

FUTURE COUNCIL MEETING AGENDA AND WORKLOAD PLANNING

This agenda item will appear on the Council floor in two parts. The first time will be on the initial Council meeting day to gather input from the Council, advisory bodies, and the public for discussion and preliminary guidance. The second time will be near the end of the meeting (on Thursday or Friday) to allow for final input and Council guidance.

Specifically, this item is intended to refine planning on the following four matters:

1. The Council three-meeting outlook (September and November 2008, and March 2009).
2. The draft agenda for the September 2008 Council meeting in Boise, Idaho and preliminary agendas for the November and March meetings.
3. Council staff workload priorities through the time of the next Council meeting.
4. Identification of priorities for advisory body consideration at the next Council meeting.

On Sunday, the Executive Director will review the three-meeting outlook (Attachment 1), September 2008 through March 2009 preliminary proposed Council meeting agendas (Attachments 2 through 3 and Supplemental Attachment 4), any written public comments, and respond to any questions the Council may have regarding these initial planning documents. After hearing any reports and comments from advisory bodies or the public, the Council may provide guidance to staff to help prepare for Part II of the agenda item.

As scheduled on Thursday, with the inclusion of any input gathered during the Sunday session or other Council actions during the week, the Executive Director will review supplemental proposed drafts of the items listed above and discuss any other matters relevant to the Council meeting agendas and workload. After considering any reports and comments from advisory bodies and public, the Council will provide guidance for future agenda development. The Council also has the opportunity to identify priorities for advisory body consideration for the September 2008 Council meeting.

Council Tasks:

Sunday:

- 1. Receive information and provide initial guidance on potential agenda topics for the next three Council meetings in preparation for final guidance for this agenda item as scheduled for Thursday.**

Thursday:

- 1. Review supplemental information and provide further guidance on potential agenda topics for the next three Council meetings.**
- 2. Provide final guidance on a draft agenda for the September Council meeting.**
- 3. Provide guidance on Council staff workload.**
- 4. Identify priorities for advisory body considerations at the next Council meeting.**

Reference Materials:

Sunday:

1. Agenda Item C.1.a, Attachment 1: Draft Preliminary Three-Meeting Outlook for the Pacific Council.
2. Agenda Item C.1.a, Attachment 2: Draft Preliminary Proposed Council Meeting Agenda, September 7-12, 2008, Boise, Idaho.
3. Agenda Item C.1.a, Attachment 3: Draft Preliminary Proposed Council Meeting Agenda, November 2-7, 2008, San Diego, California.
4. Agenda Item C.1.a, Attachment 4: Excerpts from Council Meeting Minutes Regarding CPS Amendment 11 Review.
5. Agenda Item C.1.a, Supplemental Attachment 5: Draft Preliminary Proposed Council Meeting Agenda, March 8-13, 2009, Seattle, Washington.
6. Agenda Item C.1.b, CPSMT Report.
7. Agenda Item C.1.b, CPSAS Report.
8. Agenda Item C.1.c, Public Comment.

Thursday:

9. Agenda Item C.1.a, Supplemental Attachment 6: Preliminary Three-Meeting Outlook for the Pacific Council.
10. Agenda Item C.1.a, Supplemental Attachment 7: Preliminary Proposed Council Meeting Agenda, September 7-12, 2008, Boise, Idaho.
11. Agenda Item C.1.a, Supplemental Attachment 8: Council Workload Priorities, June 16 through September 12, 2008.

Agenda Order:

- a. Agenda Item Overview Don McIsaac
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. Council Discussion and Guidance of Future Council Meeting Agenda and Workload Planning

PFCM

05/27/08

HIGHLY MIGRATORY SPECIES ADVISORY SUBPANEL REPORT ON
FUTURE COUNCIL MEETING AGENDA AND WORKLOAD PLANNING

The National Marine Fisheries Service (NMFS) has been asked to delay consideration or deny the swordfish longline exempted fishing permit under California Assembly Joint Resolution (AJR) No. 62. AJR No. 62 (introduced by Assembly Member Leno and other co-authors) misstated facts specifically from NMFS reports.

The Highly Migratory Species Advisory Subpanel (HMSAS) recommends that NMFS educate Mr. Leno and his co-authors about the misstated facts for the record and asks the Council to consider any state legislation efforts be reviewed where appropriate.

Constant misstatements of fact in recent California legislative efforts continue to undermine the credibility and authority of the Council.

PFMC
06/07/08

Draft Preliminary Three-Meeting Outlook for the Pacific Council

(Contingent Items are Shaded and Counted in Time Estimate)

September Boise, ID (9/7-9/12/08) Estimated Hours of Council Floor Time = 35.3	November San Diego, CA (11/2-11/7/2008) Estimated Hours of Council Floor Time = 45.8	March Seattle, WA (3/8-3/13/2009) Estimated Hours of Council Floor Time = 33.0
<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Fiscal Matters Interim Appointments to Advisory Bodies MSA Reauthorization Implementation 3 Mtg Outlook, Drft Nov Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items Research & Data Needs: Adopt Final	<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Fiscal Matters Interim Appointments to Advisory Bodies MSA Reauthorization Implementation 3 Mtg Outlook, Drft Mar Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items	<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Interim Appt. to Advisory Bodies 4 Mtg Outlook, Apr Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items
<u>Coastal Pelagic Species</u>	<u>Coastal Pelagic Species</u> STAR Panel 2009 TOR: Adopt for Pub Rev Pac. Sardine: Approve Stk Assmnt & Mgmt Measures Amendment 11: Review Sardine Allocation	<u>Coastal Pelagic Species</u> STAR Panel 2009 TOR: Adopt Final Amendment 11: Review Sardine Allocation
<u>Ecosystem FMP</u>	<u>Ecosystem FMP</u>	<u>Ecosystem FMP</u>
<u>Enforcement Issues</u> State Activity Rpt	<u>Enforcement Issues</u>	<u>Enforcement Issues</u> US Coast Guard Annual Fishery Enforcement Report
<u>Groundfish</u> NMFS Report 2008 Inseason Management (2 Sessions) Open Access License Limitaton: Adopt Final \ EFH Review Process: Consider EFHRC Recommendations	<u>Groundfish</u> NMFS Report 2008 & 2009 Inseason Management (2 Sessions) A-20--Trawl Rationalization: Adopt Final for DEIS	<u>Groundfish</u> NMFS Report 2009 Inseason Mgmt (2 Sessions) A-20--Trawl Rationalization: Status Rpt
 [Nonagenda item: If Nec, SSC may review certain EFPs for 2009]	 EFPs for 2009: Adopt Final Recommendations	 Pac. Whiting: Coordinate Final 2009 Spx & Mgmt Measures, with Pac Whiting Treaty Actions?
<u>Habitat Issues</u> Habitat Committee Report	<u>Habitat Issues</u> Habitat Committee Report	<u>Habitat Issues</u> Habitat Committee Report

Draft Preliminary Three-Meeting Outlook for the Pacific Council
(Contingent Items are Shaded and Counted in Time Estimate)

September Boise, ID (9/7-9/12/08) Estimated Hours of Council Floor Time = 35.3	November San Diego, CA (11/2-11/7/2008) Estimated Hours of Council Floor Time = 45.8	March Seattle, WA (3/8-3/13/2009) Estimated Hours of Council Floor Time = 33.0
<u>Highly Migratory Species</u> NMFS Rpt Routine Mgmt Meas.: Adopt Proposed Changes for Analysis High Seas Shallow-set Longline Amendment: Adopt Final Preferred Alternative	<u>Highly Migratory Species</u> NMFS Rpt Routine Mgmt Meas.: Adopt Final Council Recommendations for WCPFW Mtg	<u>Highly Migratory Species</u> NMFS Rpt New EFPs for 2009: Adopt for Pub Rev
<u>Marine Protected Areas</u> MPA Issues	<u>Marine Protected Areas</u> MPA Issues	<u>Marine Protected Areas</u> MPA Issues
<u>Pacific Halibut</u> Changes to 2009 CSP & Regs: Adopt for Pub Rev Halibut Bycatch Est for IPHC: review Halibut Abundance Estimation for 2009	<u>Pacific Halibut</u> Changes to 2009 CSP & Regs: Adopt Final Halibut Abundance Estimation for 2009	<u>Pacific Halibut</u> Report on the IPHC Meeting Incidental Catch Regs for 2009: Adopt Options for Public Rev
<u>Salmon</u> 2008 Methodology Review: Select Final Rev Priorities Workgroup Rpt on Causes of 2008 Salmon Failure Mitchell Act EIS: Provide Council Comments	<u>Salmon</u> Preseason Salmon Mgmt Sched for 2008: Approve 2007 Methodology Review: Adopt Final Changes	<u>Salmon</u> 2009 Mgmt Measures: Adopt Options for Public Rev & Appt. Hearings Officers Identify Stocks not Meeting Conserv. Objectives
<u>Information Reports</u> Salmon Fishery Update Final SAFE Rpt (HMS)	<u>Information Reports</u> Salmon Fishery Update	<u>Information Reports</u>
<u>Special Sessions</u> None	<u>Special Sessions</u> Joint Session Mon Night--Trawl Rationalization	<u>Special Sessions</u>

DRAFT PRELIMINARY PROPOSED COUNCIL MEETING AGENDA, SEPTEMBER 7-12, 2008, BOISE, IDAHO

	Sun, Sept 7	Mon, Sept 8	Tue, Sept 9	Wed, Sept 10	Thu, Sept 11	Fri, Sept 12
Day-Time Council Floor Matters		<u>CLOSED SESSION 8 AM</u> <u>OPEN SESSION 9 AM</u> 1-4. Open & Approve Agenda (15 min) <u>ADMINISTRATIVE</u> 1. Future Agenda & Workload Planning (15 min) <u>PACIFIC HALIBUT</u> 1. Changes to 2009 CSP: Adopt for Pub Rev (45 min) 2. Halibut Bycatch Est. for IPHC: Review (45 min) 3. Halibut Abundance Estimation Method for 2009: Review Issues (1 hr) <u>SALMON</u> 1. 2008 Methodology Rev: Select Final Rev Priorities (45 min) 2. Workgroup Status Rpt on Causes of 2008 Salmon Failure (1 hr 30 min) 3. Mitchell Act EIS: Provide Comments (1 hr 45 min)	<u>ENFORCEMENT</u> 1. State Activity Report (1 hr) <u>HABITAT</u> 1. Current Issues (45 min) <u>HIGHLY MIGRATORY SPECIES</u> 1. NMFS Rpt (45 min) 2. Routine Mgmt Measures: Adopt Proposed Changes for Analysis (1 hr 30 min) 3. High Seas Shallow-set Longline Amendment: Final Action (3 hr) <u>OPEN PUBLIC COMMENT</u> Comments on Non-Agenda Items (45 min)	<u>GROUNDFISH</u> 1. NMFS Rpt (45 min) 2. Amendment 22- Open Access License Limitation: Final Action (4 hr) 3. Initial Inseason Adjustments (2 hr 15 min)	<u>ADMINISTRATIVE</u> 2. Implement MSRA (ACL's etc.) (3 hr) 3. Research & Data Needs: Adopt Final (1 hr 30 min) <u>GROUNDFISH</u> 4. GF EFH Process: Consider EFHRC Recommendations for the Review Process (2 hr) 5. Final Inseason Adjustments (2 hr)	<u>MARINE PROTECTED AREAS</u> 1. MPA Issues (2 hr) <u>ADMINISTRATIVE</u> 4. Leg Matters (30 min) 5. Minutes (15 min) 6. Fiscal Matters (30 min) 7. Appointments & COP (15 min) 1. Future Agenda & Workload Planning (continued) (30 min)
		8 hr	7 hr 45 min	7 hr	8 hr 30 min	4 hr
Committees	8:00 am GAP 8:00 am GMT 8:00 am SSC 1:00 pm LC 2:30 pm BC 4:00 pm ChB	8:00 am EC 8:00 am GAP 8:00 am GMT 8:00 am SSC 8:00 am HMSAS 8:00 am HMSMT 8:30 am HC	8:00 am EC 8:00 am GAP 8:00 am GMT 8:00 am HMSAS 8:00 am HMSMT	8:00 am EC 8:00 am GAP 8:00 am GMT	8:00 am EC 8:00 am GAP 8:00 am GMT	8:00 am GMT

