry, as some of the identified problems that warranted the permit moratorium could be expected to return should the permits become open access. For existing shrimp permit holders, this may result in some direct negative effects from increased competition with other vessels. Some indirect negative effects could potentially result if an increase in effort corresponds with an increase in bycatch that negatively affects other species or fisheries; such indirect effects would be long-term.

Preferred Alternative 2 would extend the moratorium for 5 years (**Option a**) or 10 years (**Preferred Option b**). Extending the moratorium would be expected to forestall the potential for negative effects from allowing open access to the fishery. Greater benefits would be expected from **Preferred Option b** than **Option a**, as the moratorium extension would be twice as long.

Among the alternatives, the greatest benefits to the industry and existing shrimp permit holders would result from **Alternative 3**, which would make the moratorium permanent by making the permit limited access. Existing permits would remain renewable and transferable, thereby allowing for new entrants to replace shrimpers exiting the fishery. The Council could take action in the future to address the number of permits should it be determined that increased participation would be desirable.

4.1.5 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would have the greatest effect on the administrative environment. The fishery would become open access after the moratorium expires, so there could be additional permit holders. NMFS would need to increase the effort required to verify landings, file notifications in case of closures, and enforce closures if the number of permits increased significantly. There would likely be more in-season adjustments if effort were to increase above current levels which is more likely if the number of permits are not restricted (as they are with the permit moratorium).

Preferred Alternative 2 would not likely have any immediate effect on the administrative environment. The fishery would continue to be under the same moratorium, and monitoring would continue as it has been. It would maintain the same effort required from NMFS to verify landings, file notifications in case of closures, and enforce closures. **Preferred Alternative 2** would require the Council to re-address the expiration of the moratorium in 5 (**Option a**) or 10 (**Option b**) years, which would involve development of another plan amendment. Both **Option a** and **Preferred Option b** would have similar effects of the administrative environment, though **Option a** would be more immediate in initiating further Council and NMFS action than **Option b** would.

Alternative 3 would have the least effect on the administrative environment as it would maintain the state of the fishery how it is now but would not require re-examination of the moratorium in either five or ten years as both options in **Preferred Alternative 2** would.

4.2 Action 2 – Royal red shrimp endorsement

Alternative 1 – No Action. Continue to require a royal red shrimp endorsement to the federal Gulf shrimp vessel permit to harvest royal red shrimp from the Gulf EEZ. Endorsements are open access for entities with a federal Gulf shrimp vessel permit.

Alternative 2 – Discontinue the royal red shrimp endorsement. Only the federal Gulf shrimp vessel permit will be required to harvest royal red shrimp from the Gulf EEZ.

4.2.1 Direct and Indirect Effects on the Physical Environment and the Biological Environment

The royal red shrimp endorsement was established in Amendment 13 (GMFMC 2005a). The purpose of the royal red shrimp endorsement was to establish a “universe” of permit holders that fish for royal red shrimp. Since the implementation, the number of royal red shrimp endorsements has exceeded the number of those landing royal red shrimp by about two orders of magnitude (Table 2.3.1). It is unlikely that either **Alternative 1** or **Alternative 2** will result in significant changes to the physical or biological environment as whether or not an endorsement is required will likely not affect how the fishery is currently prosecuted. Additionally, landings data for royal red shrimp will continue to be collected. There are future issues that the continuance of the royal red shrimp endorsement may benefit, such as the establishment of habitat areas of particular concern (HAPCs) in areas where royal red shrimping occurs. It may be possible to provide exemptions for vessels with royal red shrimp endorsements to fish in these areas if the permit holder has the royal red shrimp endorsement, as many of the proposed areas are “pick up” areas and not where the trawl net is actively on the ground. However, this would require that the Council choose **Alternative 1** as its preferred alternative.

4.2.2 Direct and Indirect Effects on the Economic Environment

Alternative 1 would continue to require a royal red endorsement to the federal shrimp permit to harvest royal red shrimp in federal waters. **Alternative 1** would not be expected to result in economic effects because it would neither impact the segment of the shrimp fleet prosecuting royal red shrimp nor affect the harvest of royal red shrimp in the EEZ.

Alternative 2 would discontinue the royal red endorsement. Royal red shrimp landings would continue to be recorded. Although the endorsement was expected to provide a means to conveniently define the universe of shrimpers harvesting royal red shrimp, it has not fulfilled this expectation. Endorsements are issued to any federally permitted shrimp harvester who submit a complete application. However, a minute proportion of shrimpers with endorsements actively harvest royal red shrimp. Between 2007 and 2014, the annual proportion of endorsement holders who harvested royal red shrimp averaged 2.4% (Table 2.3.1). As a result, the endorsements alone are not sufficient to identify the shrimpers who harvest royal red. Because royal red landings would continue to be recorded in the same manner, the elimination of the endorsement would not be expected to result in adverse effects. However, **Alternative 2** would be expected to result in economic benefits stemming from time and cost savings to NMFS and to shrimpers who would no longer have to acquire an endorsement.

4.2.3 Direct and Indirect Effects on the Social Environment

The harvest of royal red shrimp requires a federal shrimp permit and a royal red shrimp endorsement. While the federal shrimp permit is under a moratorium, the endorsement remains open access. The moratorium on the federal shrimp permit was intended to restrict effort in the federal shrimp fishery, while the royal red shrimp endorsement was created as a data collection tool, to identify royal red shrimpers.

The number of royal red endorsements bought or renewed each year has remained above 300 since the endorsement was put in place, although the number of unique vessels that land royal red shrimp has remained low (Table 2.2.1). Since 2007, eight vessels a year on average have made royal red shrimp landings. In 2013, 15 unique vessels landed royal red shrimp, the greatest number of vessels since 2004 when 17 vessels landed royal red shrimp. The 15 vessels landing royal red shrimp in 2013 represented 4.5% of all royal red endorsements.

Additional effects would not be expected from retaining the royal red shrimp endorsement (**Alternative 1**). Given the low number of permits with landings and the fact that royal red shrimp landings data are collected separate from the endorsement, the endorsement may not be necessary. Further, a federal shrimp permit would continue to be required for the harvest of royal red shrimp, whether or not the endorsement exists. These federal shrimp permits are limited access, which functions to constrain entry and effort in the fishery. With the utility of the endorsement uncertain, some positive effects could be expected from eliminating the endorsement for royal red shrimp (**Alternative 2**), by reducing the permitting requirements of those who harvest royal red shrimp. These effects would be minimal, as it would still be required to renew a vessel's federal shrimp permit.

4.2.4 Direct and Indirect Effects on the Administrative Environment

Alternative 1 would be the most administratively burdensome of the alternatives being considered because it would require the continuation of the royal red shrimp endorsement and all of the requirements that are associated with that endorsement. **Alternative 2** would eliminate the administrative burden of the endorsement process for royal red shrimp, but it would also eliminate the database of endorsement holders.

4.3 Cumulative Effects Analysis

As directed by the National Environmental Policy Act (NEPA), federal agencies are mandated to assess not only the indirect and direct impacts, but cumulative impacts of actions as well. The NEPA defines a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). Cumulative effects can either be additive or synergistic. A synergistic effect occurs when the combined effects are greater than the sum of the individual effects. The following are some past, present, and future actions that could impact the environment in the area where the Gulf shrimp fishery is prosecuted.

Past Actions

In 2003, regulations were instituted requiring vessels to possess a federal shrimp permit when fishing for penaeid shrimp in the Gulf EEZ. Subsequently, a moratorium on the issuance of new federal shrimp permit was established in 2007. Currently, vessels must possess a federal Gulf shrimp permit when fishing for shrimp in the Gulf EEZ. During 2006 through 2010, an average of 4,582 vessels fished for shrimp in the Gulf, of which 20% were federally permitted vessels and the rest, non-permitted vessels. Despite being fewer in number, federally permitted vessels accounted for an average of 67% of total shrimp landings and 77% of total ex-vessel revenues. As of September 21, 2015, there were 1,464 valid or renewable Gulf shrimp permits, which is a significant decline from 1,933 that received a permit when the moratorium was implemented. As of the same date, there were 298 valid or renewable endorsements for royal red shrimp. The actions in this amendment may or may not change the decline in number of permits.

Joint Reef Fish Amendment 27/Shrimp Amendment 14 (GMFC 2007) established a target effort-reduction goal of 74% less than the benchmark years of 2001-2003 as a proxy for juvenile red snapper mortality reduction. The amendment established a closure procedure for the northern and western Gulf within the 10- to 30-fathom zone in conjunction with the beginning of the annual Texas closure, if fishing effort does not meet the reduction target. NMFS was able to relax the effort restrictions to a 67% reduction in 2012 because the red snapper stock was rebuilding on schedule. If the shrimp permit becomes an open access permit, effort could increase and exceed this threshold.

In April 2010, an explosion occurred on the Deepwater Horizon MC 252 (DWH) oil rig, resulting in the release of millions of barrels of oil into the Gulf. In addition, over a million gallons of Corexit 9500A dispersant were applied as part of the effort to constrain the spill. The cumulative effects from the oil spill and response may not be known for years. The oil spill affected more than one-third of the Gulf area from western Louisiana east to the Panhandle of Florida and south to the Campeche Bank in Mexico. The impacts of the DWH oil spill on the physical environment are expected to be significant and may be long-term. Oil was dispersed on the surface, and because of the heavy use of dispersants, oil was also documented as being suspended within the water column, some even deeper than the location of the broken well head. Floating and suspended oil washed onto shore in several areas of the Gulf as well as non-floating tar balls. Whereas suspended and floating oil degrades over time, tar balls persist in the environment and can be transported hundreds of miles.

In a study by Murawski et al. (2014), researchers found a higher frequency of skin lesions on fish in the northern Gulf in the area of the 2010 oil spill compared to other areas. Studies are continuing to check whether the sick fish suffer from immune system and fertility problems. Indirect and inter-related effects on the biological and ecological environment of the shrimp fishery in concert with the DWH oil spill are not well understood. Changes in the population size structure could result from shifting fishing effort to specific geographic segments of populations, combined with any anthropogenically induced mortality that may occur from the impacts of the oil spill. The impacts on the food web from phytoplankton, to zooplankton, to mollusks, to top predators may be significant in the future. Effects on shrimp from the oil spill may affect other species that prey upon shrimp.

Sections of the Gulf were closed to all fishing during the oil spill event. These areas were opened after the well was capped and testing determined seafood from each area was safe for human consumption. In November 2010, a fisherman reported tarballs in his net while trawling for royal red shrimp in an area opened five days before. NMFS reclosed the area and conducted additional seafood sampling. NMFS re-opened the area in February after testing shrimp and finfish from the area and finding that all seafood samples passed both sensory and chemical testing.

The DWH oil spill and BP's responses had a confounding effect on the economics of the Gulf shrimp fishery in 2010. The majority of vessels (66%) reported receiving oil spill-related revenue. The two primary sources of this revenue are damage claims (passive income) and revenue generated by participation in BP's vessel of opportunity program (VOOP) where vessels were hired to clean up oil. Of the surveyed vessels, 28% participated in the VOOP. Both sources provided substantial revenue for participating vessels, thereby obscuring the economics of the fishery. Further, vessels participating in VOOP incurred non-negligible costs unrelated to commercial fishing.

Bycatch reduction devices (BRDs) have been required for use since 1998 in the western Gulf and since 2004 in the eastern Gulf. Since 2010, some new BRDs were certified, while others were decertified. The intent of these modifications to BRD regulations was to provide additional flexibility to the fishery. BRDs may have different capabilities according to different fishing conditions, and having a wider variety of BRDs for use in the fisheries allows fishermen greater flexibility to choose the most effective BRD for the specific local fishing conditions.

To address sea turtle bycatch and associated mortality, NMFS implemented regulations requiring turtle excluder devices (TEDs) in 1987, which were phased in over 20 months. Originally, TEDs were required on a seasonal basis, and no TEDs were required if the fisherman followed restricted tow times. Subsequent rulemaking in 1992 required TEDs in all shrimp trawls from North Carolina to Texas, but phased in these requirements to the inshore fishery over a two-year period. Over time, TED regulations have been modified to change the allowable configurations with the intent of improving turtle exclusion. TEDs are required in both state and federal waters. Royal red shrimp trawls are not required to have TEDs if the catch is 90% or more royal red shrimp because the fishery is prosecuted in depths that are unlikely to capture sea turtles.

Since 2001, there has been a decrease in effort in southeast U.S. shrimp fishery. The decline has been attributed to low shrimp prices, rising fuel costs, competition with imported products, and the impacts of 2005 and 2006 hurricanes in the Gulf. This was exacerbated by the financial meltdown and consequent recession in the U.S. economy in 2007-2008. The economy has started to recover, though slowly, in the last few years. In addition, shrimp prices have increased in the last two years, partly due to reductions in shrimp imports as shrimp farms in some of the major exporting countries were hit with diseases. Reductions in shrimp imports, however, may be just temporary and imports could recover to their previous high levels in the future. Given that the shrimp fishery still faces many of the challenges that contributed to the effort declines, effort is not expected to increase substantially in the near future.