Council-sponsored evening sessions: Monday Evening--6:00 pm Chairman's Reception
 Total Council Floor Time = 35.25 hr

5/28/2008 11:59 AM

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Agenda Item C.1.a
Attachment 2
June 2008

DRAFT PRELIMINARY PROPOSED COUNCIL MEETING AGENDA, NOVEMBER 2-7, 2008, SAN DIEGO, CALIFORNIA

	Sun, Nov 2	Mon, Nov 3	Tue, Nov 4	Wed, Nov 5	Thu, Nov 6	Fri, Nov 7
Day-Time Council Floor Matters	<p>CLOSED SESSION 3 PM</p> <p>OPEN SESSION 4 PM</p> <p>1-4. Open & Approve Agenda (15 min)</p> <p>ADMINISTRATIVE</p> <p>1. Future Agenda Pln (15 min)</p> <p>OPEN PUBLIC COMMENT</p> <p>Comments on Non-Agenda Items (45 min)</p>	<p>PACIFIC HALIBUT</p> <p>1. Changes to 2009 CSP: Adopt Final (45 min)</p> <p>2. Halibut Abundance Estimation Method for 2009: Review Issues (1 hr)</p> <p>SALMON</p> <p>1. 2009 Preseason Salmon Mgmt Sched.: Approve (30 min)</p> <p>2. 2008 Methodology Review: Adopt Final Changes for 2009 (1 hr 30 min)</p> <p>HIGHLY MIGRATORY SPECIES</p> <p>1. NMFS Rpt (45 min)</p> <p>2. Routine Mgmt Measures: Adopt Final (1 hr 30 min)</p> <p>3. WCPFC Actions: Provide Council Recommendations (1 hr)</p>	<p>HABITAT</p> <p>1. Current Issues (45 min)</p> <p>GROUNDFISH</p> <p>1. NMFS Rpt (45 min)</p> <p>2. EFPs for 2009: Adopt Final Recommendations (3 hr)</p> <p>ADMINISTRATIVE</p> <p>2. Implement MSRA (ACL's etc.) (4 hr)</p>	<p>COASTAL PELAGIC SPECIES</p> <p>1. STAR Panel 2008 TOR: Adopt for Public Review (1 hr)</p> <p>2. Pac. Sardine: Approve Stk Assmnt & Mgmt Measures (2 hr)</p> <p>3. Amend. 11: Review Sardine Allocation (2 hr)</p> <p>GROUNDFISH</p> <p>3. Initial Inseason Adjustments for 2008 & 2009 (2 hr)</p> <p>MARINE PROTECTED AREAS</p> <p>1. MPA Issues (2 hr)</p>	<p>GROUNDFISH</p> <p>4. Part I--Amendment 20: Trawl Rationalization: Adopt Final Preferred Alt for DEIS (6 hr)</p> <p>5. Final Inseason Adjustments (1 hr)</p> <p>ADMINISTRATIVE</p> <p>3. Leg Matters (30 min)</p> <p>4. Minutes (15 min)</p> <p>5. Fiscal Matters (30 min)</p> <p>6. Appointments & COP (15 min)</p> <p>7. Future Agenda and Workload Planning (30 min)</p>	
	2 hr 15 min	7 hr & 2 hr in evening	8 hr 30 min	9 hr	8 hr	9 hr
Committees	<p>1:00 pm GAP</p> <p>1:00 pm GMT</p> <p>1:00 pm SSC</p> <p>2:00 pm ChB</p> <p>5:00 pm TIQC</p> <p>?? LC</p> <p>?? BC</p> <p>?? HMSAS & MT</p>	<p>8:00 am CPSAS</p> <p>8:00 am CPSMT</p> <p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p> <p>8:00 am SSC</p> <p>9:00 am HC</p> <p>?? HMSAS & MT</p>	<p>8:00 am CPSAS</p> <p>8:00 am CPSMT</p> <p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p>	<p>8:00 am GAP</p> <p>8:00 am GMT</p>

Council-sponsored evening sessions: Monday Evening—7:00 pm Trawl Rationalization Briefing/Question & Answer Session

Tuesday Evening--6:00 pm Chairman's Reception

Total Council Floor Time = 45.75 hr

5/28/2008 12:00 PM

Initial Pacific Fishery Management Council (Council) Adoption of Pacific Sardine Allocation under Amendment 11 to the Coastal Pelagic Species Management Plan

June 16, 2005, (179th Council Meeting Voting Log)

Motion 15: Adopt the sardine allocation regime as described in Agenda Item F.2.c, Supplemental CPSAS Report, June 2005 for the West Coast sardine fishery excluding any Treaty Indian fishery promulgated and pursuant to *US v. Washington*,: January 1: 35% of harvest guideline to be allocated on a coastwide basis, July 1: 40% of the HG plus any rollover (unharvested quota) from the first period is made available on a coastwide basis, and on September 15: 25% of the harvest guideline plus any rollover (unharvested quota) from the second period is made available on a coastwide basis.

This sardine allocation regime will be subject to a formal performance review by the Council in June of 2008. This review will compare the performance of the fishery to the projections used to evaluate the adopted regime including but not limited to: catch projections, catch shortages by sector, economic benefit analysis, and the utilization of the harvest guideline. This review will also consider all scientific and biological information collected between now and the review to assess any changes to the resource.

Moved by: Phil Anderson

Seconded by: Marija Vojkovich

Motion 15 Passed. (All in Favor, None in Opposition, No Abstentions, No Recusals).

Council Guidance Regarding Rescheduling of the Review of Pacific sardine Allocation under Amendment 11.

November 9, 2007, (191st Council Meeting Minutes)

G.1 Pacific Sardine and Pacific Mackerel Management

Ms. Vojkovich requested that the Council schedule a review of the long-term allocation formula for the fall of 2008 so that the experience of the 2008 fishery can be included.

Preliminary Three-Meeting Outlook for the Pacific Council

(Contingent Items are Shaded and Counted in Time Estimate)

September Boise, ID (9/7-9/12/08) Estimated Hours of Council Floor Time = 36.0	November San Diego, CA (11/2-11/7/2008) Estimated Hours of Council Floor Time = 45.5	March Seattle, WA (3/8-3/13/2009) Estimated Hours of Council Floor Time = 39.0
<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Fiscal Matters Interim Appointments to Advisory Bodies MSA Reauthorization Implementation 3 Mtg Outlook, Drft Nov Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items Research & Data Needs: Adopt Final Council Review of Regs ("Deeming Process")	<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Fiscal Matters Interim Appointments to Advisory Bodies MSA Reauthorization Implementation 3 Mtg Outlook, Drft Mar Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items	<u>Administrative</u> Closed Session; Open Session Call to Order; Min. Legislative Committee Report Interim Appt. to Advisory Bodies MSA Reauthorization Implementation 4 Mtg Outlook, Apr Agenda, Workload (2 sessions) Public Comment on Non-Agenda Items
<u>Coastal Pelagic Species</u>	<u>Coastal Pelagic Species</u> STAR Panel 2009 TOR: Adopt for Pub Rev Pac. Sardine: Approve Stk Assmnt & Mgmt Measures Amendment 11: Review Sardine Allocation	<u>Coastal Pelagic Species</u> STAR Panel 2009 TOR: Adopt Final Amendment 11: Review Sardine Allocation
<u>Ecosystem FMP</u>	<u>Ecosystem FMP</u>	<u>Ecosystem FMP</u>
<u>Enforcement Issues</u> NMFS Enforcement Activity Report	<u>Enforcement Issues</u>	<u>Enforcement Issues</u> US Coast Guard Annual Fishery Enforcement Report
<u>Groundfish</u> NMFS Report 2008 Inseason Management (2 Sessions) Open Access License Limitaton: Adopt Final Planning for Stock Assmnts. & STAR Panel Mtgs EFH Review Process: Consider EFHRC Recommendations [Nonagenda item: If Nec, SSC may review certain EFPs for 2009]	<u>Groundfish</u> NMFS Report 2008 & 2009 Inseason Management (2 Sessions) A-20--Trawl Rationalization: Adopt Final for DEIS Stock Assessment Planning: 10th Stock Selection	<u>Groundfish</u> NMFS Report 2009 Inseason Mgmt (2 Sessions) A-20--Trawl Rationalization: Status Rpt Pac. Whiting: Coordinate Final 2009 Spx & Mgmt Measures, with Pac Whiting Treaty Actions?
<u>Habitat Issues</u> Habitat Committee Report (and re. WA Coast Chinook)	<u>Habitat Issues</u> Habitat Committee Report	<u>Habitat Issues</u> Habitat Committee Report

Agenda Item C.1.a
 Supplemental Attachment 6
 June 2008

Preliminary Three-Meeting Outlook for the Pacific Council
(Contingent Items are Shaded and Counted in Time Estimate)

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<u>Highly Migratory Species</u> NMFS Rpt Routine Mgmt Meas.: Adopt Proposed Changes for Analysis High Seas Shallow-set Longline Amendment: Adopt Final Preferred Alternative	<u>Highly Migratory Species</u> NMFS Rpt Routine Mgmt Meas.: Adopt Final Council Recommendations for WCPFW Mtg NMFS Rpt on Potential Albacore Mgmt Measures	<u>Highly Migratory Species</u> NMFS Rpt New EFPs for 2009: Adopt for Pub Rev
<u>Marine Protected Areas</u> MPA Issues	<u>Marine Protected Areas</u> MPA Issues	<u>Marine Protected Areas</u> MPA Issues
<u>Pacific Halibut</u> Changes to 2009 CSP & Regs: Adopt for Pub Rev Halibut Bycatch Est for IPHC: review Halibut Abundance Estimation for 2009	<u>Pacific Halibut</u> Changes to 2009 CSP & Regs: Adopt Final Halibut Abundance Estimation for 2009	<u>Pacific Halibut</u> Report on the IPHC Meeting Incidental Catch Regs for 2009: Adopt Options for Public Rev
<u>Salmon</u> 2008 Methodology Review: Select Final Rev Priorities Workgroup Status Rpt on Causes of 2008 Salmon Failure Mitchell Act EIS: Provide Council Comments Central Valley Recovery Pln: Rev & Comment	<u>Salmon</u> Preseason Salmon Mgmt Sched for 2008: Approve 2007 Methodology Review: Adopt Final Changes	<u>Salmon</u> Review of 2008 Fisheries & 2009 Abundance Estimates 2009 Mgmt Measures: Adopt Options for Public Rev & Appt. Hearings Officers Identify Stocks not Meeting Conserv. Objectives Workgroup Report on Causes of 2008 Salmon Failure
<u>Information Reports</u> Salmon Fishery Update Final SAFE Rpt (HMS)	<u>Information Reports</u> Salmon Fishery Update	<u>Information Reports</u>
<u>Special Sessions</u> None	<u>Special Sessions</u> Joint Session Mon Night - Trawl Rationalization	<u>Special Sessions</u>