In December 2013, NMFS implemented a rule outlining a cost share plan between NMFS and shrimp vessel permit holders to support the electronic logbook (ELB) program. The ELB program provides data on Gulf shrimp fishing effort that is critical to both the Council and NMFS in performing annual assessments of the status of shrimp stocks, obtaining accurate estimates of juvenile red snapper mortality attributable to the shrimp fishery, and generating mortality estimates on a number of other species captured as bycatch in the shrimp fishery (see Section 3.3). The cost per vessel is approximately \$240 per year. Because the average vessel in the Gulf shrimp fishery has been in poor financial condition, an additional cost item that would not improve the vessel's operations could have a material adverse impact on the operations and solvency of an average vessel.

In a 2014 biological opinion (NMFS 2014), NMFS analyzed the impacts of the southeast shrimp fisheries based on 2009 effort levels. If effort exceeds that level, NMFS will infer that take has been exceeded and that effects on sea turtles were greater than analyzed. If effects exceed those in the opinion for any given year, then NMFS would reinitiate Endangered Species Act consultation and may need to implement stricter management measures. If the shrimp permit becomes an open access permit, effort could increase and trigger a new biological opinion.

Present Actions

The shrimp fishery is closed annually in state waters off Texas to allow brown shrimp to reach a larger and more valuable size prior to harvest and to prevent waste of brown shrimp that might otherwise be discarded due to their small size. The closing and opening dates of the Texas closure are based on the results of biological sampling by the Texas Parks and Wildlife Department. Historically, the closure is from about May 15 to July 15. NMFS closes federal waters off Texas concurrent with this action each year, at the request of the Council.

Reasonably Foreseeable Future Actions

The Council has one other action in development relative to the shrimp fishery. Amendment 17B will address: 1) establishing an aggregate maximum sustainable and optimum yields; 2) establishing a target number of shrimp permits and a potential reserve shrimp permit pool; and 3) allowing vessels without a federal permit to transit federal waters with shrimp on board. These actions would not remove any permits or impact any current federal shrimp permit holders. However, if access to the Gulf shrimp permit remains limited, some actions in Amendment 17B could halt the decline of permits, or even allow the number of permits to increase. This in turn could allow an increase in effort that could potentially exceed the red snapper or sea turtle thresholds and trigger stricter management measures.

The Environmental Protection Agency's climate change webpage (<http://www.epa.gov/climatechange/>) provides basic background information on measured or anticipated effects from global climate change. A compilation of scientific information on climate change can be found in the United Nations Intergovernmental Panel on Climate Change's Fifth Assessment Report (IPCC 2013). Those findings are incorporated here by reference and are summarized. Global climate change can affect marine ecosystems through ocean warming by increased thermal stratification, reduced upwelling, sea level rise, and through

increases in wave height and frequency, loss of sea ice, and increased risk of diseases in marine biota. Decreases in surface ocean pH due to absorption of anthropogenic carbon dioxide emissions may affect a wide range of organisms and ecosystems, particularly organism that absorb calcium from surface waters, such as corals and crustaceans. These influences could affect biological factors such as migration, range, larval and juvenile survival, prey availability, and susceptibility to predators. These climate changes could have significant effects on southeastern fisheries; however, the extent of these effects is not known at this time (IPCC 2014).

In the southeast, general impacts of climate change have been predicted through modeling, with few studies on species specific effects. Warming sea temperature trends in the southeast have been documented, and animals must migrate to cooler waters, if possible, if water temperatures exceed survivable ranges (Needham et al. 2012). Higher water temperatures may also allow invasive species to establish communities in areas they may not have been able to survive previously. An area of low oxygen, known as the dead zone, forms in the northern Gulf each summer. Climate change may contribute to this dead zone by increasing rainfall that in turn increases nutrient input from rivers. This increased nutrient load causes algal blooms that, when decomposing, reduce oxygen in the water (Kennedy et al. 2002; Needham et al. 2012). Other potential effects of climate change in the southeast include increases in hurricanes, decreases in salinity, altered circulation patterns, and sea level rise. The combination of warmer water and expansion of salt marshes inland with sea-level rise may increase productivity of estuarine-dependent species in the short term. However, in the long term, this increased productivity may be temporary because of loss of fishery habitats due to wetland loss (Kennedy et al. 2002). Actions from this amendment are not expected to significantly contribute to climate change through the increase or decrease in the carbon footprint from fishing.

Hurricane season is from June 1 to November 30, and accounts for 97% of all tropical activity affecting the Atlantic Basin. These storms, although unpredictable in their annual occurrence, can devastate areas when they occur. However, while these effects may be temporary, those fishing-related businesses whose profitability is marginal may go out of business if a hurricane strikes.

The cumulative biological, social, and economic effects of past, present, and future actions as described above may be described as limiting fishing opportunities in the short-term, with some exceptions of actions that alleviate some negative social and economic impacts. The intent of this amendment is to improve prospects for sustained participation in the fishery over time by limiting entry; however, the proposed actions in this amendment are not expected to significantly impact the environment as they do not impose any changes to how the fishery will be prosecuted. Effort has the potential to increase, but is unlikely given the preferred alternative. The proposed changes in management for the Gulf shrimp fishery are not related to other actions with individually insignificant but cumulatively significant impacts.

Monitoring

The effects of the proposed action are, and will continue to be, monitored through collection of landings data by NMFS, annual stock assessments and stock assessment updates, life history studies, economic and social analyses, and other scientific observations.

The proposed action relates to the harvest of an indigenous species in the Gulf, and the activity being altered does not itself introduce non-indigenous species, and is not reasonably expected to facilitate the spread of such species through depressing the populations of native species. Additionally, it does not propose any activity, such as increased ballast water discharge from foreign vessels, which is associated with the introduction or spread on non-indigenous species. on non-indigenous species.

CHAPTER 5. LIST OF PREPARERS

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GMFMC = Gulf of Mexico Fishery Management Council; NMFS= National Marine Fisheries Service; NOAA GC= National Oceanic and Atmospheric Administration General Counsel; SEFSC= Southeast Fishery Science Center; SERO = Southeast Regional Office of the National Marine Fisheries Service

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- Southeast Fisheries Science Center
- Southeast Regional Office
- Office for Law Enforcement
NOAA General Counsel

Environmental Protection Agency
United States Coast Guard
United States Fish and Wildlife Services
Texas Parks and Wildlife Department
Alabama Department of Conservation and Natural Resources/Marine Resources Division
Louisiana Department of Wildlife and Fisheries
Mississippi Department of Marine Resources
Florida Fish and Wildlife Conservation Commission

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APPENDIX A. ALTERNATIVES CONSIDERED BUT REJECTED

REMOVED AT JUNE 2015 COUNCIL MEETING

One alternative from Action 2- Royal red shrimp endorsement

Alternative 3 – To renew a royal red shrimp endorsement, the applicant must have had a minimum royal red shrimp landings during one of the three calendar years preceding the application

Option a: 300 lbs

Option b: 1,000 lbs

Option c: 10,000 lbs

Alternative 3 would require landings to be eligible to be issued a royal red shrimp endorsement.

Option a is the minimum landings that have been recorded from a vessel in the past 5 years.

Options b and **c** are larger values that indicate that the fisher is targeting royal red shrimp at least sometime during the year. In 2013, the landings for royal red shrimp were below 200,000 lbs of tails (GMFMC 2014). The maximum landings recorded for royal red shrimp (from the years 1962-2013) was 336,710 lbs of tails in 1994. **Alternative 3** would prevent new entrants into the fishery from gaining a royal red endorsement and would eliminate latent endorsements.

APPENDIX B. BYCATCH PRACTICABILITY ANALYSIS

Overview

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) Section 303(a)(11) requires Gulf of Mexico Fishery Management Council (Council) to establish a standardized bycatch reporting methodology for federal fisheries and to identify and implement conservation and management measures that, to the extent practicable and in the following order, a) minimize bycatch and b) minimize the mortality of bycatch that cannot be avoided. The Magnuson-Stevens Act defines bycatch as “fish which are harvested in a fishery, but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Such term does not include fish released alive under a recreational catch-and-release fishery management program” (Section 3(2)). Economic discards are fish that are discarded because they are undesirable to the harvester. This category of discards generally includes certain species, sizes, and/or sexes with low or no market value. Regulatory discards are fish that are required by regulation to be discarded, but also include fish that may be retained but not sold.

Guidance provided at 50 CFR 600.350(d)(3) identifies ten factors to consider in determining whether a management measure minimizes bycatch or bycatch mortality to the extent practicable. These are:

1. Population effects for the bycatch species.
2. Ecological effects due to changes in the bycatch of that species (effects on other species in the ecosystem).
3. Changes in the bycatch of other species of fish and the resulting population and ecosystem effects.
4. Effects on marine mammals and birds.
5. Changes in fishing, processing, disposal, and marketing costs.
6. Changes in fishing practices and behavior of fishermen.
7. Changes in research, administration, and enforcement costs and management effectiveness.
8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources.
9. Changes in the distribution of benefits and costs.
10. Social effects.

The Council is encouraged to adhere to the precautionary approach outlined in Article 6.5 of the Food and Agriculture Organization of the United Nations Code of Conduct for Responsible Fisheries when uncertain about these factors.

Background

Bycatch practicability for the Gulf of Mexico (Gulf) shrimp fishery was first addressed in the Generic Sustainable Fisheries Act Amendment (GMFMC 1999). That amendment contained a bycatch practicability analysis and evaluated the biological, ecological, social, economic, and administrative impacts associated with a wide range of alternatives including those required for achieving the bycatch mandates of the Magnuson-Stevens Act. In summary, four alternatives including a “No Action” alternative were presented and impacts were described regarding

bycatch reporting and are included herein by reference. Also, measures were included to minimizing bycatch and bycatch mortality to the extent practicable. The analysis of the practicability of these measures was provided in Section 7.0 of that amendment and is incorporated herein by reference.

Amendment 17A considers allowing the permit moratorium to expire, continue the moratorium, or implement a limited access permit. The amendment also considers eliminating the royal red shrimp endorsement; however, removing the royal red shrimp endorsement would have no impact on bycatch because it does not limit participation in the fishery. Therefore, bycatch issues related to the moratorium action are reviewed below.

1. Population Effects for the bycatch species

In 2000, the Gulf shrimp fishery discarded more bycatch, by weight, than any fishery in the FAO database, and its discard rate was 57% (Kelleher 2005). In July 2007, a mandatory federal observer program was implemented to characterize the Gulf penaeid shrimp fishery. However, only 2% of days at sea are covered by the observer program (Scott-Denton et al. 2012). The following summary is for penaeid shrimp trips which make up the majority of trips in the fishery; the number of trips for royal red shrimp that are sampled each year is too small for reasonable conclusions.

Scott-Denton et al. (2012) summarized catch from 348 observer trips in the Gulf representing 4,763 days at sea in 2007-2010. They identified 185 species. By weight, approximately 57% of the catch was finfish, 29% was penaeid shrimp, and 12% was invertebrates. The species composition changes somewhat depending on the area and depth fished, but for the Gulf overall, Atlantic croaker, sea trout, and longspine porgy are the dominant finfish species taken in trawls, comprising approximately 26% of the total catch by weight. Other commonly occurring species include portunid crabs, mantis shrimp, spot, inshore lizardfish, searobins, and Gulf butterfish. Red snapper represent approximately 0.3% of the total catch either by weight.

Although red snapper comprise a very small percentage of overall bycatch, the mortality associated with this bycatch impacts the recruitment of older fish (age 2 and above) to the directed fishery, and ultimately the recovery of the red snapper stock. To address finfish bycatch issues, the Council initially established regulations requiring bycatch reduction devices (BRDs), specifically to reduce the bycatch of juvenile red snapper. In 1998, all shrimp trawlers operating in the exclusive economic zone (EEZ), inshore of the 100-fathom contour, west of Cape San Blas, Florida, were required to use BRDs. To be certified for use in the fishery, a BRD had to demonstrate a 44% reduction in fishing mortality for age 0 and age 1 red snapper from the baseline years of 1984-1989. Subsequently, in 2004, BRDs were required in the eastern Gulf (east of Cape San Blas, Florida). BRDs used in this area had to demonstrate a 30% reduction in the total finfish biomass. In 2008, the finfish biomass reduction needed for certification of BRDs in all parts of the Gulf was set at 30%; currently certified BRDs are in Table 1. Only two Gulf states (Florida and Texas) require the use of BRDs in state waters. Shrimp trawls fishing for royal red shrimp seaward of the 100-fathom contour are exempt from the requirement for BRDs.

Appendix Table 1. Certified bycatch reduction devices (BRDs) for the Gulf of Mexico, with reduction in finfish bycatch (95% confidence interval).

BRD Type	Percent Reduction in Total Finfish Bycatch (by weight)	Shrimp loss percentage (by weight)
Fisheye	37.0 (30.6-43.3)	10.4 (6.2-14.6)
Jones Davis	58.0 (53 – 63)	4.0 (0.0 – 9.0)
Modified Jones Davis	33.1 (30.3-36)	3.2 (1.4-4.9)
Square Mesh Panel Composite Panel	49.9 (44.1-55.6)	x
Cone Fish Deflector Composite Panel	51.3 (45.0-57.7)	x

Source: SEFSC, Pascagoula

The shrimp fishery is also a substantial source of bycatch mortality on sea turtles. To address sea turtle bycatch and associated mortality, NMFS implemented regulations requiring turtle excluder devices (TEDs) in 1987, which were phased in over 20 months. Originally, TEDs were required on a seasonal basis, and no TEDs were required if the fisherman followed restricted tow times. Subsequent rulemaking in 1992 required TEDs in all shrimp trawls from North Carolina to Texas, but phased in these requirements to the inshore fishery over a two-year period. Over time, TED regulations have been modified to change the allowable configurations with the intent of improving turtle exclusion. TEDs are required in both state and federal waters. Royal red shrimp trawls are not required to have TEDs if the catch is 90% or greater royal red shrimp because the fishery is prosecuted in depths that are unlikely to capture sea turtles.

The most recent biological opinion concluded the continued operation of the Gulf shrimp fishery is not likely to jeopardize the continued existence of threatened or endangered species (NMFS 2014). During the four-year observer study period, 55 sea turtles were captured in shrimp trawls; 80% were released alive and conscious (Scott-Denton et al. 2012). Other protected species captured aboard shrimp trawlers in the Gulf and South Atlantic combined and recorded by observers in 2007-2010 included seven Atlantic sturgeon, one Gulf sturgeon, seven small-tooth sawfish, two marine birds, and five dolphin (Scott-Denton et al. 2012). In 2015, a smalltooth sawfish was observed caught in a commercial shrimp trawl. It was cut free from the net, and released at same location. The sawfish was alive and moving, but the final disposition could not be determined. This is the first sawfish take since the biological opinion.

The population effects of bycatch mortality are the same as fishing mortality from directed fishing efforts. If not properly managed and accounted for, either form of mortality could potentially reduce stock biomass to an unsustainable level. Bycatch mortality is incorporated in assessments of finfish stocks if estimates are available. Little is known about the status of many finfish (e.g., croaker, porgies) and invertebrate (e.g., mantis shrimp) species that are bycatch in shrimp trawls. None of these species have undergone (or are likely to undergo) formal stock assessments, because most are not targeted in commercial or recreational fisheries. However, anecdotal information indicates that some of these species may have benefited from reduced effort in the shrimp fishery.

2. Ecological effects due to changes in bycatch of shrimp species

For the offshore shrimp fishery, almost all shrimp are of marketable size and discard of shrimp is minimal. As an annual stock, shrimp stocks are influenced primarily by recruitment, which is controlled by environmental factors especially in the estuaries, and is not dependent on fishing mortality. The life history of these species is presented in more detail in Chapter 3.

3. Changes in bycatch of other species and resulting population and ecosystem effects

If affected finfish are shrimp predators, reductions in finfish bycatch may result in increased predation on the shrimp population. Predator-prey relationships largely depend on the size structure of predator and prey populations. Juvenile fish that are too small to prey on large shrimp may be able to do so later if their exclusion from trawl gear allows them to grow larger. However, it is also possible some fish will reduce predation on shrimp as they grow and their dietary habits change (Nance 1998).

Changes in the bycatch of non-shrimp invertebrates (e.g., crustaceans and mollusks) also could have ecosystem effects. These species have ecological functions in addition to serving as prey for other invertebrates and fishes. For example, some species, like barnacles and hydrozoans, condition habitat for other organisms by providing a growing surface or by contributing to the bioturbation of bottom sediments.

4. Effects on marine mammals and birds

The shrimp fishery in the Southeast (Gulf and South Atlantic) is classified in the 2015 List of Fisheries as a Category II fishery (79 FR 77919; January 28, 2015). This classification indicates the annual mortality and serious injury of a marine mammal stock is greater than 1% but less than 50 % of the stocks potential biological removal (PBR), not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. This fishery was elevated to Category II from Category III (mortality or serious injury to <1% of the PBR) in 2011 based on increased interactions reported by observers, strandings, and fisheries research data.⁹

These results were based on over 10,000 observer hours in the Atlantic and over 17,000 observer hours in the Gulf of Mexico. No injuries or mortalities of any marine mammal species were observed. However, a shrimp trawl fisherman reported one dolphin mortality offshore due to entanglement with the lazy line. This animal was most likely a coastal Gulf bottlenose dolphin.

There are minimal, if any, interactions between seabirds and shrimp trawl gear. Sea birds are a common predator behind shrimp boats, feeding on the discards or feeding on organisms that escape from the net as the gear is brought aboard. Whether bycatch reduction has an adverse impact on bird populations is unknown. However, the potentially high level of bycatch in the penaeid fishery could be affecting some seabird species. Cook (2003) notes the availability of discards and offal has been linked to population increases in a number of species.

⁹ http://www.nmfs.noaa.gov/pr/pdfs/fisheries/lof2012/southeastern_us_atlantic_gulf_shrimp_trawl.pdf.

5. Changes in fishing, processing, disposal, and marketing costs

The analysis in Amendment 17A already indicates significant reductions in effort have occurred in the shrimp fishery and these are likely to continue under the moratorium. Initially, such reductions are expected to have come from the “marginal” vessels in the fleet. Specifically, the vessels that would exit the fishery first would be those who are the least efficient in terms of their ability to generate profits and those who are least dependent on the fishery as a source of income (i.e. part-timers). Those who remain in the fishery would generally be able to compensate for the loss of these producers by increasing their own production, either via increases in effort (if economic conditions allow) or increases in catch rates (which increase their productivity and profitability). That is, production remains relatively constant. Thus, at first, the marginal costs of effort/bycatch reduction are relatively low. However, as effort and fleet size continue to decline, remaining producers find it increasingly more difficult to increase their production either because they cannot increase their effort more than they already have (i.e. time constraints), it is unprofitable to do so under prevailing economic conditions, and/or catch rates have reached their maximum. At such a point, the marginal cost of further effort/bycatch reductions will become relatively high and production will be lost, as will the economic benefits associated with that production. Allowing the moratorium to expire could reverse these effects.

Regulatory measures implemented to reduce bycatch have direct costs related to purchasing and installing new technology or limiting where and/or when a vessel could operate. Benefits of increased bycatch reduction to the directed red snapper fishery would depend on whether and to what extent the reductions affect the rate of recovery in the red snapper fishery and thus the level of allowable yields in the fishery over time.

6. Changes in fishing practices and behavior of fishermen

The preferred alternative is to continue the moratorium, in which case no change in fishing practices or behavior would be expected. Even if the moratorium is allowed to expire and the permits become open access, a large influx of new shrimpers would not be expected due to the costs of vessels, gear, etc. However, with expiration of the moratorium, a new group of fishermen could enter the fishery. These fishermen would need to comply with the BRD and TED rules and would not have the experience that led to the current acceptance of these devices.

When TEDs were first introduced in the Gulf, fishermen complained that these devices resulted in significant shrimp loss, malfunctioned and caused extra drag on trawlers, and were cumbersome and difficult to operate. They also contested the claims about the efficiency of TEDs, citing the poor performance of the devices under commercial conditions. Another problem was that many shrimpers did not believe that the fishery was contributing to high sea turtle mortality, and thus did not appreciate the need for TEDs (Cox et al. 2007, and references therein). Similar issues were encountered when BRDs were first required. Over time, fishermen learned how to use these devices in such a way as to reduce the negative impacts while comply with regulations. New shrimpers that have not gone through this process may experience the same initial problems and have a disincentive to use BRDs and TEDs properly.

7. Changes in research, administration, and enforcement costs and management effectiveness

Proposed actions that will affect bycatch are not expected to significantly impact research costs. Administrative and enforcement costs would be expected to increase if the moratorium is allowed to expire, because any new entrants would need to be educated about BRDs and TEDs and their proper installation.

8. Changes in the economic, social, or cultural value of fishing activities and non-consumptive uses of fishery resources

Bycatch is considered wasteful because it reduces overall yield obtained from the fishery. The U.S. Congress recognized the need to balance the costs of bycatch reduction with the social and economic benefits provided by the shrimp fishery when it mandated the study of shrimp trawl bycatch (and potential gear modifications) through the 1990 Magnuson-Stevens Act reauthorization. The resulting cooperative bycatch research program identified gear options that could reduce shrimp trawl bycatch with minimum loss of shrimp production. Decreases in bycatch mortality attributed to these technologies are believed to have contributed to the survival and recovery of at least some sea turtle populations and finfish stocks. The societal benefits associated with recovering these species are not easily quantified, but are believed to outweigh any short-term costs to penaeid shrimp fishermen related to the required bycatch reduction technology.

9. Changes in the distribution of benefits and costs

When the moratorium was established in Amendment 13 (GMFMC 2005), the shrimp fishery in the Gulf was believed to have enough effort such that an initial reduction in effort due to the moratorium would not result in a reduction in catch. This statement was thought to be true for bycatch as well. In other words, there was excess capacity in the fishery and fewer vessels could harvest the available shrimp resources at a more profitable level. The problem under an open access permit was the potential for new vessels to enter the fishery by obtaining federal permits, which could reduce the benefits to current participants. Under the economic conditions, the vast majority of new entry would likely be purely speculative. Increases in the number of active participants in the fishery would not have been sustainable under the economic conditions at that time. However, the global market is unpredictable, and the potential existed for external factors to improve long-term market conditions (i.e. shrimp and fuel prices). Should the moratorium expire, the number of vessels in the fishery could increase and reach excess capacity again. This situation would reverse the benefits obtained by historical fishermen during the moratorium.

Furthermore, current fishery participants have been exerting considerable effort to improve their economic condition through a variety of approaches, including attempts to improve product quality via a product certification program and aggressive marketing campaigns. Should those efforts be successful, the demand and thus the prices for domestic, wild shrimp would increase. The same result may occur if industry participants are successful in their attempts to have tariffs imposed on farmed, foreign shrimp, which they assert have been “dumped” into the U.S. market. The point is that, from the perspective of current industry participants, since they have borne the hardships and expended the resources in an attempt to reverse the industry’s economic fortunes,

then, under any reasonable concept of what is equitable, they should be the ones to benefit from their efforts.

10. Social effects

Incentives to comply with requirements for BRDs and TEDs are linked to increased efficiency of fishing effort and higher catch values. Increased efficiency and higher catch values are believed to arise through the following factors: less time spent sorting unwanted catch, less damage to nets and catch from bycatch, higher value on catch because of net space, lower fuel costs due to reduced net drag, decreased overall number of trips needed because more target catch has been captured, and potential for marketing of ecofriendly seafood to consumers (Campbell and Cornwell 2008). Measures that reduce bycatch to the extent practicable should also benefit stock recovery, thereby resulting in net social benefits. Further, the concerned public is likely to experience social benefits related to knowing that the organisms they value for aesthetic and existence reasons are better protected. However, some members of the public may believe bycatch is not sufficiently reduced through BRD and TED requirements.

Conclusion

This section evaluates the practicability of taking additional action to minimize bycatch and bycatch mortality in the Gulf shrimp fishery by using the ten factors provided at 50 CFR 600.350(d)(3)(i). In summary, if the moratorium is allowed to expire, bycatch could increase substantially; however, continuing the moratorium or creating a limited access permit would not be expected to change the level of bycatch. Therefore, if the preferred alternative to continue the moratorium is implemented, no increase in bycatch would be expected. Bycatch is currently considered to be reduced to the extent practicable in the Gulf shrimp fishery through the use of BRDs and TEDs and reduced effort. Further, bycatch levels and associated implications will continue to be monitored in the future and issues will be addressed based on new information. Therefore, the Council concluded that current management measures minimize bycatch and bycatch mortality to the extent practicable in the Gulf shrimp fishery.

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Appendix C. Other Applicable Law

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (16 U.S.C. 1801 et seq.) provides the authority for fishery management in federal waters of the Exclusive Economic Zone. However, fishery management decision-making is also affected by a number of other federal statutes designed to protect the biological and human components of U.S. fisheries, as well as the ecosystems that support those fisheries. Major laws affecting federal fishery management decision-making include the Endangered Species Act (Section 3.3 and 4.3), E.O. 12866 (Regulatory Planning and Review, Chapter 5) and E.O. 12898 (Environmental Justice, Section 3.5). Other applicable laws are summarized below.

Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedure Act (APA) (5 U.S.C. Subchapter II), which establishes a “notice and comment” procedure to enable public participation in the rulemaking process. Under the APA, the National Marine Fisheries Service (NMFS) is required to publish notification of proposed rules in the *Federal Register* and to solicit, consider, and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day waiting period from the time a final rule is published until it takes effect. Proposed and final rules will be published before implementing the actions in this amendment.