PRELIMINARY PROPOSED COUNCIL MEETING AGENDA, SEPTEMBER 7-12, 2008, BOISE, IDAHO

	Sun, Sept 7	Mon, Sept 8	Tue, Sept 9	Wed, Sept 10	Thu, Sept 11	Fri, Sept 12
Day-Time Council Floor Matters		<p><u>CLOSED SESSION 8 AM</u></p> <p><u>OPEN SESSION 9 AM</u></p> <p>1-4. Open & Approve Agenda (15 min)</p> <p><u>OPEN PUBLIC COMMENT</u></p> <p>1. Comments on Non-Agenda Items (45 min)</p> <p><u>ADMINISTRATIVE</u></p> <p>1. Future Agenda & Workload Planning (15 min)</p> <p><u>PACIFIC HALIBUT</u></p> <p>1. Changes to 2009 CSP: Adopt for Pub Rev (45 min)</p> <p>2. Halibut Bycatch Est. for IPHC: Review (45 min)</p> <p>3. Halibut Abundance Est. Method for 2009: Review Issues (1 hr)</p> <p><u>SALMON</u></p> <p>1. 2008 Methodology Rev: Select Final Review Priorities (45 min)</p> <p>2. Workgroup Status Rpt on Causes of 2008 Salmon Failure (1 hr 30 min)</p> <p>3. Central Valley Recovery Pln: Review & Comment (1 hr)</p>	<p><u>ENFORCEMENT</u></p> <p>1. NMFS Enforcement Activity Rpt (1 hr)</p> <p><u>HABITAT</u></p> <p>1. Current Issues (including WA Coast Ch) (45 min)</p> <p><u>HIGHLY MIGRATORY SPECIES</u></p> <p>1. NMFS Rpt (45 min)</p> <p>2. Routine Mgmt Measures: Adopt Proposed Changes for Public Review (1 hr 30 min)</p> <p>3. High Seas Shallow-set Longline Amendment: Final Action (3 hr)</p> <p><u>ADMINISTRATIVE</u></p> <p>2. Process of Council Review of Regulations Prior to Implementation ("Deeming Process") (1 hr)</p>	<p><u>GROUND FISH</u></p> <p>1. NMFS Rpt (45 min)</p> <p>2. Amendment 22- Open Access License Limitation: Final Action (4 hr)</p> <p>3. Initial Inseason Adjustments (2 hr 15 min)</p> <p>4. Planning for Stock Assessments & STAR Panel Mtgs (1 hr)</p>	<p><u>ADMINISTRATIVE</u></p> <p>3. Implement MSRA (ACL's etc.) (5 hr)</p> <p>4. Research & Data Needs: Adopt Final (1 hr 30 min)</p> <p><u>GROUND FISH</u></p> <p>5. GF EFH Process: Consider EFHRC Recommendations for the Review Process (1 hr 30 min)</p>	<p><u>GROUND FISH</u></p> <p>6. Final Inseason Adjustments (2 hr)</p> <p><u>ADMINISTRATIVE</u></p> <p>5. Leg Matters (30 min)</p> <p>6. Minutes (15 min)</p> <p>7. Fiscal Matters (30 min)</p> <p>8. Appointments & COP (15 min)</p> <p>1. Future Agenda & Workload Planning (continued) (30 min)</p>
		8 hr	8 hr	8 hr	8 hr	4 hr
Committees	<p>8:00 am GMT</p> <p>8:00 am SSC</p> <p>10:00 am LC</p> <p>1:00 pm HMSAS</p> <p>1:00 pm HMSMT</p> <p>2:30 pm BC</p> <p>4:00 pm ChB</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p> <p>8:00 am SSC</p> <p>8:00 am HMSAS</p> <p>8:00 am HMSMT</p> <p>8:30 am HC</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p> <p>8:00 am HMSAS</p> <p>8:00 am HMSMT</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p>	<p>8:00 am EC</p> <p>8:00 am GAP</p> <p>8:00 am GMT</p>	<p>8:00 am GMT</p>

Council-sponsored evening sessions: Monday Evening--6:00 pm Chairman's Reception
Total Council Floor Time = 36.0 hr

Note: Deleted from prior draft (Attachment 2):

- Mitchell Act EIS: Provide Comments
- MPA Issues

6/13/2008 9:02 AM

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Agenda Item C.1.a
Supplemental Attachment 7
June 2008

COUNCIL WORK LOAD PRIORITIES JUNE 16, 2008 THROUGH SEPTEMBER 12, 2008

(**Bolded** tasks represent a core program responsibility; lead responsibility for shaded tasks is outside Council staff)

	Salmon	Groundfish	CPS	HMS	Other
ACTIVE	Inseason Mgmt	Inseason Mgmt 2009-2010 Biennial Mgmt EIS: Complete & Transmit Spx, Meas., RB Plan Revisions Trawl IQ Program (A-20): Analyze Alts, Including Preferred Alt. for Public Review in the Prelim DEIS Open Access Limitations (A-22)--Prepare Analyses & EA for Sept Council Action Stock Assessment Planning Convene EFH Rev Committee	Final SAFE 2008 Transmit Pacific Mackerel Mgmt Meas.	Final SAFE Adopt Routine Mgmt Measures for Public Review Amendment: Mgmt Regime for HS Longline Fishery WCPFC & IATTC involvement	Admin Necessities (Briefing Book, minutes, Newsletter, Website, E-Filing, Fiscal Matters, etc. MSA Reauthorization Implementation Pacific Halibut Mgmt Proposed Changes to CSP Abundance Estimation Rev Bycatch Review MPA coordination Res. & Data Doc Pub Rev Draft Mtgs: Halibut Workgroup--July 8 Leg. Com--Sept CM (tentative) HC--at Sept CM SSC--at Sept CM EC Mtg--at Sept CM BC--at Sept CM EFHRC--at Sept CM
	Mtgs: SAS--conf call Sept STT--mid-Aug (tentative) MEW--mid-July	Mtgs: GMT--Jun 23-27 & at Sept CM GAP--at Sept Council Mtg TIQC--None GAC--Jul 9-10 (Open Access)	Mtgs: CPSAS--conf call Aug CPSMT--conf call Aug	Mtgs: HMSAS--at Sept CM HMSMT--early Aug & at Sept CM	
CONTINGENT	Mitchell Act EIS Review Central Valley Recovery Plan Review Update FMP Historical Data Doc			International HMS Forum involvement	PacFIN/EFIN issues
DELAYED	Amendments: OCN Coho Matrix SOF Coho Allocation Cons. Objectives: Puget S. Chin. & Coho LCR Coho Sacramento River Chinook OR Coastal Chinook	Intersector Allocation EIS GF Strategic Plan Formal Review SSC Bycatch Workshop II	Harvest Control Rule Review International Mgmt	Planning for Joint WPFMC-PFMC Mtg	Ecosystem-Based Mgmt Communication Plan Economic Data Collection Program

NOAA Fisheries Scientific Forum: 2008 Collapse of the Sacramento Fall Chinook Stock and Decline of other West Coast Salmon Stocks

Objective and Approach

NOAA Fisheries will convene a scientific forum to consider potential causes of the recent collapse of the Sacramento River fall Chinook salmon stock, and what may be a broader depression of salmon productivity for stocks involved in West Coast fisheries from the Sacramento River north to Puget Sound.

The approach to investigate the sudden failure of the Sacramento River fall Chinook stock will be to examine potential factors that could have contributed to the low survival of the 2004 and 2005 brood years (see attachment 1), and attempt to identify possible causative factors.

The approach on questions of broader salmon productivity depression will be to address the issue from the perspective of carrying capacity/productivity degradation by suites of anthropogenic impacts or by climate change effects that have made salmon populations much less resilient and thus more susceptible to precipitous declines like the one occurring in the Sacramento. While ocean conditions may have been the proximate cause in recent years, current populations are vulnerable to precipitous decline from any number of factors. Thus restoring the productivity of various stocks, to the extent feasible, will require a comprehensive approach to address many potential issues.

Work Group

The NOAA Fisheries west coast science centers will lead a group of scientists from NOAA Fisheries, the US Fish and Wildlife Service, California Department of Fish and Game, CalFED, as well as selected academic scientists with specific knowledge of Central Valley salmon populations and the ocean ecology of salmon coast wide. In addition, scientists from Washington and Oregon Departments of Fish and Wildlife, Native American Tribal governments and the Pacific Fishery Management Council will be invited to participate as either members of the Work Group or as observers. The Work Group leads will be Drs. Churchill Grimes and John Stein from the SW and NW Fisheries Science Centers, respectively.

Work Group Tasks

- 1) Assess the possible causes for the low returns in 2007 and projected low returns in 2008 of the Sacramento River fall Chinook stock, including viewing the issue within the context of California Current Large Marine Ecosystem.
- 2) Assess if a regionally broader depression of productivity of salmon populations coast-wide has occurred and may persist.
- 3) Initiate development of improved predictors of ocean survival and recruitment.
- 4) Develop research and monitoring recommendations.
- 5) Produce an interim and final report to the PFMC and submit a paper for publication in a peer reviewed journal.

Process and Schedule

First Work Group Meeting (July, 2008, 2 – 3 days):

Internal organization meeting to confirm the approach, develop terms of reference for the Work Group for conducting the analysis and synthesis of available information and identification of information gaps, organize how the report will be developed (e.g., subgroups by topic), organize approach to collect existing data (e.g., web based), etc.

First Formal Work Group Meeting (July/August, 2008 in Sacramento, CA):

Conduct a public meeting in a similar manner to a NOAA Fisheries Biological Review Team meeting when data and input on the issue from interested individuals/agencies is sought. Knowledgeable parties will be invited and asked to bring data on subjects of interest to assessing the possible causes for the decline, such as water withdrawals (Bureau of Reclamation and California Department of Water Resources); hatchery operation, such as number of fish released onsite, numbers in net pens, etc. (US FWS/CDFG); special events such as the Benicia bridge construction (permit issuing agencies), etc.

Status Report to the Pacific Council at the September 7-12, 2008 meeting in Boise, Idaho.

The status report will review data and information from the first formal meeting of the Work Group and the approach to developing a final report.

A public comment meeting in California (January, 2009).

This meeting will provide an opportunity for public input and comment.

Draft Final Report presented formally at the March 7-12 2009 Pacific Council meeting in Seattle, Washington.

Submission to scientific journal, spring 2009.

-NOAA Fisheries
June 11, 2008

ATTACHMENT I - FOCUS AREAS OF RESEARCH RELATIVE TO THE STATUS OF THE 2004 AND 2005 BROODS OF THE SACRAMENTO RIVER FALL CHINOOK SALMON STOCK (NATURAL AND HATCHERY COMPONENTS)

The essence of this listing was originally submitted to the Council as a California Department of Fish and Game Report at the Council's March 2008 meeting (Agenda Item D.1.b., CDFG Report, March 2008). This listing has been characterized by PFMC staff as representing an initial start towards a comprehensive selection of areas to be investigated as potential causative factors of the record low abundance of the 2004 and 2005 broods.

Freshwater Focus: Potential Biological Areas

- 1) Was the level of parent spawners too low, for natural or hatchery populations?
- 2) Was the level of parent spawners too high, for natural or hatchery populations?
- 3) Was there a disease event in the hatchery or natural spawning areas?
- 4) Was there a disease event in the egg incubation, fry emergence, rearing, or downstream migration phases?
- 5) Was there any disease event during the return phase of the 2 year old age class (jacks)?
- 6) Were there above average mortalities at the time of trucking and release of hatchery fish?
- 7) Were there changes in the pattern of on-site release of hatchery fingerlings compared to trucked downstream release?
- 8) Were there changes in broodstock collection, spawning strategies, or incubation operations at hatcheries?
- 9) Did thermal marking occur for any hatchery releases? What were the effects of this or other studies (e.g. genetic stock identification of parental broodstock)?
- 10) Were there any changes in the methodology or operations of the estuarial net pen 'acclimation' program for trucked hatchery fish?
- 11) Were there any problems with fish food or chemicals used at hatcheries?

Freshwater Focus: Potential Habitat Areas

- 1) Were there drought or flood conditions during the spawning, incubation, or rearing phases?
- 2) Was there any pollution event where juveniles were present?
- 3) Was there anything unusual about the flow conditions below dams during the spawning, incubation, or juvenile rearing phases?
- 4) Were there any significant, unusual in-water construction events (bridge building, etc.) or miscellaneous human activities (e.g., waterfront industries, pollution) when these broods were present in freshwater or estuarine areas?
- 5) Was there anything unusual about the water withdrawals in the rivers or estuary areas when these broods were present?
- 6) Was there an oil spill in the estuary when fish from either brood year was present, as juveniles or jacks?
- 7) Were there any unusual temperatures or other limnological conditions when these broods were in freshwater or estuarine areas?
- 8) Was there any unusual population dynamics of typical food or prey species used by juvenile Chinook salmon in the relevant freshwater and estuarine areas?

- 9) Was there anything unusual about habitat factors during the return of the jacks from these broods?
- 10) Were there changes in the recovery of juvenile outmigrants observed in the USFWS mid-water trawl surveys, radio tagged fish monitoring programs, or other monitoring programs in freshwater or estuary areas?

Freshwater Focus: Species Interactions

- 1) Was there any unusual level of predation by bird species when these broods were in freshwater or estuarine areas?
- 2) Was there unusual sea lion abundance or behavior when these broods were in freshwater or estuarine areas?
- 3) Were there unusual striped bass population dynamics or behavior when these broods were in freshwater or estuarine areas?
- 4) Were northern pike present in any freshwater or estuarine areas where these broods were present?
- 5) Is there a relationship between declining Delta smelt, longfin smelt, and threadfin shad populations in the Delta and Sacramento River fall Chinook survival?
- 6) Was there increased hatchery steelhead production, and if so, additional inriver competition or predation?

Marine Focus: Biological Areas

- 1) Was there anything unusual about the ocean migration pattern of the 2004 and 2005 broods?
- 2) Was there anything unusual about the recovery of tagged fish groups from the 2004 and 2005 broods the ocean salmon fisheries?
- 3) Was there anything unusual about the bycatch in non-salmonid fisheries (e.g., whiting, groundfish)?

Marine Focus: Habitat Areas

- 1) Were there periods of reduced upwelling or other unusual oceanographic physical conditions during the period of smolt entry into the marine environment, or during the period of marine residence up to the return to freshwater of the jacks?
- 2) Were there any unusual effects to these fish from the 'dead zones' reported off Oregon and Washington in 2006 and 2007?
- 3) Were phytoplankton levels depressed off California, especially during the smolt entry periods for these broods?
- 4) Were there any oil spills or other pollution events during the period of ocean residence of these two broods?
- 5) Was there any aquaculture occurring in the ocean residence area of these two broods during 2005-2007?
- 6) Was there any offshore construction for wave energy or other purposes in the area of ocean residence?

Marine Focus: Species Interactions Areas

- 1) Was there any unusual population dynamics of typical prey species (zooplankton, krill, juvenile anchovy or sardines, etc.) used by juvenile Chinook salmon in marine areas?
- 2) Was there an increase in bird predation on juvenile salmonids caused by a reduction in the availability of other forage food?
- 3) Was there an increase of marine mammal predation on these broods?
- 4) Was there an increase in predation on these broods by Humboldt squid?
- 5) Was there increased predation on these broods by other finfish species (e.g., lingcod)?
- 6) Were there any unusual effects to these broods from an increase in krill fishing worldwide?

Cumulative Effects Focus

- 1) Were there other ecosystem effects that affected these broods in an unusual way?
- 2) Were there synergistic effects of significant factors that can explain the unprecedented low survival of these two broods?

PRELIMINARY PROPOSED COUNCIL MEETING AGENDA, NOVEMBER 1-7, 2008, SAN DIEGO, CALIFORNIA

Sat, Nov 1	Sun, Nov 2	Mon, Nov 3	Tue, Nov 4	Wed, Nov 5	Thu, Nov 6	Fri, Nov 7
<u>ADVISORY BODY MEETINGS ONLY</u>	<u>CLOSED COUNCIL SESSION--1 PM</u> <u>OPEN COUNCIL SESSION 2 PM</u> 1-4. Open & Approve Agenda (30 min) <u>ADMINISTRATIVE</u> 1. Future Agenda Pln (15 min) <u>OPEN PUBLIC COMMENT</u> 1. Comments on Non- Agenda Items (45 min) <u>PACIFIC HALIBUT</u> 1. Changes to 2009 CSP: Adopt Final (45 min) 2. Halibut Abundance Estimation Method for 2009: Review Issues (1 hr)	<u>SALMON</u> 1. 2009 Preseason Salmon Mgmt Schedule: Approve (30 min) 2. 2008 Methodology Review: Adopt Final Changes for 2009 (1 hr 30 min) <u>GROUNDFISH</u> 1. NMFS Rpt (45 min) 2. EFPs for 2009: Adopt Final Recommendations (3 hr) 3. Stock Assmnt. Pln.: 10 th stock selection (1 hr) <u>INFORMATIONAL SESSION</u> 1. Trawl Rationalization Briefing/Questions & Answers (2 hr)	<u>COASTAL PELAGIC SPECIES</u> 1. STAR Panel 2009 TOR: Adopt for Public Review (1 hr) 2. Pac. Sardine: Approve Stk Assmnt & Mgmt Measures (2 hr) 3. Amend. 11: Review Sardine Allocation (2 hr) <u>HABITAT</u> 1. Current Issues (1 hr) <u>ADMINISTRATIVE</u> 2. Implement MSRA (ACL's etc.) (4 hr)	<u>HIGHLY MIGRATORY SPECIES</u> 1. NMFS Rpt (45 min) 2. Routine Mgmt Measures: Adopt Final (1 hr) 3. WCPFC Actions: Provide Council Recommendations (45 min) 4. NMFS Rpt on Potential Mgmt Options for Albacore (1 hr 30 min) <u>MARINE PROTECTED AREAS</u> 1. MPA Issues (2 hr) <u>GROUNDFISH</u> 4. Initial Inseason Changes for 2008 & 2009 (2 hr) 5. Amendment 20--Trawl Rationalization: Adopt Final Preferred Alt for DEIS (2 hr)	<u>GROUNDFISH</u> 5. Continue Amendment 20--Trawl Rationaliza- tion: Adopt Final Preferred Alt for DEIS (8 hr) <u>ADMINISTRATIVE</u> 3. Leg Matters (30 min) 3. Minutes (15 min) 4. Fiscal Matters (30 min) 5. Appointments & COP (15 min) 6. Future Agenda and Workload Planning (30 min)	<u>GROUNDFISH</u> 5. Continue Amendment 20-- Trawl Rationalization: Adopt Final Preferred Alt for DEIS (6 hr) 6. Final Inseason Adjustments (1 hr) <u>ADMINISTRATIVE</u> 3. Leg Matters (30 min) 3. Minutes (15 min) 4. Fiscal Matters (30 min) 5. Appointments & COP (15 min) 6. Future Agenda and Workload Planning (30 min)
	4 hr 15 min	8 hr 45 min	8 hr	8 hr	8 hr	8 hr 30 min
8:00 am GMT 1:00 pm GAP 1:00 pm SSC 3:30 pm BC	8:00 pm GAP 8:00 pm GMT 8:00 am SSC 9:00 am LG 10:30 am ChB	8:00 am EC 8:00 am GAP 8:00 am GMT 8:30 am HC 8:00 am HMSMT 1:00 pm HMSAS	8:00 am EC 8:00 am GAP 8:00 am GMT 8:00 am HMSAS 8:00 am HMSMT	8:00 am EC 8:00 am GAP 8:00 am GMT	8:00 am EC 8:00 am GAP 8:00 am GMT	8:00 am EC 8:00 am GAP 8:00 am GMT

Council-sponsored evening sessions: ~~Monday Evening--7:00 pm Trawl Rationalization Briefing/Question & Answer Session~~
 Wednesday Evening--6:00 pm Chairman's Banquet

Total Council Floor Time = 45.5 hr

Agenda Item C.1.a
 Supplemental Attachment 10
 June 2008



Fishing Company of Alaska v. Gutierrez **(D.C. Cir. Dec. 18, 2007)**

- Challenge to BSAI groundfish retention standard**
- NMFS added monitoring and enforcement requirements**



District Court Upholds Regulations ***(under name Legacy Fishing Co. v. Gutierrez)***

Issue: Whether NMFS' addition of monitoring and enforcement requirements violate procedure for "submittal" of regulations implementing amendments"

District Court Held: Letter from ED submitting regs was sufficient



Court of Appeals Reverses

Issue: Whether NMFS' addition of monitoring and enforcement requirements violate procedure for "submittal" of regulations implementing amendments."

D.C. Circuit: No evidence Council "deemed" the additional requirements necessary or appropriate.



MSA Regulatory Authority

- **Section 303(c):**

“Proposed regulations which the Council *deems* necessary or appropriate for the purposes of –

(1) implementing a fishery management plan or plan amendment shall be *submitted* to the Secretary simultaneously with the plan or amendment under Section 304.”

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL STATEMENT ON
FUTURE COUNCIL MEETING AGENDA AND WORKLOAD PLANNING

The Coastal Pelagic Species Subpanel (CPSAS) received preliminary information from Dr. Sam Herrick regarding the formal review of Amendment 11 to the Coastal Pelagic Species Fishery Management Plan regarding the allocation of Pacific sardine that is currently scheduled for the Pacific Fishery Management Council's November 2008 meeting. It was noted that 2008 is the first year the allocation system will be tested under a scenario where low harvest guideline results in premature closure of the fishery. The first seasonal allocation of directed harvest guideline for the period of January 1 – June 30, 2008 has been attained as of May 15, 2008.

The CPSAS agreed with the Coastal Pelagic Species Management Team that a more appropriate time for a full review is after the end of the 2008 fishing season when complete information on all fishery sectors will be available, as well as updated biological information on the status of the resource. For those reasons, the CPSAS recommends that the Council postpone the formal review of Amendment 11 until its June 2009 meeting.

PFMC
05/19/08

COASTAL PELAGIC SPECIES MANAGEMENT TEAM STATEMENT ON
FUTURE COUNCIL MEETING AGENDA AND WORKLOAD PLANNING

The Coastal Pelagic Species Management Team recommends the Pacific Fishery Management Council (Council) postpone the scheduled review of Amendment 11 to the Coastal Pelagic Species Fishery Management Plan, *Allocation of the Pacific Sardine Harvest Guideline*, from the November 2008 Council meeting to the June 2009 Council meeting.

The reasons for the postponement are:

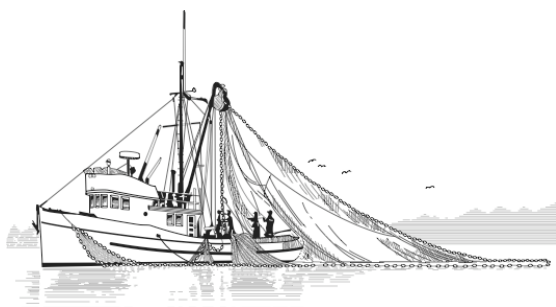
- This year represents the first year in which the directed Pacific sardine fishery has been closed under the Amendment 11 allocation formula. Harvest guidelines for the 2006 and 2007 fisheries were adequate to allow unrestricted landings on a coast wide basis throughout those two years. Although the lack of inseason fishery restrictions in 2006 and 2007 demonstrates successful attainment of some Amendment 11 objectives (i.e., equitable harvest opportunity with no geographic fishery closures), the analysis of Amendment 11 would benefit from inclusion of the results from the restricted 2008 fishery in its entirety.
- An ongoing economic survey of the Pacific sardine industry could result in additional economic data that would prove valuable in the analysis of Amendment 11. These data will not be compiled until later this year.

PFMC
05/19/08

HABITAT COMMITTEE REPORT ON
FUTURE COUNCIL MEETING AGENDA AND WORKLOAD PLANNING

The Habitat Committee is curious about the status of funding for ecosystem-based management (EBM). Recent news stories about acidification of the oceans due to carbon inputs, ocean conditions contributing to the decline of Sacramento River fall Chinook, and similar stories have highlighted the need to consider and indeed emphasize the role of the ecosystem function in fisheries management. As we have said in previous comments on this agenda item, we would like to see placeholders for EBM on the three-meeting outlook, and would like to see time on the November agenda for a status report on EBM. We also encourage the Council to continue to seek funding for EBM and explore whether the \$200,000 originally allotted by National Marine Fisheries Service (contingent on matching funds from National Ocean Service) could be available by itself or if it could be matched by another entity, such as a private foundation.

PFGC
06/09/08



CALIFORNIA WETFISH PRODUCERS ASSOCIATION

Representing California's Historic Fishery

VISIT WWW.CALIFORNIAWETFISH.ORG FOR INFORMATION

May 21, 2008

Mr. Don Hansen, Chair &
Dr. Don McIsaac, Executive Director
Pacific Fishery Management Council
7700 NE Ambassador Place #200
Portland OR 97220-1384

RE: Agenda Item C.1.c : Future Workload Planning

Dear Chairman Hansen, Dr. McIsaac and Council members,

The California Wetfish Producers Association (CWPA) represents the majority of sardine processors and active wetfish fishermen from both Monterey and southern California. We very much appreciate this opportunity to address the Council on issues of importance to this historic wetfish industry.

In our October 13, 2007 comments we recommended, in part:

[3] We request that the Council schedule a formal review of the current seasonal, coastwide 'long term' allocation formula in the fall of 2008, as indicated in the final rule for Amendment 11. The coming year should provide a serious reality-check (assuming fishing conditions are similar to 2007), testing the operation of this system in a year when a reduced harvest guideline constrains catches, most likely resulting in a derby fishery, a race for fish.