Coastal Zone Management Act

Section 307(c)(1) of the federal Coastal Zone Management Act of 1972 (CZMA), as amended, requires federal activities that affect any land or water use or natural resource of a state’s coastal zone be conducted in a manner consistent, to the maximum extent practicable, with approved state coastal management programs. The requirements for such a consistency determination are set forth in NOAA regulations at 15 CF.R. part 930, subpart C. According to these regulations and CZMA Section 307(c)(1), when taking an action that affects any land or water use or natural resource of a state’s coastal zone, NMFS is required to provide a consistency determination to the relevant state agency at least 90 days before taking final action.

Upon submission to the Secretary, NMFS will determine if this plan amendment is consistent with the Coastal Zone Management programs of the states of Alabama, Florida, Louisiana, Mississippi, and Texas to the maximum extent possible. The determination will then be submitted to the responsible state agencies under Section 307 of the CZMA administering approved Coastal Zone Management programs for these states.

Data Quality Act

The Data Quality Act (DQA) (Public Law 106-443) effective October 1, 2002, requires the government to set standards for the quality of scientific information and statistics used and disseminated by federal agencies. Information includes any communication or representation of knowledge such as facts or data, in any medium or form, including textual, numerical, cartographic, narrative, or audiovisual forms (includes web dissemination, but not hyperlinks to information that others disseminate; does not include clearly stated opinions).

Specifically, the Act directs the Office of Management and Budget (OMB) to issue government wide guidelines that “provide policy and procedural guidance to federal agencies for ensuring and maximizing the quality, objectivity, utility, and integrity of information disseminated by federal agencies.” Such guidelines have been issued, directing all federal agencies to create and disseminate agency-specific standards to: 1) ensure information quality and develop a pre-dissemination review process; 2) establish administrative mechanisms allowing affected persons to seek and obtain correction of information; and 3) report periodically to OMB on the number and nature of complaints received.

Scientific information and data are key components of fishery management plans (FMPs) and amendments and the use of best available information is the second national standard under the Magnuson-Stevens Act. To be consistent with the Magnuson-Stevens Act, FMPs and amendments must be based on the best information available. They should also properly reference all supporting materials and data, and be reviewed by technically competent individuals. With respect to original data generated for FMPs and amendments, it is important to ensure that the data are collected according to documented procedures or in a manner that reflects standard practices accepted by the relevant scientific and technical communities. Data presented in this amendment has undergone quality control prior to being used by the agency and will be subject to a pre-dissemination review.

National Historic Preservation Act

The National Historic Preservation Act (NHPA) of 1966, (Public Law 89-665; 16 U.S.C. 470 *et seq.*) is intended to preserve historical and archaeological sites in the United States of America. Section 106 of the NHPA requires federal agencies to evaluate the impact of all federally funded or permitted projects for sites on listed on, or eligible for listing on, the National Register of Historic Places and aims to minimize damage to such places.

Historical research indicates that over 2,000 ships have sunk on the Federal Outer Continental Shelf between 1625 to 1951; thousands more have sunk closer to shore in state waters during the same period. Only a handful of these have been scientifically excavated by archaeologists for the benefit of generations to come. Further information can be found at:
<http://www.boem.gov/Environmental-Stewardship/Archaeology/Shipwrecks.aspx>

The proposed action does not adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor is it expected to cause loss or destruction of significant scientific, cultural, or historical resources. In the Gulf, the *U.S.S. Hatteras*, located in federal waters off Texas, is listed in the National Register of Historic Places. Fishing activity already occurs in the vicinity of this site, but the proposed action would have no additional adverse impacts on listed historic resources, nor would they alter any regulations intended to protect them.

Executive Orders

E.O. 12630: Takings

The Executive Order on Government Actions and Interference with Constitutionally Protected Property Rights that became effective March 18, 1988, requires each federal agency prepare a

Takings Implication Assessment for any of its administrative, regulatory, and legislative policies and actions that affect, or may affect, the use of any real or personal property. Clearance of a regulatory action must include a takings statement and, if appropriate, a Takings Implication Assessment. The NOAA Office of General Counsel will determine whether a Taking Implication Assessment is necessary for this amendment.

E.O. 13089: Coral Reef Protection

The Executive Order on Coral Reef Protection requires federal agencies whose actions may affect U.S. coral reef ecosystems to identify those actions, utilize their programs and authorities to protect and enhance the conditions of such ecosystems, and, to the extent permitted by law, ensure actions that they authorize, fund, or carry out do not degrade the condition of that ecosystem. By definition, a U.S. coral reef ecosystem means those species, habitats, and other national resources associated with coral reefs in all maritime areas and zones subject to the jurisdiction or control of the United States (e.g., federal, state, territorial, or commonwealth waters).

Regulations are already in place to limit or reduce habitat impacts within the Flower Garden Banks National Marine Sanctuary. Additionally, NMFS approved and implemented Generic Amendment 3 for Essential Fish Habitat, which established additional HAPCs and gear restrictions to protect corals throughout the Gulf of Mexico. There are no implications to coral reefs by the actions proposed in this amendment.

E.O. 13132: Federalism

The Executive Order on Federalism requires agencies in formulating and implementing policies, to be guided by the fundamental Federalism principles. The Order serves to guarantee the division of governmental responsibilities between the national government and the states that was intended by the framers of the Constitution. Federalism is rooted in the belief that issues not national in scope or significance are most appropriately addressed by the level of government closest to the people. This Order is relevant to FMPs and amendments given the overlapping authorities of NMFS, the states, and local authorities in managing coastal resources, including fisheries, and the need for a clear definition of responsibilities. It is important to recognize those components of the ecosystem over which fishery managers have no direct control and to develop strategies to address them in conjunction with appropriate state, tribes and local entities (international too). No Federalism issues have been identified relative to the action proposed in this amendment. Therefore, consultation with state officials under Executive Order 12612 is not necessary.

Yield, Threshold Number of Permits, and Transit Provisions



Draft Options for Amendment 17B to the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters

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Gulf of Mexico Shrimp Amendment 17B

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Type of Action

Administrative
 Draft

Legislative
 Final

ABBREVIATIONS USED IN THIS DOCUMENT

ACL	annual catch limit
AM	accountability measure
Biop	biological opinion
BRD	bycatch reduction device
CPUE	catch per unit effort
Council	Gulf of Mexico Fishery Management Council
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ELB	electronic logbook
ESA	Endangered Species Act
FMP	Fishery Management Plan
F _{MSY}	fishing mortality at MSY
GMFMC	Gulf of Mexico Fishery Management Council
GSS	Gulf shrimp system
Gulf	Gulf of Mexico
lbs	pounds
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MSY	maximum sustainable yield
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OY	optimum yield
RA	Regional Administrator
Reserve Pool	Gulf Shrimp Vessel Permit Reserve Pool
SEFSC	Southeast Fisheries Science Center
SEIS	Supplemental Environmental Impact Statement
SERO	Southeast Regional Office of NMFS
SEWG	Ad Hoc Shrimp Effort Working Group
Shrimp AP	shrimp advisory panel
South Atlantic Council	South Atlantic Fishery Management Council
USCG	United States Coast Guard
VMS	vessel monitoring systems

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FISHERY IMPACT STATEMENT

[This statement is completed after selection of all preferred alternatives.]

CHAPTER 1. INTRODUCTION

1.1 Background

The Gulf of Mexico Fishery Management Council (Council) and the National Marine Fisheries Service (NMFS) began managing the shrimp fishery in the Gulf of Mexico (Gulf) in 1981. Four species are included in the fishery management plan: brown shrimp, *Farfantepenaeus aztecus*; pink shrimp, *Farfantepenaeus duorarum*; white shrimp, *Litopenaeus setiferus*; and royal red shrimp, *Pleoticus robustus*.

After the establishment of the federal permit in 2006, the shrimp fishery experienced economic losses, primarily due to high fuel costs and reduced prices caused by competition with imports. These economic losses resulted in the exodus of vessels from the fishery, and consequently, reduction of effort. In Amendment 13 (GMFMC 2005), the Council determined that the number of vessels in the offshore shrimp fleet would likely decline to a point where the fishery again became profitable for the remaining participants, and new vessels might want to enter the fishery; thus, the Council established the federal Gulf shrimp permit moratorium to prevent overcapitalizing the fishery if it became profitable again. The final rule implementing the moratorium was effective October 26, 2006 and permits became effective in March 2007. The Council is currently addressing the expiration of the moratorium in 2016 through the development of Shrimp Amendment 17A.

Several issues have been identified with the upcoming expiration of the moratorium. Namely, optimum yield (OY) is still defined as equal to maximum sustainable yield (MSY) and MSY is defined for individual species (not the whole fishery), the number of permits has continued to decline and there is fear that these declines will continue indefinitely. In Amendment 17A, the Council is addressing whether to let the permit moratorium expire, extend the moratorium, or to create a limited access system. As the preferred alternative is to extend the moratorium, this is an opportune time for the Council to review the OY and determine the appropriate number of permits to support the shrimp fishery.

Currently any federal permit issued by the NMFS Southeast Regional Office (SERO) is generally valid for one year. As of September 8, 2015, 1,464 moratorium permits were valid or renewable (within one year of expiration); therefore, the number of permits decreased by 469 since the moratorium began (Table 1.1.1). After the expiration date, the holder of a limited access or moratorium permit has an additional year to renew the permit. If a permit is not renewed within one year of the expiration date, it is terminated; i.e., it is no longer renewable or transferable, and effectively ceases to exist. Through non-renewal, 469 Gulf shrimp permits have been terminated during the moratorium. The Council seeks to determine the appropriate number of permits for the fishery and what action to take if the number of permits dips below the specified threshold number. Other fisheries, such as the American Samoa longline fishery, have an established limited entry program that releases permits when the number of permits falls below the maximum number. Priority is given to those with historical participation in the fishery for different class sized vessels (Class A gets first priority, followed by Class B, etc.). If there is a tie between priority rankings, applicants are selected (from the tied individuals) by lottery.

Table 1.1.1. Number of valid, surrendered, and terminated Gulf commercial shrimp permits as of December 31 each year since implementation of the moratorium. Valid permits are those that were fishable at least one day each year. Surrendered permits are those that were voluntarily returned to NMFS by the permit holder – these permits were valid for part of the year, before being lost from the fishery. Terminated permits are those that were lost from the fishery due to non-renewal by the permit holder.

Year	Number of Valid Permits Each Year	Number of Surrendered Permits Each Year	Number of Permits Terminated Each Year*	Cumulative Number of Permits Lost from the Fishery
2007	1,933	0	NA	NA
2008	1,907	0	26	26
2009	1,722	1	184	211
2010	1,633	1	88	300
2011	1,582	0	51	351
2012	1,534	0	48	399
2013	1,501	0	33	432
2014	1,470	0	31	463
2015*	1,464	0	4	469

*Through September 8, 2015.

Source: NMFS Southeast Regional Office (SERO) Permits Database

At the August 2015 Council meeting, it was brought to the Council’s attention that state licensed shrimping vessels (lacking a federal Gulf shrimp permit) cannot transit through federal waters with shrimp on board. There are some federal waters (such as off the coast of Louisiana and Mississippi) where state permitted shrimping vessels would like to transit through to return to state waters. The Council will investigate a transit provision to address these concerns from the community.

1.2 Purpose and Need

Purpose for Action

The purposes are to define the optimum yield, determine the appropriate number of permits, consider measures to maintain the appropriate number of permits for the federal Gulf shrimp fishery, and to develop provisions for non-federally permitted shrimping vessels to transit through federal waters while not actively shrimping.

Need for Action

The needs for this action are to ascertain the best metric(s) to manage the shrimp fishery, maintain increases in catch efficiency without substantially reducing landings, promote economic efficiency and stability in the fishery, provide flexibility for state registered shrimp vessels, and protect federally managed Gulf shrimp stocks.

1.3 History of Management

The Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters (FMP), supported by an environmental impact statement (EIS), was implemented on May 15, 1981. The FMP defined the shrimp fishery management unit to include brown shrimp, white shrimp, pink shrimp, royal red shrimp, seabobs (*Xiphopenaeus kroyeri*), and brown rock shrimp (*Sicyonia brevirostris*). Seabobs and rock shrimp were subsequently removed from the FMP. The actions implemented through the FMP and its subsequent amendments have addressed the following objectives:

1. Optimize the yield from shrimp recruited to the fishery.
2. Encourage habitat protection measures to prevent undue loss of shrimp habitat.
3. Coordinate the development of shrimp management measures by the Gulf of Mexico Fishery Management Council (Council) with the shrimp management programs of the several states, when feasible.
4. Promote consistency with the Endangered Species Act and the Marine Mammal Protection Act.
5. Minimize the incidental capture of finfish by shrimpers, when appropriate.
6. Minimize conflict between shrimp and stone crab fishermen.
7. Minimize adverse effects of obstructions to shrimp trawling.
8. Provide for a statistical reporting system.