CWPA members maintain an active interest in this formal review; however, after engaging in discussion with members of the CPS management team and advisory subpanel, we concur with the statements of both advisory bodies, recommending that this review be postponed until after the industry has experienced a full year of operation and directed fishery closures under the reduced harvest guideline.

As noted in the CPSAS report, the directed fishery in California attained the first seasonal allocation of 26,550 mt on May 15, 2008. Directed sardine fishing did not occur in the Pacific Northwest in the first seasonal period, apparently due to the presence of cold water 9-10 degrees C. In California, fishing slowed down in early April until a huge body of sardines reappeared; the Monterey fleet harvested 90-120 gram fish, full of eggs, unusual for this time of year. Sardines are still plentiful in both Monterey and southern CA, but the directed sardine fishery can not resume until July 1; the fleet is looking for other CPS to harvest in the meantime.

The July 1 – September 15 release of 34,568 mt plus any incidental carried over from the first period will be harvested quickly, we believe, with all three areas fishing simultaneously. It is likely that directed fishery closures will occur in every seasonal release period this year.

For these reasons we support the recommendations of the CPSMT and CPSAS that a more appropriate time for a full review of the Amendment 11 allocation framework is the June 2009 meeting, when complete information on the 2008 performance of all fishery sectors will be available, as well as updated biological information on the status of the resource.

Thank you for your consideration of this request.

Sincerely,

A handwritten signature in black ink, reading "Diane Pleschner-Steele". The signature is written in a cursive, flowing style.

Diane Pleschner-Steele
Executive Director

MAGNUSON-STEVENSON ACT REAUTHORIZATION IMPLEMENTATION

The Pacific Fishery Management Council (Pacific Council), National Marine Fisheries Service (NMFS) and the other seven Regional Fishery Management Councils (RFMCs) have made progress implementing various new provisions in the Magnuson-Stevens Act (MSA) as amended by the *Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006* (MSRA). Work continues on implementation of a few key provisions. The Council has been anticipating proposed guidelines and/or regulations on several important MSRA provisions such as a new environmental review process for fishery management actions and guidance on establishing annual catch limits and accountability measures designed to prevent overfishing.

Regarding the first matter, on May 14, 2008, NMFS published a proposed rule in the Federal Register to revise and update the environmental review process pursuant to the National Environmental Policy Act (NEPA) for fishery management actions under the MSA (Agenda Item C.2.b, Attachment 1). The proposed rule offers specific provisions on several topics including:

- **Form of Documentation** - Environmental Assessments and Categorical Exclusions are proposed to be continued as currently used. Environmental Impact Statements would be replaced by Integrated Fishery and Environmental Management Statements (IFEMS) that aim to improve consideration of significant environmental impacts specific to fishery management actions under MSA while meeting the goals and policies of NEPA through a streamlined process. A new procedure is proposed for “framework” type fishery actions such as annual specifications. Under this proposal, a Framework Implementation Procedure is thoroughly analyzed and implemented within a Fishery Management Plan. Subsequent framework fishery management actions that fall within the scope of previous environmental reviews would require no further analyses so long as verification of supporting documentation and analyses is provided in a brief Memorandum of Framework Compliance.
- **Roles and Responsibilities** – The proposed rule recommends a shared role in completing environmental review documents between RFMCs and NMFS. This recommendation recognizes both the RFMC’s role of developing a reasonable range of alternatives and recommended actions while maintaining the authority and responsibility of NMFS ensuring alternatives and recommended actions comply with applicable laws including the MSA and NEPA.
- **Timelines and Process** – Public comment periods are proposed which more closely align with the RFMC process under the MSA. Specifically, the proposal recommends streamlining the process by soliciting public comment on draft IFEMS documents in advance of RFMC final actions. Additionally, the proposed rule adds a new public comment period at the end of the NEPA process to provide the public an opportunity to comment on the final IFEMS and on the NMFS decision of either approval, partial approval, or denial of the proposed action. Provisions are also proposed to reduce the minimum time periods required for public comment in certain circumstances allowing fishery actions analyzed under an IFEMS to occur in a two-meeting process.

- **Clarification of “Reasonable” and “No Action” Alternatives** – The proposed rule provides guidance on developing a range of alternatives. The existing requirement to analyze “all reasonable alternatives” is not proposed to be changed, but the emphasis should be placed on developing a “reasonable range” of alternatives that is tied to the stated purpose and need of the proposed action. Clarification of the term “no action” is proposed to mean a continuation of existing or status quo fishery regulations rather than the literal interpretation of the lack of fishery management or an open access fishery.

The public comment period on the proposed rule for revised environmental review procedures closes on August 12, 2008. The Council Coordinating Committee (CCC) heard presentations on these new environmental review procedures at their May 2008 meeting and has proposed a coordinated response to NMFS from all eight RFMCs. The Pacific Council may choose to submit comments to NMFS as part of the coordinated CCC effort, as stand-alone comments of the Pacific Council, or both.

Regarding the implementation of annual catch limits, accountability measures, and other provisions to prevent overfishing, no review materials were available by the deadline for the advance June Briefing Book. At the May 2008 meeting of the CCC, NMFS reported that a proposed rule will be published in the near future with a 90-day public comment period timed to encompass at least one meeting of each of the eight RFMCs. It is now anticipated that Pacific Council review of these materials will occur at the September 2008 meeting in Boise, Idaho. Staff will continue to work with NMFS on implementation of MSRA provisions and review materials will be distributed at the first Council meeting following their publication by NMFS.

Council Action:

Direct Planning and Action on New Requirements as Needed for Timely Implementation.

Reference Materials:

1. Agenda Item C.2.b, Proposed rule regarding a revised environmental review process for fishery management actions under the MSA (73 FR 27998).

Agenda Order:

- a. Agenda Item Overview
- b. NMFS Report
- c. Reports and Comments of Advisory Bodies
- d. Public Comment
- e. **Council Action:** Direct Planning and Action on New Requirements as Needed for Timely Implementation

Mike Burner
Frank Lockhart

COUNCIL STAFF PERSPECTIVES ON REVISED MAGNUSON-STEVENSON ACT
NEPA PROCEDURES, PROPOSED RULE (50 CFR PART 700)

General Comments

Opportunity for the Council to provide comments

The proposed rule was published on May 14, providing scant time prior to the deadline for materials to be included in the June advance briefing book. Therefore, there was not an opportunity to include developed staff comments helpful to the Council members and Council advisory bodies. The comment period closes on August 12, 2008, before the next Council meeting.

Council Staff perspective: The Council staff recommends the Council request that NMFS extend the comment period for an additional 45 days, to September 26, 2008. This would allow further consideration of the proposed rule at the Council's September meeting. It would allow time for staff to develop schedules showing the potential changes to various Council processes (e.g., groundfish biennial harvest specifications; salmon, CPS, and HMS management measures; amendments) and a listing of workload impacts, which would be presented at the September Council meeting.

Applicability of Council on Environmental Quality (CEQ) regulations, 40 CFR 1500-1508

Section 304(i)(2) of the MSA states that these agency procedures "shall be the sole environmental impact procedure for fishery management plans, amendments, regulations, or other action taken or approved pursuant to this Act." The preamble to the proposed rule (Summary at 73 FR 27998) states that "[t]hese regulations are modeled on the ... procedural provisions of NEPA, 40 CFR parts 1500-1508..." It seems apparent that these regulations would replace the CEQ regulations except where specifically referenced in Part 700 (e.g., see 700.3, definitions state that all terms defined in the CEQ regulations, part 1508, still apply where relevant). Furthermore, many parts of the proposed regulations are closely patterned on the language in CEQ regulations.

Council Staff perspective: The proposed regulations do not explicitly state that the unreferenced parts of the CEQ regulations are not applicable and should not be referenced. This is important for practitioners to the degree that the different sets of regulations serve as a guide for document preparation. Confusion over applicable regulations could complicate effective compliance. **Council staff recommends that the new NEPA regulations (or NMFS guidance) explicitly state that CEQ regulations are no longer applicable, except where referenced in the new NEPA regulations.**

Familiarization with the new procedures

Council Staff perspective: NMFS has put considerable effort in training staff to better comply with NEPA under the current CEQ regulations. Regulatory streamlining has changed the relationship between the Council and the NMFS Regions in that that Regional Offices carry out many of the functions previously done at the Headquarters level. It will be important for NMFS to commit sufficient resources to develop detailed guidance documents and train staff on the new procedures. Although the specific comments below touch on some of the main areas where procedures may change, there may be other aspects of the procedures whose implications become apparent only after implementation.

Council staff recommends that NMFS ensure sufficient training and resources are made available to Council and NMFS staffs to allow efficient implementation of the new NEPA procedures.

Specific Comments

Major Changes

Subpart C Integrated Fishery and Environmental Management Statement

Section 700.203(a) under timing of IFEMS process states “...the FMC must use the draft IFEMS in its deliberations.” 700.203(b), IFEMS for fishery management actions developed by an FMC, states “(1) NMFS shall publish a Notice of Availability (NOA) of a draft IFEMS in the Federal Register no later than public release of the FMC’s meeting agenda notice. NMFS shall ensure that the draft IFEMS is made available to the public at least 45 days in advance of the FMC meeting (unless this time frame is reduced under § 700.604(b)).” Section 700.604, Minimum time periods for agency action, provides criteria NMFS may use, in consultation with the FMC and EPA, to reduce the public comment to period no less than 14 days. Many criteria are enumerated, which must be met to justify shortening the time period, in addition to the need to consult with EPA. This suggests that shortening of the time period would only occur in unusual circumstances. This section also allows the public comment period to commence upon publication by NMFS of a Notice of Availability (NOA) for the draft IFEMS rather than the Notice published by EPA for EISs received the week before.

It is also important to note that the draft IFEMS would not include the Council’s final preferred alternative because this is not determined, or finalized, until the Council final action meeting. (In some cases, such as Trawl Rationalization, the Council takes preliminary action to develop a preliminary preferred alternative before taking final action at a subsequent meeting. In these cases an at least partial preferred alternative could be included in the draft IFEMS.) Section 700.203(b)(5) states “In its final vote to recommend an action, an FMC may select combinations of parts of various alternatives analyzed in the draft IFEMS or a new alternative within the scope of those analyzed in the draft IFEMS. NMFS may accept this recommendation without further analysis or supplementation by the FMC.” If the Council develops a preferred alternative that is “not within the range of alternatives analyzed in the draft IFEMS”—that is, substantially different in its elements and anticipated impacts—then the Council must circulate a supplemental

draft IFEMS containing an analysis of the preferred alternative for a second 45-day public comment period before preparing the final IFEMS.

Under section 700.203(b)(6)(i) the Final IFEMS is included with the transmittal package. Section 600.704(c) states that NMFS shall not make the final approval decision less than 90 days after publication of the NOA for the draft IFEMS or 30 days after the NOA for the final IFEMS. (These minimum time periods parallel the CEQ timelines at 40 CFR 1506.10). These time periods may be shortened in extraordinary circumstances. This brings the final IFEMS earlier in the process than is the case for a final EIS. Currently, the final EIS is usually published so that the ROD can be signed concurrently with the Secretarial determination or publication of the Final Rule. Under this section the Final IFEMS would be published at the start of the 95-day MSA clock.

Council Staff perspective: In many cases the IFEMS process will require a change from how EISs are usually prepared under the current Council process. Typically, a complete draft EIS is not released for the 45-day public comment process required by CEQ regulations (40 CFR 1506.10(c)) until after the Council has taken final action. Under the proposed regulations the draft IFEMS would need to be completed and released much earlier than this since the public comment period initiated by NMFS publishing the NOA begins 45 days in advance of the meeting where the Council takes final action (by finalizing their selection of or a preferred alternative).

In some cases this will conform closely to current practice (the diagram at the end of this document compares the current process with that for an IFEMS). For example, staff currently plan to release a substantially completed draft of the Trawl Rationalization EIS around September 22, 2008, in anticipation of Council final action at the November 2-7, 2008, meeting. However, this document is not the “final” draft EIS triggering the public comment period in CEQ regulations. For that reason there is some flexibility in how complete the document needs to be. The “statutory” (i.e., submitted to EPA to trigger the public comment periods) draft EIS will be released some time in the first half of 2009. Under the new process, the draft IFEMS would need to be released on September 17 and would have to be a complete document containing all analyses.¹ The Trawl Rationalization project has an extended timeline because of the complexities of the decision to be made. More typically a partially complete, “preliminary” draft EIS is included in the briefing book for the meeting at which the Council takes final action.