The purpose of the plan was to enhance yield in volume and value by deferring harvest of small shrimp to provide for growth. The main actions included: 1) establishing a cooperative Tortugas

Shrimp Sanctuary with Florida to close a shrimp trawling area where small pink shrimp comprise the majority of the population most of the time; 2) a cooperative 45-day seasonal closure with Texas to protect small brown shrimp emigrating from bay nursery areas; and 3) a seasonal closure of an area east of the Dry Tortugas to avoid gear conflicts with stone crab fishermen.

Amendment 1/environmental assessment (EA)(1981) provided the Regional Administrator (RA) of SERO with the authority (after conferring with the Council) to adjust by regulatory amendment the size of the Tortugas Sanctuary or the extent of the Texas closure, or to eliminate either closure for one year.

Amendment 2/EA (1983) updated catch and economic data in the FMP.

Amendment 3/EA (1984) resolved a shrimp-stone crab gear conflict on the west-central coast of Florida.

Amendment 4/EA (1988) identified problems that developed in the fishery and revised the objectives of the FMP accordingly. The annual review process for the Tortugas Sanctuary was simplified, and the Council and RA review for the Texas closure was extended to February 1. A provision that white shrimp taken in the exclusive economic zone (EEZ) be landed in accordance with a state's size/possession regulations to provide consistency and facilitate enforcement with Louisiana was to have been implemented at such time when Louisiana provided for an incidental catch of undersized white shrimp in the fishery for seabobs. This provision was disapproved by NMFS with the recommendation that it be resubmitted under the expedited 60-day Secretarial review schedule after Louisiana provided for a bycatch of undersized white shrimp in the directed fishery for seabobs. This resubmission was made in February of 1990 and applied to white shrimp taken in the EEZ and landed in Louisiana. It was approved and implemented in May of 1990.

In July 1989, NMFS published revised guidelines for FMPs that interpretatively addressed the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (then called the Magnuson Fishery Conservation and Management Act) National Standards (50 CFR 602). These guidelines required each FMP to include a scientifically measurable definition of overfishing and an action plan to arrest overfishing should it occur.

Amendment 5/EA (1991) defined overfishing for Gulf brown, pink, and royal red shrimp and provided measures to restore overfished stocks if overfishing should occur. Action on the definition of overfishing for white shrimp was deferred, and seabobs and rock shrimp were removed from the management unit. The duration of the seasonal closure to shrimping off Texas was adjusted to conform to the changes in state regulations.

Amendment 6/EA (1992) eliminated the annual reports and reviews of the Tortugas Shrimp Sanctuary in favor of monitoring and an annual stock assessment. Three seasonally opened areas within the sanctuary continue to open seasonally, without need for annual action. A proposed definition of overfishing of white shrimp was rejected by NMFS because it was not based on the best available data.

Amendment 7/EA (1994) defined overfishing for white shrimp and provided for future updating of overfishing indices for brown, white, and pink shrimp as new data become available. A total allowable level of foreign fishing for royal red shrimp was eliminated; however, a redefinition of overfishing for this species was disapproved.

Amendment 8/EA (1995), implemented in early 1996, addressed management of royal red shrimp. It established a procedure that would allow total allowable catch for royal red shrimp to be set up to 30% above MSY for no more than two consecutive years so that a better estimate of MSY could be determined. This action was subsequently negated by the 1996 Sustainable Fisheries Act amendment to the Magnuson-Stevens Act that defined overfishing as a fishing level that jeopardizes the capacity of a stock to maintain MSY, and does not allow OY to exceed MSY.

Amendment 9/supplemental environmental impact statement (SEIS) (1997) required the use of a NMFS certified bycatch reduction device (BRD) in shrimp trawls used in the EEZ from Cape San Blas, Florida to the Texas/Mexico border, and provided for the certification of BRDs and specifications for the placement and construction. The purpose of this action was to reduce the bycatch mortality of juvenile red snapper by 44% from the average mortality for the years 1984 through 1989 (the required bycatch reduction was reduced to 30% in 2008 through a framework action). This amendment exempted shrimp trawls fishing for royal red shrimp seaward of the 100-fathom contour, as well as groundfish and butterfish trawls, from the BRD requirement. It also excluded small try nets and no more than two ridged frame roller trawls of limited size. Amendment 9 also provided mechanisms to change the bycatch reduction criterion and to certify additional BRDs.

Amendment 10/EA (2002) required BRDs in shrimp trawls used in the Gulf east of Cape San Blas, Florida. Certified BRDs for this area are required to demonstrate a 30% reduction by weight of finfish.

Amendment 11/EA (2001) required owners and operators of all vessels harvesting shrimp from the EEZ of the Gulf to obtain a federal commercial vessel permit. This amendment also prohibited the use of traps to harvest royal red shrimp from the Gulf and prohibited the transfer of royal red shrimp at sea.

Amendment 12/EA (2001) was included as part of the Generic Essential Fish Habitat (EFH) Amendment that established EFH for shrimp in the Gulf.

Amendment 13/EA (2005) established an endorsement to the federal shrimp vessel permit for vessels harvesting royal red shrimp; defined the overfishing and overfished thresholds for royal red shrimp; defined MSY and OY for the penaeid shrimp stocks in the Gulf; established bycatch reporting methodologies and improved collection of shrimping effort data in the EEZ; required completion of a Gulf Shrimp Vessel and Gear Characterization Form by vessels with federal shrimp permits; established a moratorium on the issuance of federal commercial shrimp vessel permits; and required reporting and certification of landings during the moratorium.

Amendment 14/EIS (2007) was a joint amendment with Reef Fish Amendment 27. It established a target red snapper bycatch mortality goal for the shrimp fishery in the western Gulf and defined seasonal closure restrictions that can be used to manage shrimp fishing efforts in relation to the target red snapper bycatch mortality reduction goal. It also established a framework procedure to streamline the management of shrimp fishing effort in the western Gulf.

The Generic Annual Catch Limit (ACL)/Accountability Measures (AMs) Amendment/EIS (2011) set an ACL and AM for royal red shrimp. Penaeid shrimp were exempt from the ACL/AM requirements because of their annual life cycle.

The Shrimp Electronic Logbook (ELB) Framework Action (2013) established a cost-sharing system for the ELB program, and described new equipment and procedures for the program.

Amendment 15/EA (2015), if implemented, would redefine stock status criteria for the three penaeid species of shrimp, including species-specific MSY values and overfished/overfishing thresholds. The general framework procedure would also be updated.

Amendment 16/SEIS (2015) eliminated duplicative AMs and the quota for royal red shrimp. The ACL was set equal to the acceptable biological catch and a post-season AM was established.

CHAPTER 2. MANAGEMENT ALTERNATIVES

2.1 Action 1. Aggregate Maximum Sustainable Yield (MSY) for the Gulf of Mexico (Gulf) Shrimp Fishery

Note: Aggregate means for all penaeid shrimp species combined. MSY for each species is already established. Aggregate MSY does not equal the sum of the individual species MSYs.

Alternative 1. No Action. Do not establish an aggregate MSY.

Alternative 2. Establish aggregate MSY using the method developed by the Shrimp Effort Working Group. For the Gulf-wide fishery, aggregate MSY = xxx.

The IPT requests that the Council convene a working group to evaluate aggregate MSY and OY and to initiate a methodology for determining OY. The working group could also recommend a range of reasonable alternatives for this action.

Discussion: : In Amendment 15 to the Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, U.S. Waters (FMP), the Gulf of Mexico Fishery Management Council (Council) determined species specific MSYs for penaeid shrimp. However, an aggregate MSY is most appropriate for management of the fishery as a whole. Based on the approach used by the ad hoc shrimp effort working group (SEWG) (Nance et al. 2006), the aggregate MSY is somewhat less than the summation of all individual species' MSY. Aggregate MSY was calculated by the SEWG using several methods (Graham-Schaeffer, GLM, etc.), and the group decided to use the Graham-Schaeffer model based on the data available and the success of the model. Using methods from the SEWG with the most recent years of data included, the estimated yield curve (Figure 2.2.1) for the offshore component of the fishery produced by the model indicates that aggregate MSY is 109,237,618 lbs (tails) and effort at MSY is 143,756 days fished. A similar methodology can be employed to determine the Gulf-wide fishery aggregate MSY, but this will need to be determined by a working group. Model results should only be used to review previously observed data, and should not be used to predict what catch/landings would be at effort levels above or below observed levels, as they are subject to year to year variations in the abundance of shrimp stocks.

Aggregate MSY is needed to determine aggregate OY, which is a more appropriate metric to achieve as it takes into account other factors (e.g. bycatch, economics, etc). However, from a strictly aggregate MSY metric, the level of effort needed to achieve aggregate MSY in the offshore fishery was most closely observed in 2004 (Figure 2.2.1). Recent levels of effort have been well below the level needed to achieve aggregate MSY in the offshore fishery, although in 2006 landings were above MSY. Based on observed effort in 2013, effort would need to increase by more than 126% from current levels to achieve aggregate MSY. It is unlikely that the fishery needs to achieve aggregate MSY in order to attain aggregate OY.

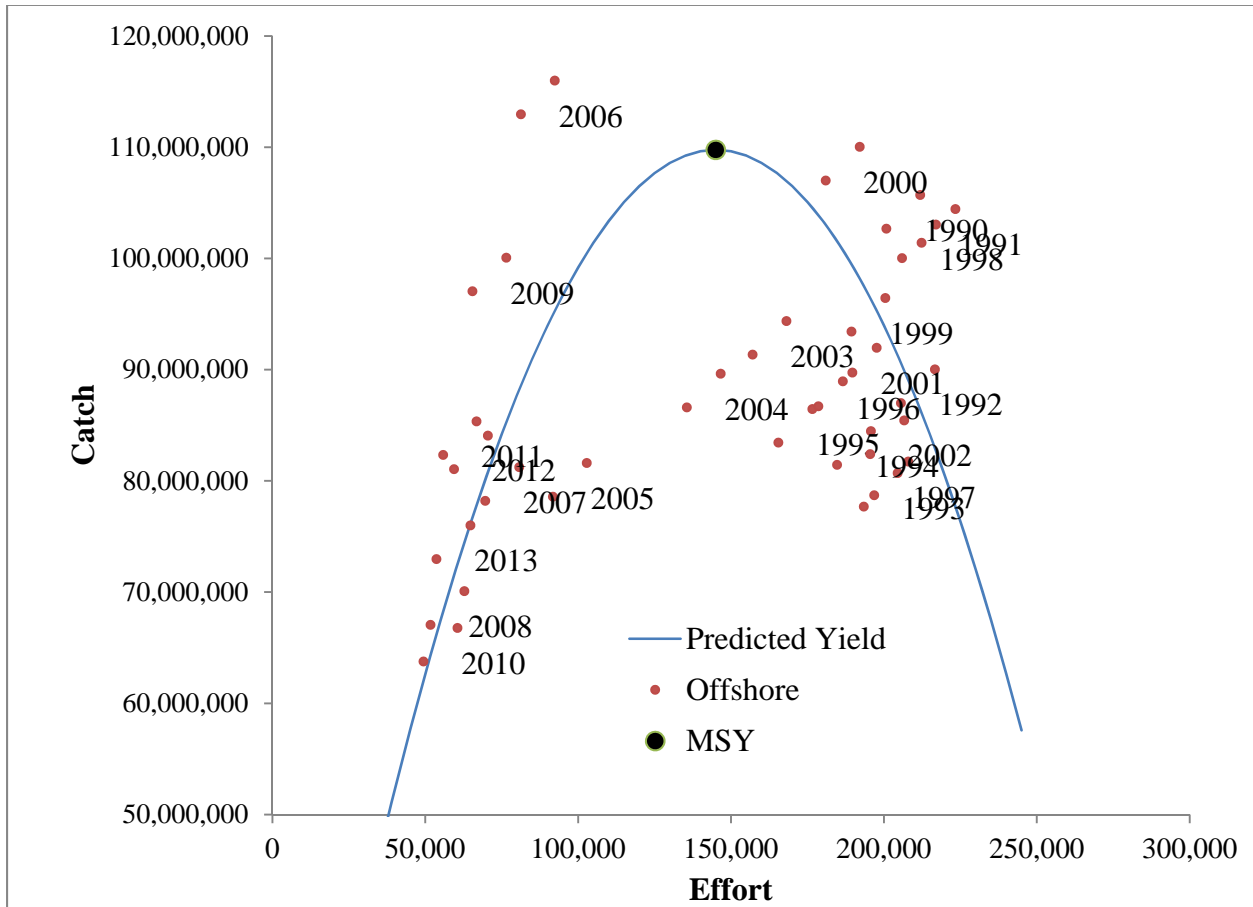


Figure 2.1.1. Graham Schaeffer production model used to estimate aggregate maximum sustainable yield (MSY) for the offshore component of the Gulf shrimp fishery showing model estimate and actual data points, 1990-2013.
 Source: SEFSC, Galveston

Action 2. Aggregate Optimum Yield (OY) for the Gulf Shrimp Fishery

Note: Aggregate means for all penaeid shrimp species combined. OY for each species is already established. Aggregate OY does not equal the sum of the individual species OYs.