In general, the proposed regulations better integrate public comment time periods into the Council process. This comes at a cost, however, in that a completed document must be ready well before the Council meeting at which final action occurs. Currently, it is often a struggle for staff to meet the comparatively shorter deadline of the briefing book and incomplete documents (although sufficient for reasoned decision making) are usually produced at this stage. Greater forethought will be needed to ensure that the range of alternatives likely encompasses what the Council eventually chooses as its preferred alternative in order to avoid the additional time

¹ Note that section 700.217, circulation of the IFEMS, states “NMFS shall ensure that the entire draft and final IFEMS, except for certain appendices as provided in § 700.216 and an unchanged IFEMS as provided in § 700.304, are circulated in a format that is readily accessible to decisionmakers and the public.” This underscores the requirement that the draft IFEMS be a complete document.

required for circulation of a supplemental draft IFEMS. As an example, if this process were used for the groundfish harvest specifications (because an EA or Framework Compliance Memorandum could not be used), then in 2008 the draft IFEMS would have to be released (by publication of the NOA) on April 24. This would require the Council to fully flesh out a range of alternatives at the April meeting, giving staff less than 2 weeks afterwards to complete all the analyses and prepare a complete document. If information became available after this deadline that caused the Council to formulate a substantially different preferred alternative a supplemental draft IFEMS would have to be prepared. It should also be noted that the amount of time needed after Council action until implementation (e.g., Secretarial determination, final rule effective date) is unlikely to be substantially shortened, because of the statutory time periods in the MSA and, for regulations, in the APA. For example, even if these procedures shortened the environmental review timeline it still may not be possible to move final action on the groundfish harvest specifications to the September Council meeting because of time periods required under the APA.²

Council staff views the IFEMS process as an improvement in terms of better-integrating public comment and participation into the Council process. But the staff views the overall process in the proposed regulations as worse than the current process under CEQ regulations because 1) a 45-day advance publication of the draft IFEMS before Council final action would impair many current Council schedules (the groundfish biennial specifications development process, for example) and 2) it actually lengthens the overall time required for the overall process, because a lot of the IFEMS timeline is before, rather than concurrent with, the MSA and APA timelines.

Generally Council staff recommends that Subpart C in the proposed regulations be changed to shorten the timeline, either on the front end (before Council final action), or the back end (after Council final action), or both.

Specifically, the new NEPA regulations could be changed in one or more of the following ways as a partial solution:

- **Reduce the public comment period to 14 days. This would more closely correspond to the current practice of including a preliminary draft EIS in the briefing book for the Council final action meeting.**
- **Eliminate the requirement for the public comment period to occur before Council final action. The new NEPA procedures actually reduce flexibility compared to current CEQ regulations, which allow initiating the 45-day public comment period on the draft EIS before Council final action and also allow it to occur afterwards.**
- **Loosen the criteria under which NMFS would grant a shortened public comment period to allow it to be better matched to circumstances.**

Section 700.104 Utilizing a memorandum of framework compliance pursuant to a framework implementation procedure

² Note also that both the 2007-08 and 2009-10 harvest specifications were combined with FMP amendments to modify rebuilding plans, invoking the 95-day MSA timeline.

This section would be applicable to harvest specification processes authorized under each of the Council's four FMPs. Annual specifications under the Salmon FMP and biennial specifications under the groundfish FMP are the most complex and procedurally demanding. The proposed regulations (700.104(a)) state "An FMP may establish a Framework Implementation Procedure which provides a mechanism to allow actions to be undertaken pursuant to a previously planned and constructed management regime without requiring additional environmental analysis, as provided in this section." The procedure allows determination of whether the anticipated effects of the action fall within a previous environmental analysis and criteria triggering additional analysis in an environmental assessment (EA) or IFEMS.³ This implies that an FMP must be amended to include the specifics for these determinations; because of the lack of these specifics any existing framework for harvest specifications described in an FMP would be insufficient for this purpose. If the action falls within the scope of a previous evaluation then a Memorandum of Framework Compliance may be prepared instead of an EA or IFEMS. This Memorandum is "a concise (ordinarily 2 pages) document that briefly summarizes the fishery management action taken pursuant to a Framework Implementation Procedure, identifies the prior analyses that addressed the impacts of the action, and incorporates any other relevant discussion or analysis for the record." (701.104(c))

Council Staff perspective: Overall, the Framework Implementation Procedure could provide considerable benefits if the Memorandum of Framework Compliance can be prepared in most circumstances. Alternatively (700.102(a)), an EA may be prepared for "...annual specifications taken pursuant to a fishery management plan and tiered to an IFEMS, EIS, or prior EA that are not covered by a CE or Memorandum of Framework Analysis [*sic*]." A Memorandum of Framework Compliance would be a much briefer exercise than the EAs or EISs currently prepared for harvest specifications, and the regulations support preparing an EA for actions not eligible for a Memorandum.

It seems likely that a broad, programmatic evaluation, covering the range of possible effects of harvest specifications, would be necessary to support the preparation of a Memorandum of Framework Compliance (or an EA) for harvest specifications. Environmental analyses prepared to date, which tend to be action specific rather than programmatic, may be insufficient for this purpose. However, if the FMPs must be amended to incorporate the Framework Implementation Procedure, the accompanying environmental analysis (IFEMS) could include the type of programmatic analysis necessary to support future Memorandums. However, such analyses may need to be periodically updated (5 years seems to be a common benchmark for programmatic evaluations; see, for example, NAO 216-6 Sec. 6.03a).

If the Framework Procedure is not implemented or the anticipated impacts of the action are outside the previously-analyzed range, an IFEMS would have to be prepared for a harvest specifications. It may be difficult to meet the new timeline for an IFEMS, as discussed above.⁴

³ An IFEMS (Integrated Fishery and Environmental Management Statement) would replace the Environmental Impact Statement described in CEQ regulations.

⁴ EISs have been prepared for each groundfish harvest specifications since 2003, suggesting the need for an IFEMS in the absence of the Framework Compliance Procedure.

Council staff thinks that the Framework Compliance Procedure could offer significant benefits, depending on ease of implementation. Council staff recommends that the new NEPA regulations state more explicitly whether or not an FMP amendment is needed to establish a Framework Compliance Procedure. In general, the staff does not favor requiring an FMP amendment in all cases. If an FMP already contains a framework for harvest specifications and previous environmental analyses cover the range of potential impacts, then NEPA compliance procedures should be specified in Council Operating Procedures rather than an FMP amendment. If an FMP amendment is required, the regulations should include a grace period under which current processes are allowed (i.e., EIS under CEQ regulations) to give time to amend the FMP with the Framework Compliance Procedure.

Minor Changes

700.108 Scoping

Section 708.108(a)(1), FMC-initiated actions, states “If scoping is conducted as part of an FMC meeting, a scoping notice must, at a minimum, be included as a component of the appropriate FMC’s next meeting agenda (MSA section 302(i)(2)(C)) and must be titled and formatted in a manner that provides the public with adequate notice of the NEPA-related scoping process.” Furthermore, 708.108(b)(1) states “NMFS, working with the appropriate FMC, shall ensure that affected Federal, State, and local agencies, any affected Indian tribe, the proponents of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds) are invited to participate. NMFS, working with the appropriate FMC, shall ensure that the scoping process meets the purposes of scoping as set forth in 40 CFR 1501.7.” This section then enumerates a range of activities to be included in the scoping process.

Council Staff perspective: Scoping goes beyond the requirement to allow for public comment; in essence it is the process whereby the agency specifies the action and determines the necessary environmental analysis. In general, the Council process, through committee and Council meetings, addresses the public involvement aspect of scoping. However, public comment opportunities at these meetings are usually not specifically identified as a scoping exercise. It would be beneficial if any interpretation of implemented regulations determined that the current public comment procedures used by the Pacific Council are sufficient and that a special scoping meeting or agenda item would not be required during a Council meeting.

Council staff considers the discussion of scoping in the regulations beneficial because it makes explicit that the Council process is the principal scoping mechanism for fishery management actions. However, the regulations should not be interpreted in a way that would reduce Council discretion on how meetings are run and public input solicited.

700.112 Assignment of tasks

According to this section an FMC and NMFS must establish which entity will carry the various actions required in the proposed regulations. “This clarification may be established through a Memorandum of Understanding for each environmental document individually or for classes of

environmental documents, but in no case should scoping activities be considered complete until such clarification is made.”

Council Staff perspective: **Council staff considers the requirement to clarify responsibilities beneficial. However, a written statement or MOU should not be required in all cases, if such clarification can be achieved informally. In general, the level of detail and formality of a clarification of responsibilities should be matched to the complexity of the project being undertaken.**

Section 700.205 Page limits and Section 700.206 Writing

An IFEMS “should be less than 150 pages ... but may be up to 300 pages for proposals of unusual scope or complexity.” (Note that CEQ regulations at 40 CFR 1502.7 identify a 150-page limit on EIS length and 40 CFR 1502.2 and 1500.4 speak to writing concise documents.) Section 700.205 also states that NMFS shall consult with CEQ on a programmatic basis if these page limits are regularly exceeded. Section 700.206 states in part “Each IFEMS should use all appropriate techniques to clearly and accurately communicate with the public and with decisionmakers, including plain language, tables, and graphics, with particular emphasis on making complex scientific or technical concepts understandable to the non-expert.”

Council Staff perspective: **Council staff considers the mandate for concise and clearly written documents beneficial. However, Council NEPA documents (including EAs) are almost never less than 150 pages, reflecting the difficulty of preparing concise, trenchant evaluations, especially for complex actions. Council staff recommends that NMFS assist the Council to more fully develop techniques, such as incorporation by reference and tiering off programmatic documents, to reduce the length of NEPA documents. Exceeding page limits, by itself, should not be a reason for NMFS (or the courts) to find a NEPA document inadequate.**

700.301 Public outreach

This section lists a wide variety of public outreach methods, including mailing notices to those who express an interest, and for actions of national concern to national organizations reasonably expected to be interested in the matter. Actions with effects of primarily local concern should be noticed through areawide clearinghouses; notice to Indian tribes; using the affected State’s public notice procedures; publication in local newspapers; other media and relevant newsletters; notice to community organizations; direct mailings to affected property owners and occupants; public posting of notices; and outreach via the internet. Section 700.301(c) discusses circumstances in which public hearings are warranted.

Council Staff perspective: **Council staff considers the mandate for comprehensive public outreach beneficial, but Council staff and resources are likely inadequate for a substantially expanded outreach effort as suggested by the regulations. If an action requires extensive outreach, dedicated funding will need to be provided or these efforts should be spearheaded by NMFS.**

700.303 Opportunity to comment and 700.305 Response to comments

Section 700.303(b)(1) states that the public may make comments “...to the FMC during the public comment period on the draft IFEMS by submitting written comments or during the appropriate FMC meeting by providing oral testimony.” Section 700.305 requires written responses to comments to be incorporated into the final IFEMS in a fashion patterned after the requirements in current CEQ regulations for a final EIS (40 CFR 1503.4). This section emphasizes that the Council process is the principal vehicle for commenting on the action; section 700.305(d) allows comments on the final IFEMS but states “NMFS is not required to respond to comments raised for the first time with respect to a Final IFEMS if such comments were required to be raised with respect to a draft IFEMS pursuant to § 700.302(b).”

Council Staff perspective: Currently, because the 45-day NEPA comment period occurs after Council final action, often few comments are received. Integrating formal public comment into the Council process will make the public comments more influential. This is likely to generate a larger volume of comments requiring formal response. Furthermore, it is not clear how oral comments given at a Council meeting should be handled. If treated in the same manner as written comments, they will need to be transcribed or summarized in some fashion in order to formulate a formal response in the final IFEMS. As noted above, a special comment period during the Council meeting might be necessary to accept oral comments in a way that makes it easier to formally address them.

Council staff finds the response to comments requirements beneficial in terms of public participation, but the commenting process will increase the amount of work needed to complete the final IFEMS. Council staff strongly recommend that the response to comments requirement should not apply to oral public comments made at Council meetings.

700.401 Determining the significance of NMFS’s actions and 700.402 Guidance on significance determinations

Section 700.401 lists factors for assessing significant impacts that are effectively identical to those in CEQ regulations at 40 CFR 1508.27. Section 700.401(d), potentially significant but previously analyzed effects, states “A FONSI may be appropriate for an action that may have significant or unknown effects, as long as the significance and effects have been analyzed previously.” Section 700.402 lists factors for assessing significance previously included in NAO 216-6, section 6.02. Section 700.402(a) states that “NMFS may, as appropriate, develop guidance regarding criteria for determining the significance of effects on a national or regional level for purposes of informing the determination of whether a FONSI is appropriate or an IFEMS must be prepared.”

Council Staff perspective: **Council staff believes that additional guidance on criteria for determining significant effects would be helpful. Such guidance should focus on methods for identifying case-specific thresholds rather than identifying specific thresholds applicable to all actions. Council staff recommends that the current internal scoping**

process conducted by NMFS staff, used to decide what kind of NEPA document to prepare, include development of thresholds and allow for early, full participation by Council staff.

700.501 Fishery management decisionmaking procedures

This section states “NMFS and the FMCs shall adopt and maintain procedures, consistent with current or future Statements of Organization, Practices, and Procedures, as described in 50 CFR 600.115, to ensure that fishery management decisions are made in accordance with the policies and purposes of NEPA and the MSA.”

Council Staff perspective: This requirement will increase workload if the Council has to adopt and maintain new Council Operating Procedures describing the full decision process. The Council SOPP document already has a clause indicating compliance with current applicable Federal law. **Council staff recommends that this requirement apply only to the modification of current Council Operating Procedures that would directly conflict with any procedural changes implemented through the regulations.**

700.701 Emergencies

Section 700.701(a) directs NMFS to develop alternative arrangements for NEPA compliance in consultation with CEQ for emergency actions with significant impacts (i.e., requiring an IFEMS). Section 700.701(b) allows promulgation of emergency regulations prior to the completion of an EA and FONSI for emergency actions that will not result in significant impacts.

Council Staff perspective: Salmon harvest specifications required the promulgation of emergency regulations in 2006 and 2008. This language is an improvement on the current guidance on emergency actions in NAO 216-6, §5.06. **Council staff believes these provisions are beneficial because they clarify how NEPA compliance can be appropriately addressed when emergency regulations must be promulgated. Council staff recommends that the regulations describe how NEPA for emergency regulations can be incorporated into the Framework Compliance Procedure.**

700.702 Categorical exclusions

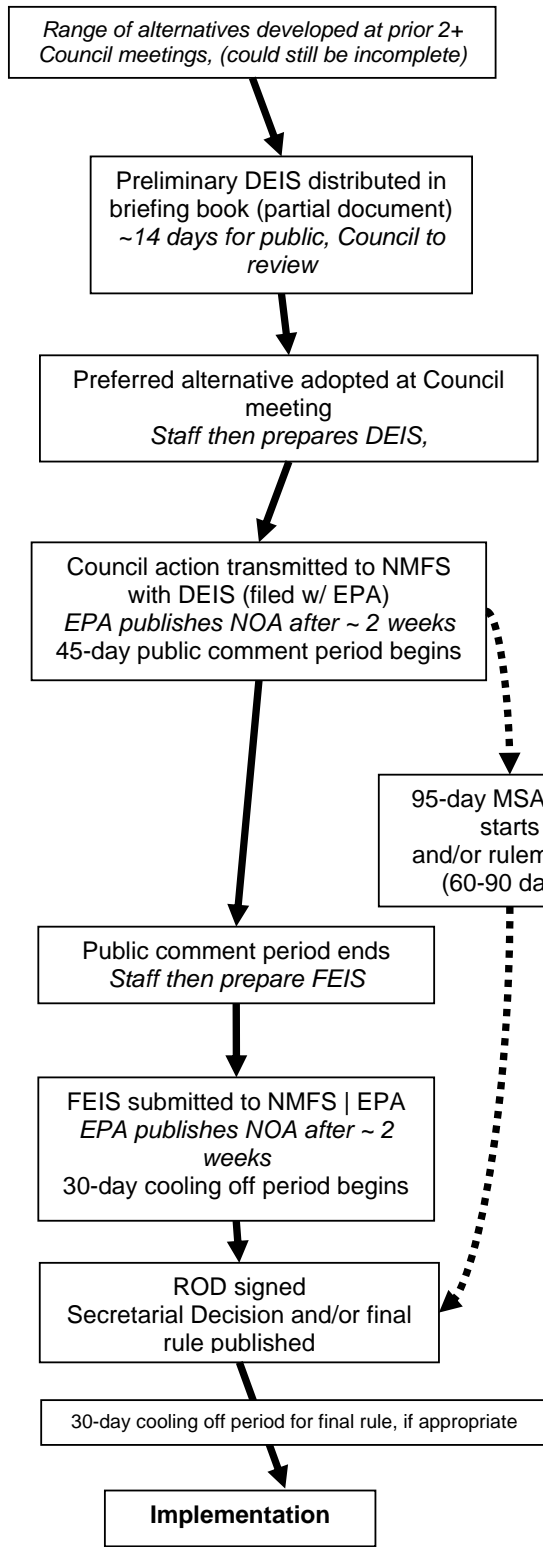
Section 700.702 identifies certain classes of actions eligible for a categorical exclusion (CE).⁵ These include ongoing or recurring fisheries actions; minor technical additions corrections, or changes to an FMP or IFEMS; and research activities permitted under an EFP or Letter of Authorization. In all cases the actions cannot have impacts not already assessed or do not have significant impacts. Section 700.702(a)(1) states that “...reallocations of yield within the scope of a previously published IFEMs, FMP or fishery regulation...” can qualify for a CE if, as already stated, the impacts have been previously analyzed and are not significant.

⁵ CEQ regulations at 40 CFR 1508.4 define a categorical exclusion as “a category of actions which do not individually or cumulatively have a significant effect on the human environment ... and for which, therefore, neither an environmental assessment nor an environmental impact statement is required.”

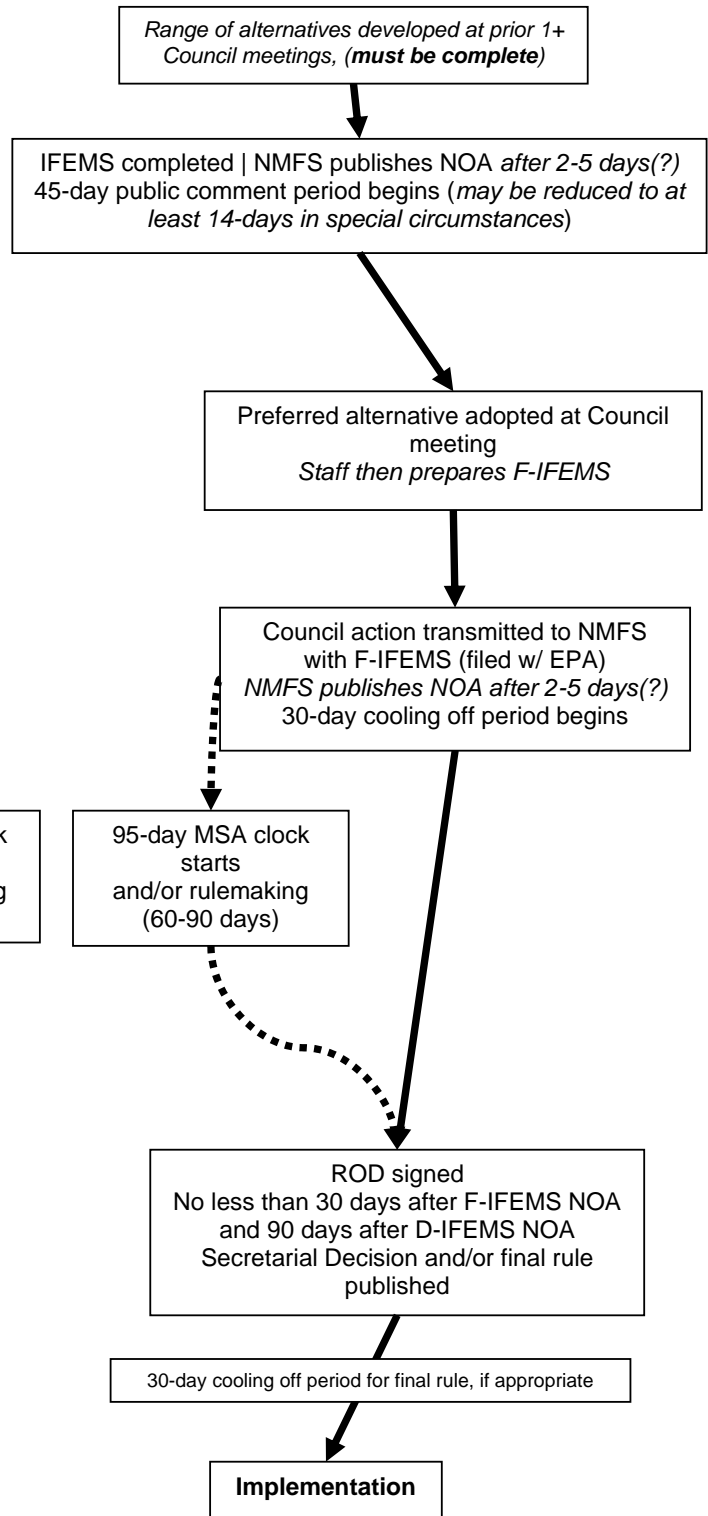
Council Staff perspective: This language may allow more frequent application of CEs in comparison to current guidance in NAO 216-6, §5.05. **Council staff believes that the language in the new NEPA regulations on CEs is beneficial to the degree it clarifies their use and allows them to be used more frequently.** Council staff recommends working with NMFS to explore whether the alternatives in the NEPA document for groundfish FMP Amendment 22, Inter-sector Allocation, could be structured in such a way so as to allow future changes in formal allocations to qualify for a CE.

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Current Process



Proposed Process



Comparison of current and proposed processes for NEPA, decisionmaking, and implementation.



Federal Register

**Wednesday,
May 14, 2008**

Part VI

Department of Commerce

**National Oceanic and Atmospheric
Administration**

50 CFR Part 700

**Magnuson-Stevens Act Provisions;
Environmental Review Process for
Fishery Management Actions; Proposed
Rule**

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 700

[Docket No. 070824479-8107-02]

RIN 0648-AV53

Magnuson-Stevens Act Provisions; Environmental Review Process for Fishery Management Actions

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: This proposed rule would revise and update the NMFS procedures for complying with the National Environmental Policy Act (NEPA) in the context of fishery management actions developed pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (MSA). These regulations are modeled on the Council of Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA, 40 CFR parts 1500-1508, with specific revisions to the existing NMFS procedures made pursuant to the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA). The procedures are designed to conform to the timelines for review and approval of fishery management plans and plan amendments developed pursuant to the MSA. Further, these procedures are intended to integrate applicable environmental analytical procedures, including the timeframes for public input, with the procedure for the preparation and dissemination of fishery management plans, plan amendments, and other actions taken or approved pursuant to the MSA in order to provide for timely, clear, and concise analysis that is useful to decisionmakers and the public, reduce extraneous paperwork, and effectively involve the public.

DATES: Comments must be received by 5 p.m., EST, on August 12, 2008.

ADDRESSES: You may submit comments on this proposed rule or the associated Regulatory Impact Review (RIR), identified by 0648-AV53, by any of the following methods:

- **Mail:** Alan Risenhoover, Director, Office of Sustainable Fisheries, NMFS, 1315 East-West Highway, SSMC 3, Silver Spring, MD 20910.
- **Fax:** (301) 713-0596.

- **E-mail:** NEPAprocedures@noaa.gov. Include in the subject line of the e-mail the following document identifier: "MSA Environmental Review Procedures"

- **Federal e Rulemaking portal:** <http://www.regulations.gov>. Follow the instructions for submitting comments.

All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (e.g., name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

Copies of the Regulatory Impact Review (RIR) prepared for this action may be obtained from Alan Risenhoover at the address above. Requests should indicate whether paper copies or electronic copies on CD-ROM are preferred. This document is also available at the following Web site: <http://www.nmfs.noaa.gov/msa2007/implementation.htm>.

FOR FURTHER INFORMATION CONTACT: Marian Macpherson at 251-751-0650, e-mail: Marian.Macpherson@noaa.gov.