Alternative 1. No Action. Do not establish an aggregate OY.

Alternative 2. For the Gulf-wide fishery, aggregate OY = ??? which is MSY reduced for certain biological, social, and economic factors.

IPT requests a technical working group to address the best methodology for calculating aggregate MSY and OY. The working group could also recommend a range of reasonable alternatives for this action.

Discussion: The OY is the amount of fish that will provide the greatest overall benefit to the nation with respect to food production and recreational opportunities and is prescribed on the basis of MSY as it may be reduced by any relevant social, economic, or ecological factor. The National Standard 1 guidelines for the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) state that cannot exceed, but may be equal to, MSY target levels. The guidelines continue to note that the Councils should adopt a precautionary approach and set OY levels safely below limit reference points in order that they are “explicitly” risk averse. Although OY target levels may be occasionally exceeded, continual harvest above the OY target could result in a determination of overfishing.

Other Gulf FMPs have set OY in terms of a percentage of MSY or fishing mortality at MSY (F_{MSY}) (e.g. king mackerel OY is 85% F_{MSY}). The current definition of OY for the shrimp fishery is OY is equal to MSY. Aggregate OY would be achieved by determining what the appropriate value would be for all stocks, not individual species. In order to determine aggregate OY, an aggregate MSY would need to be produced. Action 1 would determine the aggregate MSY for the shrimp fishery based on the SEWG methodology. However, based on the definition of OY in the national standards and the status of the shrimp fishery, an aggregate OY equal to the aggregate MSY may not be appropriate, and a working group should be convened to evaluate alternatives for setting an aggregate OY. Similarly, setting aggregate OY as some percentage below aggregate MSY would need scientific rationale. Setting OY in terms of a percentage of F_{MSY} would require that each time F_{MSY} is re-evaluated, so too, would OY.

Until both Action 1 and Action 2 are reviewed by a scientific panel, the value of the alternatives will remain unknown.

Action 3. Minimum Threshold Number of Gulf Shrimp Vessel Permits

NOTE: This action does not actively remove any Gulf shrimp permits. The minimum threshold is only for purposes of monitoring changes in fishery participation and determining if additional management measures should be established.

Alternative 1. No Action. Do not set a threshold number of Gulf shrimp vessel permits.

Alternative 2. Set a threshold number of Gulf shrimp vessel permits based on the expected number of active permitted vessels (those with landings from offshore waters) needed to attain aggregate OY in the offshore fishery (number of permits depends on the preferred alternative for Action 2).

Alternative 3. Set a threshold number of Gulf shrimp vessel permits based on the expected number of active permitted vessels (those with landings from offshore waters) during 2009, which is the threshold level of effort for the incidental take statement for sea turtles in the 2014 biological opinion (1,074 permits).

Alternative 4. Set a threshold number of Gulf shrimp vessel permits based on the expected number of active permitted vessels (those with landings from offshore waters) during 2011 when effort was highest during the moratorium in the area monitored for red snapper juvenile mortality but without reaching the bycatch reduction threshold and triggering closures (938 permits).

Alternative 5. Set a threshold number of Gulf shrimp vessel permits based on the expected number of active permitted vessels (those with landings from offshore waters) during 2008 when catch per unit effort (CPUE) in the offshore fishery was highest during the moratorium (882 permits).

Alternative 6. Set a threshold number of Gulf shrimp vessel permits based on the expected number of active permitted vessels (those with landings from offshore waters) in a year with relatively high CPUE in the offshore fishery during the moratorium without substantially reduced landings.

Option a. 2007 (1,133 permits)

Option b. 2012 (990 permits)

Option c. 2013 (909 permits)

Alternative 7. Set a threshold number of Gulf shrimp vessel permits based on the number of valid permits at:

Option a. the beginning of the moratorium (1,933 permits)

Option b. the end of 2009 (1,722 permits)

Option c. the end of 2011 (1,582 permits)

Option d. the end of 2013 (1,501 permits)

Option e. the end of 2014 (1,470 permits)

Option f. the end of the initial moratorium, October 26, 2016 (number of permits unknown)

*Note: For **Alternative 7**, the number of permits has already decreased below the threshold, expect **Option f**.*

Discussion: A passive decrease in the number of permits is an expected part of a moratorium or limited access permit. Permits are terminated if the holder does not renew the permit within one year of the expiration date. The federal Gulf commercial shrimp permit moratorium was based on the likelihood that, at some point in time, the number of vessels in the offshore shrimp fleet would decline to a point where the fishery again became profitable for the remaining participants. In Amendment 13, the Council determined that there was a need to prevent new effort from entering the fishery and thus negating, or at least lessening, profitability. Various members of the Council, the Council's Shrimp Advisory Panel (Shrimp AP), and the public have suggested the fishery has reached that point, and the decline in permits should end. Others have suggested the time is past or is in the near future. In any case, the Council may decide to set a minimum threshold for the number of permits in the Gulf shrimp fishery. If so, when the threshold is reached, the Council would need to determine if the termination of permits should be stopped.

Alternative 1 would not set a minimum threshold number of permits and permits that were not renewed within one year of the expiration date would continue to be terminated. This is the practice for all other limited access permits issued by SERO. The number of Gulf shrimp permits would be expected to continue to decrease over time, although the rate of decrease would be expected to slow as fewer inactive permits remain. The Shrimp AP was concerned that the fleet would also continue to shrink because of vessel age and the high cost of replacement. These factors could cause the rate of attrition to increase in the future.

Alternatives 2-6 would set the minimum threshold number of permits based on a level of effort and number of active vessels that leads to a particular management goal: achieving OY, remaining below the effort threshold for turtle takes, remaining below the target effort level for juvenile red snapper bycatch, maintaining the highest CPUE, or balancing high CPUE and landings, respectively. An analysis of the relationship between active federally permitted vessels and offshore effort found a strong relationship (Appendix X). A vessel is considered to be active in a particular year if it had shrimp landings from Gulf offshore¹ waters according to the most current available Gulf Shrimp System (GSS) data. For example, if a vessel only had landings from inshore waters or another region (e.g., South Atlantic), it was not considered active in this analysis.

Because the number of federally permitted vessels is related to offshore effort, the Council can indirectly control or at least limit offshore effort by controlling the number of vessels with federal permits. By looking for the desired level of effort in past years, we can find the number of active vessels in the year that matches that effort threshold. However, the number of active vessels in any year is dependent on many factors, including abundance of shrimp. A model was used to predict the number of active vessels needed to attain levels of effort observed in each year under average shrimp abundance (Appendix X, Table 2.3.1).

¹ Gulf offshore waters includes some state waters, as well as federal waters. Though most of these vessels had federal permits, a federal permit is not required to harvest shrimp in state offshore waters. Thus, the number of active vessels in the offshore fishery will generally exceed the number of permitted or active permitted vessels.

Table 2.3.1. Observed landings and CPUE for the offshore component of the Gulf shrimp fishery, landings and CPUE predicted with the same effort under average shrimp abundance conditions, and the number of vessels that would be expected to produce those landings under average shrimp abundance. Effort is in days (24 hours) fished and landings are in pounds of tails. See the text and Appendix X for details on how effort and predicted numbers were calculated.

Year	Effort	Observed Landings	Observed CPUE	Predicted Landings under Average Abundance	Predicted CPUE under Average Abundance	Predicted Active Permitted Vessels under Average Abundance
2003	168,135	94,372,801	561	106,975,942	640	2,361
2004	146,624	89,637,517	611	109,753,463	751	2,059
2005	102,840	81,611,212	794	100,483,450	979	1,444
2006	92,372	115,991,846	1,256	95,303,048	1,034	1,297
2007	80,733	81,228,888	1,006	88,199,291	1,094	1,133
2008	62,797	70,084,487	1,116	74,484,336	1,187	882
2009	76,508	100,070,591	1,308	85,271,120	1,116	1,074
2010	60,518	66,782,194	1,104	72,501,053	1,199	850
2011	66,777	85,357,173	1,278	77,817,764	1,167	938
2012	70,505	84,071,805	1,192	80,789,736	1,147	990
2013	64,764	75,992,480	1,173	76,152,288	1,177	909

Source: Landings are based on GSS data, J. Primrose, SEFSC Galveston, 7/10/15; effort and CPUE estimates, R. Hart, SEFSC Galveston, 7/15/15; predicted values, M. Travis, NMFS SERO, 7/17/15.

Note: A small percentage of the offshore landings in each year cannot be ascribed to a particular vessel because of missing or invalid vessel identifiers in the GSS data; this percentage has declined from 3% in 2003 to 0.6% in 2013. Because of missing or invalid vessel identifiers, the estimates of active vessels in Table 2.3.1 may be slightly underestimated.

Based on management objectives, the Council could set a minimum threshold based on effort desired and/or a threshold that assumes all permitted vessels are active (i.e., the threshold would not allow for latent permits). If the Council determines the threshold number of permits should allow for vessels that are not active in the offshore fishery each year (i.e., vessels that only participate in fishery in certain years), then it may want to consider adding a buffer to the provided estimates; a buffer is not currently included in each alternative.

Alternative 2 bases the minimum threshold number of permits on the predicted number of active permitted vessels that could harvest the aggregate OY in the offshore component of the shrimp fishery under average shrimp abundance. National Standard 1 of the Magnuson-Stevens Act says that management measures shall prevent overfishing while achieving, on a continuing basis, the OY from each fishery. Because federal permits only apply to fishing in federal waters, the effort needed to harvest the aggregate OY for the offshore component is the best metric to base the minimum threshold number of permits on if the Council and NMFS wish to manage for OY.

The threshold number of permits set by this alternative depends on the aggregate OY chosen in Action 2.

Alternative 3 bases the minimum threshold number of permits on the predicted number of active permitted vessels during 2009, which is the threshold level of effort used to develop the sea turtle incidental take statement in the 2014 biological opinion (bi op). The bi op represents NMFS's opinion on the effects of the continued authorization of Southeast U.S. shrimp fisheries in federal waters on threatened and endangered species and designated critical habitat, in accordance with Section 7 of the Endangered Species Act (ESA). The expectation in the bi op was that future total effort levels in the southeastern shrimp fisheries would remain at or below 2009 effort levels. Although the bi op allows for some annual fluctuation, any substantial increase in effort above the 2009 level would require re-initiation of consultation on the effect of the shrimp fishery on ESA-listed species; and if captures of protected species increase, additional requirements for bycatch reduction could be imposed. By setting the minimum threshold number of permits at the number of active vessels in 2009, the Council could indirectly control offshore effort and prevent greatly exceeding the effort levels used in the bi op.

Alternative 4 bases the minimum threshold number of permits on the predicted number of active permitted vessels during 2011, when effort was highest during the moratorium in the area monitored for red snapper juvenile mortality but did not reach the current bycatch reduction target of 67%. **Alternative 4** accounts for the target effort level in specific areas of the western Gulf (statistical zones 10-21, 10-30 fathoms) to protect juvenile red snapper. This target was set in Amendment 14 (GMFMC 2007) as 74% less than the effort in the benchmark years of 2001-2003. That target was reduced in 2012 to 67% less than the benchmark years because the red snapper rebuilding plan was proceeding as planned. If effort in the area increases above this target, selected areas of federal waters must be closed to shrimp fishing. In 2011, the effort level for the area was exceeded the original target effort level; however, it was just below the new target effort level, which was in the process of being implemented (Figure 2.3.1). Therefore, the predicted number of active permitted vessels in that year could be considered a reasonable minimum threshold for the number of permits in the shrimp fishery.

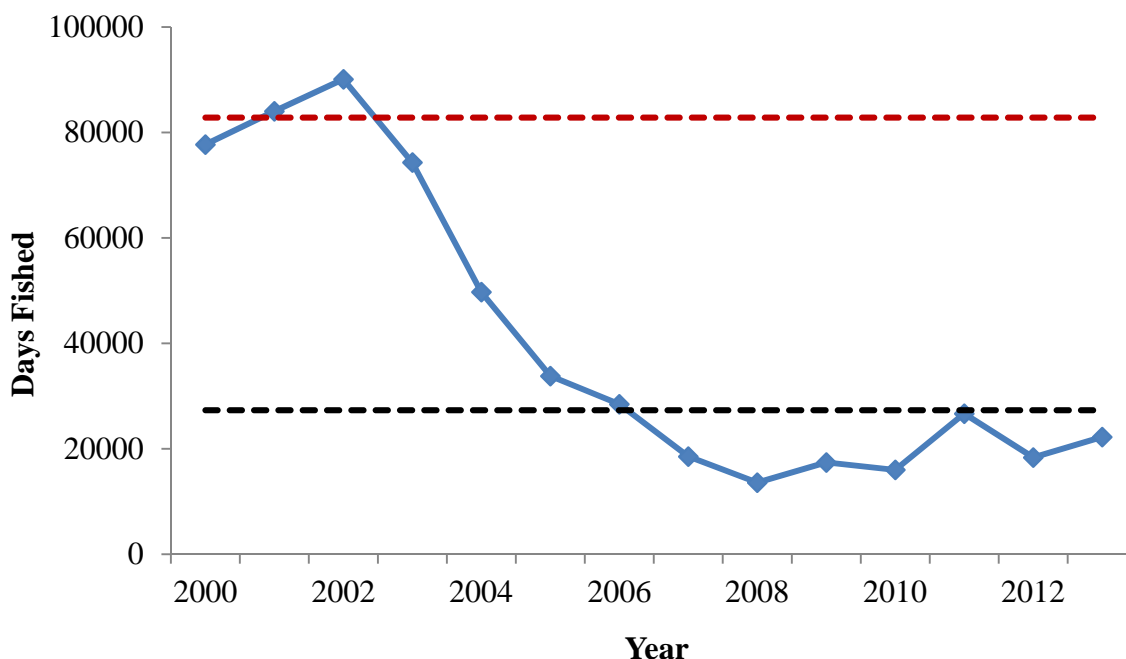


Figure 2.3.1. Offshore Gulf shrimp effort in statistical zones 10-21, 10-30 fathoms relative to target effort levels to reduce red snapper juvenile mortality. The upper (red) line shows the baseline 2001-2003 effort levels; the lower (black) line shows the target effort level of 67% of the baseline.

Source: SEFSC, Galveston.

Alternatives 5 and 6 would base the minimum threshold on a level of effort that balances high CPUE and high landings (Table 2.3.1); however, effort and landings are affected by many factors, including varying abundance of shrimp. For example, although observed landings were highest in 2006, this was due to higher shrimp abundance that year than the long-term average abundance. The level of effort in 2006 would not be expected to generate that same level of landings under average levels of abundance. Thus, observed levels should not be used to predict landings under average abundance conditions in the future. The same caution applies to using observed levels of CPUE. Although observed CPUE was highest in 2009, this result was similarly driven by above average abundance. It is not prudent to expect or rely on above average abundance conditions in the future. Instead, models for landings and CPUE can be used to generate values that would be expected under average shrimp abundance (see Appendix X) and thus are more reliable with respect to determining what to expect in the future (Table 2.3.1).

The minimum threshold in **Alternative 5** is based on the predicted number of active vessels when CPUE was highest during the moratorium. Predicted CPUE was highest in 2010, but this finding must be viewed with caution given the effects of the Deepwater Horizon MC252 oil spill on fishing behavior in 2010. It would be safer to conclude that CPUE was at its maximum in 2008. Economic conditions have led to substantial consolidation in this industry creating significant efficiency gains for the remaining participants. Although based on limited data (2006-2013), a linear regression model determined that annual net revenue per vessel was

primarily driven by CPUE; ex-vessel shrimp price was slightly less important and fuel price was even less important relative to CPUE (Appendix X). The consolidation and the resulting efficiency gains for fishermen would be locked in by maintaining the number of vessels that could harvest at a high CPUE. This was the objective of the moratorium stated in Amendment 13 (GMFMC 2005).

Observed CPUE was highest when effort was lowest (Figure 2.3.2). The highest predicted CPUE under average shrimp abundance was in 2010; however, 2010 should be omitted because of the Deepwater Horizon MC 252 oil spill. If 2010 is omitted, predicted CPUE was at its maximum in 2008. If the Council intends simply to maximize CPUE, the predicted number of active permitted vessels needed to attain effort observed in 2008 should be used to set the minimum threshold number of permits.

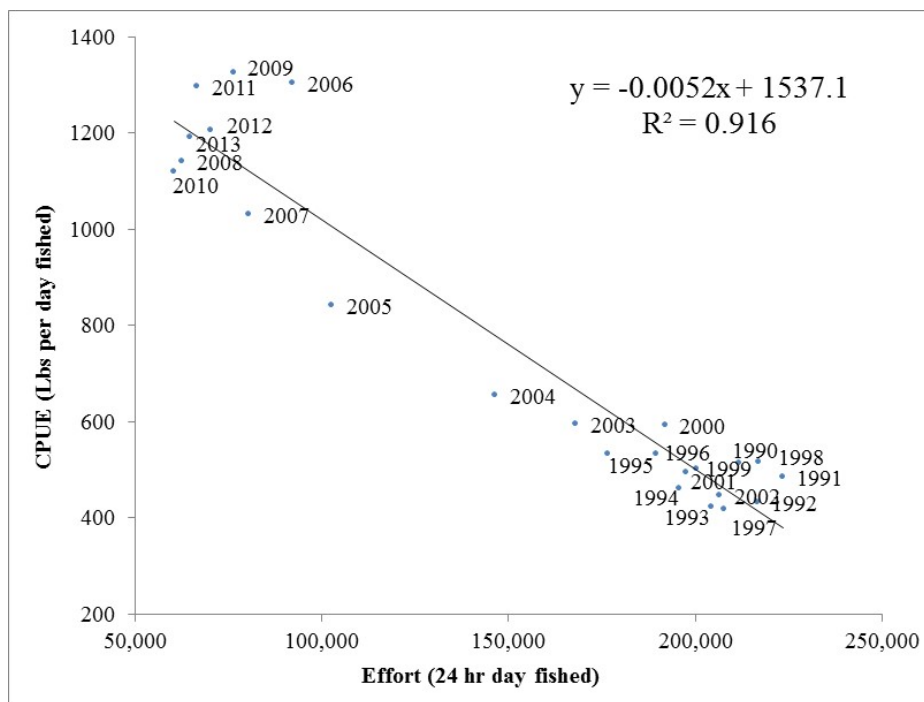


Figure 2.3.2. Relationship between CPUE and effort in the offshore component of the Gulf shrimp fishery, 1990-2013.

Source: SEFSC, Galveston

Reductions in observed effort and fleet size after 2007 have not caused substantial improvements in CPUE, but they have caused noticeable reductions in landings (Figure 2.1.1). **Alternative 6** is an attempt to balance the number of permits needed to maintain high CPUE values without allowing total landings to substantially decrease. Average predicted landings during the moratorium (79.32 mp) were 22% less than average predicted landings in 2004-2006 (101.80 mp). Any year during the moratorium could be chosen to represent a balance between CPUE and landings; the years included in the options were requested by the Council at the August 2015 meeting.

Alternative 7, Options a-f base the minimum threshold number of permits on the valid number of permits at a certain period of time (Table 1.1.1). Choosing one of the options in **Alternative 7** would include inactive permits in the minimum threshold. In other words, the minimum threshold would be higher than the number of vessels needed to achieve the effort in each year. Because some permits are inactive each year due to vessel repairs, health issues, etc., a threshold somewhat higher than the absolute number of vessels needed to maintain effort could be useful. However, maintaining a high number of inactive permits could allow a dramatic increase in effort that would reduce CPUE and economic efficiency for each vessel. The options include years of the moratorium with high CPUEs and landings, except 2010.

Option a presumes the number of permits at the beginning of the moratorium (1,933 permits) was, in fact, the appropriate number of permits to maintain in the shrimp fishery, and the decrease in permits since then has been undesirable. However, only 1,539 vessels with moratorium permits had landings from Gulf offshore waters in any year from 2007 to 2013. Thus, many of the lost permits may have been inactive permits. The highest number of terminated permits was in 2009, which was two years after initial issuance of the moratorium permits and is when those initial permits would have terminated if they were never renewed. This suggests those vessels were not actively fishing in offshore or federal waters.

Options b-e presume the number of permits at the end of one of the years during the moratorium, as selected by the Council, was the appropriate number of permits to maintain in the shrimp fishery. **Option b** (2009) represents an 11% decrease from the number of permits at the beginning of the moratorium, **Option c** (2011) represents an 18% decrease, **Option d** (2013) represents a 22% decrease, and **Option e** (2014) represents a 24% decrease. As mentioned above, these numbers include both active and inactive permits. During the time of the moratorium, the percentage of inactive permits in any one year has decreased (Table 2.3.2), probably because inactive permits were not renewed after expiration and were terminated.

Table 2.3.2. Number of federally permitted active and inactive vessels in the offshore component of the Gulf shrimp fishery. Vessels are those that had a permit at any time during the year; because permits are transferable and thus more than one vessel can possess the same valid permit in a given year, the number of vessels with a valid permit in a year will be greater than the number of valid permits in that year, as demonstrated by the differences in permit and vessel counts in Table 1.1.1 and Table 2.3.1. The active vessels are those that were active at any point in the year.

Year	Total Vessels	Active Vessels	Inactive Vessels	Percent Inactive
2007	2,514	1,283	1,231	64%
2008	1,930	1,059	871	45%
2009	1,764	1,075	689	39%
2010	1,685	951	734	44%
2011	1,641	1,013	628	38%
2012	1,587	1,014	573	36%
2013	1,544	970	574	37%

Source: M. Travis, NMFS SERO, 7/17/15

Option f presumes the number of permits at the end of the moratorium will be the appropriate number of permits to maintain in the shrimp fishery. This represents an unknown decrease from the number of permits at the beginning of the moratorium. In the last two years, the number of permits lost has leveled at around 32 permits per year. If we assume a similar loss in 2015 and 2016, the number of permits at the end of 2016 would be around 1,406, a decrease of 27% from the beginning of the moratorium.

Summary of Potential Impacts

Alternatives 2-6 would continue to allow a passive reduction in the number of permits over time. Fewer permits could result in a lower number of vessels actively fishing, decreasing bycatch and impacts on the environment. If fewer vessels could maintain the same level of total landings, each remaining vessel would have more landings and greater benefit. However, vessels cannot continue to increase CPUE indefinitely, and landings have been declining as effort has decreased in recent years. If the number of vessels is severely limited, shrimp harvest may not be able to support the shore-side infrastructure needed by the industry.

Alternative 7 would set the threshold number of Gulf shrimp permits above where they are expected to be when the measures in this amendment are implemented. Increasing the number of permits could allow an increase in effort in the future; increased effort increases the risk of exceeding the target bycatch mortality of juvenile red snapper and protected species in shrimp trawls. If effort levels increase, more restrictive management measures could be required. Finally, only 1,539 vessels with moratorium permits had landings from Gulf offshore waters in any year between 2007 and 2013, indicating any permits beyond that number have not been used for shrimping during this time. Thus, although some buffer may be desired because some permits are temporarily inactive each year, any threshold higher than 1,539 permits (**Alternative 7, Options a-c**) would include permits that have never been active.

The expected effects of these alternatives are dependent on changes in fishing effort, which may or may not change based on the number of permits. Inactive permits during the moratorium years have provided an opportunity for increased effort, either by the owners of those vessels starting to fish or by transferring permits to new entrants that intend to fish. Yet effort has not increased because of economic and social factors (e.g., shrimp prices, fuel prices, vessel and owner age). Reasons to maintain a permit that is not being used to harvest shrimp include waiting for fishing to be more economical, accounting for bycatch of shrimp when trawling for other purposes, or speculating that the value of the permit will increase in the future.

Action 4. Response When Threshold Number of Permits is Reached

Alternative 1. No action. No action will be triggered when the threshold number of permits is reached.

Alternative 2. If the number of permits reaches the threshold set in Action 3, any permits that are not or were not renewed within one year of the expiration date on the permit will go into a Gulf Shrimp Vessel Permit Reserve Pool.

Alternative 3. If the number of permits reaches the threshold set in Action 3, the Council will form a review panel to review the threshold and determine if action is needed.

Discussion: Action 3 would set a threshold number of permits that represents the smallest number of permits the Council currently believes can support the Gulf shrimp fishery. Because the permit reduction is passive (permits are only lost due to non-renewal by the permit holder), the threshold could be reached relatively quickly, after many years, or not at all. If the threshold is reached, the Council may want to respond with new management measures or re-evaluate the threshold.

No specific action would be triggered with **Alternative 1**. The Council could still choose to take an action relative to Gulf shrimp permits when the threshold is reached, but what type of action would be determined at that time. The Council could also choose to take action related to permits before the threshold is reached.

Alternative 2 would create a Gulf Shrimp Vessel Permit Reserve Pool (Reserve Pool). If the number of permits reaches the threshold set in Action 3, permits that normally would be terminated, revoked, or surrendered would instead be transformed into Reserved Gulf Shrimp Vessel Permits that could be re-issued. The NMFS Pacific Islands Regional Office maintains a similar pool for the American Samoa longline limited access permits, wherein if a permit is relinquished, revoked, or not renewed, the Regional Administrator makes that permit available for re-issuance. Action 5 addresses the issuance of Gulf shrimp permits from the Reserve Pool, if created.

When the Reserve Pool would be created depends on the threshold set in Action 3. In Action 3, Alternatives 2-6 would set a threshold number of permits below the current number of permits, which would delay the creation of the Reserve Pool until the threshold is reached. If Alternative 7 is chosen in Action 3, the threshold number of permits would be above the number expected to be valid or renewable when measures in this amendment would be implemented and would require NMFS to create new permits for the Reserve Pool. Any permit in the Reserve Pool would not have a landings history associated with it, regardless of whether it was newly created or transformed from a regular permit; in other words, permits in the Reserve Pool would act as new permits without associated catch history.

With **Alternative 3**, if the threshold is reached, NMFS would notify the Council and then the Council would form and convene a review panel. The panel would consist of SSC members, Shrimp AP members, and NMFS and Council staff. The panel would determine if action was

needed in response to permits reaching the threshold; that action could be to create a reserve permit pool, to reset the threshold, or establish any other management measure. Because the threshold might not be reached for many years, economic conditions, the health of the stocks, and other factors may have changed, and the threshold number of permits set in this amendment may no longer be appropriate for the fishery. Thus, **Alternative 3** allows the Council flexibility to tailor future management measures to the actual situation at that time, rather than analysis based on the current situation. If Alternative 7, Option a-e, is chosen in Action 3, **Alternative 3** in Action 4 would not be valid, as the target number of permits in those alternatives has already passed. In other words, the trigger for Council review would be immediate; because this amendment actually is a Council review, the decision made here would fulfill the terms in **Alternative 3** and no additional action beyond this amendment would be warranted.

Action 5. Issuance of Reserved Gulf Shrimp Vessel Permits

NOTE: This action only considers eligibility requirements for Reserved Gulf Shrimp Vessel Permits, if established in Action 4. It does not affect federal Gulf shrimp moratorium permits.

Alternative 1. No action. Individuals must submit a completed application to NMFS to be issued a Reserved Gulf Shrimp Vessel Permit. Eligible applicants will receive a Gulf Shrimp Vessel Permit Reserve Pool permit if one is available.

Alternative 2. NMFS will maintain a waiting list for Reserved Gulf Shrimp Vessel Permits and notify individuals in the order in which they appear on the list when a Reserved Gulf Shrimp Vessel Permit becomes available. Once notified, the individual must submit a completed and up-to-date application to NMFS to be issued a Reserved Gulf Shrimp Vessel Permit. To be eligible for a Reserved Gulf Shrimp Vessel Permit the applicant must meet the requirements selected below. A Reserved Gulf Shrimp Vessel Permit may only be transferred to an individual who also meets the eligibility requirement.

Option a – no eligibility requirements

Option b - be a U.S. citizen or business

Option c - assign the permit to a vessel that is of at least **X** length on the application

Option d - assign the permit to a vessel with a United States Coast Guard (USCG) Certificate of Documentation on the application (five net ton minimum)

Alternative 3. The Reserved Gulf Shrimp Vessel Permits will be available from NMFS *once per year* and will be issued to eligible applicants in the order in which applications are received. Individuals must submit a completed application to NMFS to be issued a Reserved Gulf Shrimp Vessel Permit. To be eligible for a Reserved Gulf Shrimp Vessel Permit the applicant must meet the requirements selected below. A Reserved Gulf Shrimp Vessel Permit may only be transferred to an individual who also meets the eligibility requirement.

Option a – no eligibility requirements

Option b - be a U.S. citizen or business

Option c - assign the permit to a vessel that is of at least **X** length on the application

Option d - assign the permit to a vessel with a USCG Certificate of Documentation on the application (five net ton minimum)

Alternative 4. The Reserved Gulf Shrimp Vessel Permits will be available from NMFS *once per year*. If the number of applicants is greater than the number of Reserved Gulf Shrimp Vessel Permit, NMFS will conduct a lottery to determine which individuals may be issued the available permits. Individuals must submit a completed application to NMFS by the published deadline to be eligible for the lottery. To be eligible for a Reserved Gulf Shrimp Vessel Permit the applicant must meet the requirements selected below. A Reserved Gulf Shrimp Vessel Permit may only be transferred to an individual who also meets the eligibility requirement.

Option a – no eligibility requirements

Option b - be a U.S. citizen or business

Option c - assign the permit to a vessel that is of at least **X** length on the application

Option d - assign the permit to a vessel with a USCG Certificate of Documentation on the application (five net ton minimum)

Note: All current permit renewal/transferability and recordkeeping/reporting requirements would remain in place regardless of the alternative chosen. These requirements can be found in detail in 50 CFR 622.4 and 622.51.

Discussion: If a Reserve Pool for Gulf shrimp permits is created through Action 4, distribution of those permits must also be considered. Distribution could follow the regular permit application process with no additional restrictions with **Alternative 1**. A Reserved Gulf Shrimp Vessel Permit would be obtained by submitting a completed application and the appropriate application fee (currently \$25 for the first permit, \$10 for each additional permit on the application). If a Reserved Gulf Shrimp Vessel Permit is available, it would be assigned to the applicant. However, if a permit is not available, the application fee would be forfeited. To avoid submitting an application when no permits are available, the applicant would need to have some knowledge of permits that may have an upcoming termination date or of someone willing to surrender their permit. Reserved Gulf Shrimp Vessel Permits would be fully transferable.

With **Alternative 2**, NMFS would create a waiting list for Reserved Gulf Shrimp Vessel Permits, which would be posted on the SERO website. Each person wishing to be on the waiting list would submit his/her name and contact information and be responsible for updating the information if it changes; not doing so would result in forfeiting his/her place on the list. If a Reserved Gulf Shrimp Vessel Permit becomes available, the first individual on the list would be contacted. If that individual does not submit a complete application and fee within the specified time, or has inaccurate contact information, the next person on the list would be contacted. If any of **Options b-d** are selected, NMFS would only accept applications from individuals that meet the requirements. Reserved Gulf Shrimp Vessel Permits would only be transferrable to someone who meets the same eligibility requirements.

With **Alternative 3**, NMFS would hold all Reserved Gulf Shrimp Vessel Permits in the Reserve Pool until a specific date, when a notice would be published in the *Federal Register* announcing the availability of those permits. NMFS would also distribute a Southeast Fisheries Bulletin. After the announcement, the permits would be distributed to entities submitting a completed application and the appropriate fee on a first come, first served basis, until no permits were left in the Reserve Pool. No applications would be accepted before the announcement of availability. If any of **Options b-d** are selected, NMFS would only accept applications from individuals who met the eligibility requirements. Reserved Gulf Shrimp Vessel Permits would only be transferrable to someone who meets the same eligibility requirements.

Alternative 4 is similar to **Alternative 3** in that NMFS would hold all Reserved Gulf Shrimp Vessel Permits in the Reserve Pool until a specific date, when a notice would be published in the *Federal Register* announcing an application period for those permits. NMFS would also distribute a Southeast Fisheries Bulletin announcing the application period. Applications would be held until the end of the announced application period before being issued. If NMFS received more completed applications and fees than the number of available Reserved Gulf Shrimp Vessel Permits, a lottery would be conducted to determine which qualified applicants would receive a

permit. No applications would be accepted before or after the availability period. If any of **Options b-d** are selected NMFS would only accept applications from individuals who met the eligibility requirements. Reserved Gulf Shrimp Vessel Permits would only be transferrable to someone who meets the same eligibility requirements.

The Shrimp AP was concerned that if Reserved Gulf Shrimp Vessel Permits were available to anyone for \$25 from NMFS, some people might buy all available permits to control the cost of permits on the market. A permit must be attached to a vessel, but the vessel can be of any size, such as a canoe, if the vessel is state or USCG registered. To help ensure Reserved Gulf Shrimp Vessel Permits are only issued to entities intending to use them for shrimping, the Shrimp AP suggested eligibility requirements be established, such as a minimum vessel size (**Options c and d**). Establishing this type of restriction would set a new precedent for Gulf fisheries.

The Shrimp AP considered various minimum vessel lengths, but deferred making a recommendation because information about vessel lengths associated with current permits were not available when it met. Two methods of classifying vessels by length are presented in Table 2.5.1. Method 1 is based on a longstanding distinction between large and small vessels in historical economic analyses as a proxy between vessels used to harvest shrimp in offshore versus inshore waters. Method 2 separates vessels into four classes by 25-foot lengths to allow a finer distinction. **The Council should choose which method and size threshold to use for Option c.** A more detailed break out of active vessels by size can be found in **Appendix X**.

Table 2.5.1. Proportion of vessels with valid or renewable Gulf shrimp permits in each size class (as of January 6, 2015). Methods are explained in the text.

	Method 1			
Vessel Length	< 60 ft		≥ 60 ft	
Proportion of Vessels	24.3%		75.7%	
	Method 2			
Vessel Length	<25 ft	25 - <50 ft	50 - <75 ft	≥75 ft
Proportion of Vessels	2.8%	13.6%	42.8%	40.8%

Source: NMFS SERO permits database.

The Shrimp AP also discussed USCG regulations which require certification of five net tons or larger. Vessel documentation (**Option d**) is a national form of vessel registration issued by the USCG. Vessels of less than five net tons are excluded from such documentation. Thus, **Option d** would only allow applications for vessels of at least five net tons. However, certified vessels may not be actively engaged in commercial fishing or may be owned by foreign entities, so the Council could use this option in conjunction with another option. Currently, federally permitted vessels can be registered with either the USCG or a state, and owners of state-registered vessels are not required to submit the tonnage of their vessel; therefore, the number of current federally permitted vessels below five net tons cannot be determined.

Additional options the Council may consider:

Option e - have **X** lb shrimp landings associated with the vessel via a state permit or another federal permit (e.g. South Atlantic) – This option would restrict Reserved Gulf Shrimp Vessel Permits to vessels already harvesting shrimp elsewhere.

Option f – assign the permit to a vessel that has not been issued a Gulf shrimp permit during the last 5 years (unless the current owner purchased the vessel in a market or arms-length transaction during this time) – This option would prevent a current permit holder from moving their permit to a small vessel, then applying for a Reserved Gulf Shrimp Vessel Permits with the original vessel, circumventing **Option c** or **d**.

Action 6. Transit Provisions for Shrimp Vessels without a Federal Permit

Alternative 1. No Action. For a person aboard a vessel to fish for shrimp or possess shrimp in Gulf federal waters, a federal vessel permit for Gulf shrimp must have been issued to the vessel and must be on board.

Alternative 2. A vessel possessing shrimp may transit Gulf federal waters without a federal vessel permit if fishing gear is appropriately stowed. Transit means non-stop progression through the area; fishing gear appropriately stowed means doors and nets must be out of the water.

Alternative 3. A vessel possessing shrimp may transit Gulf federal waters without a federal vessel permit if fishing gear is appropriately stowed. Transit means non-stop progression through the area; fishing gear appropriately stowed means a trawl net may remain on deck, but trawl doors (if present) must be disconnected from the trawl gear and must be secured.

Discussion: At its August, 2015 Council meeting, it was brought to the Council's attention that there are some areas where state licensed shrimpers need to transit from state waters through federal waters in order to return to state waters and their port; however, because these state licensed shrimping vessels do not possess a federal permit, they cannot legally transit through federal waters. Because of this, the Council asked staff to investigate a provision for state-licensed shrimping vessels to transit through federal waters, as long as these vessels weren't actively fishing.

Alternative 1 would continue to prohibit transit through federal waters without a federal permit for vessels possessing shrimp. Vessels that are state-licensed must have a federal permit or travel extra distances to remain in state waters to return to port. Thus shrimpers must spend money to buy a federal permit even though they do not fish in federal waters or face increased time at sea and fuel costs due to a longer transit.

In this amendment, the alternatives have two different definitions of stowed gear. **Alternative 2** is based on a recent regulation decision for South Atlantic rock shrimp and would allow transit through federal waters of non-federally permitted vessels as long as shrimp nets are out of the water. The South Atlantic Fishery Management Council (South Atlantic Council) currently has transit provisions in its Shrimp FMP for vessels in possession of penaeid shrimp in closed areas. The regulations state that transit of the closed EEZ with less than 4 in stretch mesh aboard while in possession of penaeid species will be allowed provided that the nets are in an unfishable condition which is defined as stowed below deck (SAFMC 1993). Recently, the South Atlantic Council established a different transit provision in the Coral FMP for rock shrimp vessels in habitat areas of particular concern. These regulations define gear stowed as doors and nets out of water and either onboard the deck or below the deck of the vessel. However, at their September 2015 meeting, the South Atlantic Council reviewed concerns about bringing gear on board rock shrimp vessels while at sea for safety reasons. The transit for rock shrimp is a very short distance through a closed area and rock shrimp vessels have vessel monitoring systems (VMS), so the South Atlantic Council approved changing the wording of the regulation to the more

general “doors and nets out of water” as in **Alternative 2**. The South Atlantic Council expressly stated that this was an exception to the penaeid transit provisions applicable only for rock shrimp vessels under these circumstances.

Alternative 3 is based on the current Gulf regulations and requires more, with the trawl doors needing to be on deck and secured. Regulations for closed areas to protect Gulf reef fish allow a trawl net to remain on deck, but the trawl doors must be disconnected from the trawl gear and must be secured. This alternative is easier to enforce because if gear is secured, it is not fishable.

CHAPTER 3. REFERENCES

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