SUPPLEMENTARY INFORMATION:**Background**

The National Marine Fisheries Service (NMFS) proposes new regulations to establish procedures by which NMFS and the regional Fishery Management Councils (FMCs), established under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), will comply with the National Environmental Policy Act (NEPA) when preparing fishery management actions pursuant to the MSA. NMFS issues this proposed rule to comply with the requirements of section 107 of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA), Pub. L. 109-479. NMFS proposes specific provisions in the following areas.

1. **Form of documentation:** The proposed rule would retain the use of Environmental Assessments (EAs), Findings of No Significant Impact (FONSI), and Categorical Exclusions (CEs) where appropriate, and would establish two new forms of documentation for actions with potentially significant environmental impacts: the Integrated Fishery Environmental Management Statement (IFEMS) and the Memorandum of Framework Compliance.

2. **Roles and Responsibilities:** This proposed rule would clarify the roles of the FMCs and NMFS in the

development and approval of fishery management measures and actions.

3. **Timelines and Flow of Process:** The proposed rule would build flexibility into the timelines for complying with NEPA in order to allow for compliance with NEPA within an MSA context.

4. **Alternatives to be Analyzed:** This proposed rule would clarify what "reasonable alternative" and "no action" alternative mean in the context of fishery management.

5. **Exempted Fishing Permits (EFPs):** This proposed rule would establish a new CE for certain types of EFPs where impacts have been analyzed within an overarching analysis.

6. **Incomplete or unavailable information:** This proposed rule would clarify how NEPA's requirements concerning incomplete and unavailable information and conflicts of interest are applicable to MSA actions.

7. **Emergency or interim rules:** This proposed rule would allow for programmatic arrangement with the Council on Environmental Quality (CEQ) to address page limits of IFEMS and NEPA requirements for emergency and interim rules.

I. Statutory Overview*A. The Magnuson-Stevens Fishery Conservation and Management Act*

The MSA, 16 U.S.C. 1801 *et seq.*, established a national program to manage and conserve the marine fisheries of the United States. Under this system, the United States exercises sovereign rights and exclusive fishery management authority as provided in 16 U.S.C. 1811. Specifically, the Secretary of Commerce (Secretary), acting through the NMFS, oversees and manages our nation's domestic fisheries through the development and implementation of fishery management plans and actions (e.g., fishery management plans (FMPs), amendments, frameworks, annual specifications, regulations, etc.). For most domestic fisheries, the MSA requires management decisions to be based on recommendations from unique advisory bodies, the FMCs. In certain circumstances, NMFS may develop management measures or actions on its own.

The MSA management system is unique insofar as Congress has authorized the FMCs to develop and recommend fishery management measures and actions to NMFS. Comprised of Federal, state, and territorial fishery management officials, participants in commercial and recreational fisheries, and other individuals with scientific experience or training in fishery conservation and

management, the FMCs' primary responsibility is to develop and recommend fishery management measures and actions for any fishery under their jurisdiction that is in need of conservation and management. Specifically, MSA section 302(h)(1) (16 U.S.C. 1852(h)(1)) requires FMCs to prepare and submit to NMFS FMPs for fisheries in need of conservation and management. Section 303(c) of the MSA requires FMCs to submit to NMFS regulations that the FMCs deem necessary and appropriate to implement the FMP. The MSA mandates an open, public process for the development of fishery management measures and actions through the FMC system.

The MSA establishes strict timelines and limited discretion for Secretarial review of FMC-recommended measures and actions. For FMPs and FMP amendments, upon receipt of an FMC's complete submission, NMFS must immediately commence a review of the recommendation to determine whether it is consistent with the national standards, other provisions of the MSA, and other applicable law. NMFS is also required immediately (within 5 days) to publish a notice in the **Federal Register** informing the public that the FMP or FMP amendment is available for a 60-day public review and comment period. Thereafter, NMFS evaluates the public comments received during the comment period. NMFS must also complete any necessary consultations with other federal agencies prior to the MSA's deadline for a final decision. If, after undertaking the requisite review, NMFS determines that the recommended FMP or FMP amendment complies with the standards and provisions of the MSA and is consistent with other applicable law, including NEPA, NMFS must approve it on behalf of the Secretary. If the recommendation does not comply with these requirements, NMFS must disapprove or partially approve it and provide the FMC with recommendations for actions the FMC could take to conform the FMP or FMP amendment to the applicable requirements. The MSA does not allow NMFS to substitute a different management alternative for that recommended by the FMC. If NMFS fails to notify the FMC within 30 days of the end of the comment period of the recommendation's approval, disapproval, or partial approval, the plan or amendment takes effect as if approved.

For proposed regulations recommended by an FMC to implement an FMP or FMP amendment, the MSA provides NMFS 15 days to review proposed regulations to determine consistency with the underlying FMP or

FMP amendment before publishing the proposed regulations for a 15–60 day comment period. A final rule must be promulgated within 30 days of the close of the comment period on the proposed rule.

In certain situations, the MSA allows NMFS to develop fishery management measures and actions outside of the FMC process, subject to separate procedural requirements. For example, section 304(c) authorizes NMFS to prepare a Secretarial FMP or FMP amendment if: (1) A fishery is in need of conservation and management and the appropriate FMC fails to develop and submit, after a reasonable time, an FMP or FMP amendment; (2) NMFS disapproves or partially disapproves an FMP or FMP amendment, or disapproves a revised FMP or FMP amendment, and the FMC involved fails to submit a revised or further revised FMP or FMP amendment; or (3) NMFS is given authority to prepare an FMP or FMP amendment under section 304 of the MSA, such as FMPs or FMP amendments pertaining to any highly migratory species (HMS) fishery to which section 302(a)(3) of the MSA applies. Procedures for these types of "Secretarial" actions, which are specified in MSA section 304(c), (e) and (g), provide for public and FMC input into their development. Section 305(d) provides additional authority for NMFS, on behalf of the Secretary, to promulgate regulations necessary to carry out its responsibilities under the MSA.

In this proposed rule, the term "fishery management measure" refers to management strategies contained in FMPs, FMP amendments and regulations, including but not limited to closed areas, quotas, and size limits as contemplated in MSA section 303(a)(1) (16 U.S.C. 1853(a)(1)). The term "fishery management action" refers to actions NMFS takes to implement the measures contained in an FMP, including but not limited to the promulgation of regulations and the establishment of dates of closures as contemplated in MSA section 305(f) (16 U.S.C. 1855(f)). In developing and recommending an FMP, FMP amendment or regulation, FMCs may consider and include both measures and actions. The NEPA provisions described in this proposed rule are intended to cover all such recommendations.

B. NEPA's Relationship to the MSA Process

NEPA is the fundamental national charter for environmental protection. As the Supreme Court has noted, NEPA Section 102 (42 U.S.C. 4332) requires Federal agencies to examine the

environmental effects of proposed Federal actions and to inform the public of the environmental impacts considered in an agency's decision-making process. See, e.g., *DOT v. Public Citizen*, 541 U.S. 752, 768 (2004). NEPA does not mandate a particular substantive outcome; rather, NEPA is a procedural statute, the purpose of which is to protect the environment by requiring Federal agencies to carefully weigh environmental considerations in their decision-making processes, including alternatives to their proposed actions, before taking final action. An essential element of the NEPA process, as highlighted in CEQ's regulations, is the requirement to make relevant environmental information available to the public and afford the public an opportunity to participate in the agency's decision-making process. Ultimately, NEPA is designed to ensure that Federal agencies utilize a sound and public process in making decisions that affect the environment, and to ensure that agencies consider the environmental impacts of, and alternatives to, their proposed actions.

Through these proposed regulations, NMFS seeks to better integrate NEPA into the unique FMC process established by the MSA. For MSA actions, the scope of NMFS's authority to modify FMC-recommended fishery management plans and plan amendments is narrow: NMFS may approve, disapprove, or partially approve a proposed FMP or FMP amendment recommended by the FMC, and the sole basis for disapproval of any such recommendation is that it is not consistent with applicable law, including NEPA, the MSA and its national standards. Applying NEPA solely to the Secretary's limited discretion under the MSA cannot foster the type of informed consideration of the effects of the action in light of reasonable alternatives that NEPA envisions. Because policy recommendations are developed and alternatives narrowed through the public forum of FMC meetings, it is important to integrate the analysis of alternatives and impacts for the NEPA analysis with the FMC's development of recommended management measures and actions. For this reason, NMFS addresses several key issues in this proposed rule: (1) The different roles of FMCs and NMFS under the MSA, as advisory bodies and decision-maker respectively, as those roles relate to NEPA's requirements; (2) the integration of statutory and regulatory timelines to provide for timely responses to fishery resource management needs; and (3) the

complexities of defining the appropriate range of alternatives for analysis.

C. MSRA Requires Revised and Updated Agency Procedures to Comply With NEPA

In December 2006, the U.S. Congress acted to amend the MSA through the MSRA, which was subsequently signed into law by the President on January 12, 2007. Pub. L. 109–479. The MSRA addresses a number of fisheries issues, but pertinent to this rulemaking is section 107, which imposes a requirement that NMFS better integrate and more closely align applicable environmental analytical procedures with the MSA's fishery management process.

Congress directed the Secretary, acting through NMFS, and in consultation with the FMCs and CEQ, to revise and update agency procedures to comply with NEPA. Congress stated that the procedures shall:

(A) conform to the [MSA's] time lines for review and approval of fishery management plans and amendments under this section; and

(B) integrate applicable environmental analytical procedures, including the time frames for public input, with the procedure for the preparation and dissemination of fishery management plans, plan amendments, and other actions taken or approved pursuant to this Act in order to provide for timely, clear and concise analysis that is useful to decision makers and the public, reduce extraneous paperwork and effectively involving the public.

16 U.S.C. 1854(i)(1)(A) and (B).

Moreover, Congress stated that the revised and updated procedures are to be the sole environmental impact assessment procedures for fishery management actions (e.g., FMPs, FMP amendments, or other actions taken or approved pursuant to the MSA) used by the FMCs or NMFS. 16 U.S.C. 1854(i)(2). Finally, Congress authorized and directed NMFS, in cooperation with CEQ and the FMCs, to involve the affected public in the development of the revised procedures.

The MSRA's legislative history reveals Congress' interest in gaining efficiencies in the MSA's environmental review process. Specifically, the Senate Report accompanying the MSRA contained the following language: “[t]he intent is not to exempt the Magnuson-Stevens Act from NEPA or any of its substantive environmental protections, including those in existing regulation, but to establish one consistent, timely, and predictable regulatory process for fishery management decisions * * * [t]he Committee intends section 107 to streamline this environmental review

process in the context of fishery management.” S. Rept. 109–229, at 8.

II. NMFS' Implementation Efforts

A. Consultations and Public Outreach

As required by the MSRA, NMFS has consulted with CEQ and the FMCs, and has initiated public involvement in the development of the revised procedures. In the spring of 2007, NMFS and the FMCs conducted two separate forms of outreach. NMFS posted a series of trigger questions on the Internet, soliciting public input on how the process should be revised. At about the same time, the FMCs' Council Coordinating Committee (CCC) developed a strawman proposal for revised procedures. Both the CCC strawman and NMFS' questions were posted on the agency's Web site for a 60-day public comment period. Moreover, each of the eight FMCs held public listening sessions at their respective FMC meetings between February and April 2007.

NMFS received a total of 1,660 comments, all but 8 of which were form letters that expressed general disapproval of the CCC strawman. The remaining eight comments were submitted by a variety of environmental and fishery-related organizations and reflected a wide range of opinions on the new procedures in general, the CCC strawman, and the trigger questions. The main topics addressed by the commenters were:

1. *Need for/Authority to Change Regulations/Guidance.* There is disagreement about the legislative intent of the MSRA with regard to revision of the agency's NEPA procedures, the need for changes to the NEPA procedures, the timeframes for public review of NEPA documents, and the adequacy of the existing process to meet NEPA requirements and fishery management needs.

2. *Roles of FMCs and NMFS.* There are opposing opinions about whether FMCs or NMFS should have the lead on conducting the NEPA process. One environmental organization proposed a specific alternative approach to that set forth in the CCC strawman.

3. *Using the FMC Process to comply with NEPA.* There is disagreement about the appropriateness of using the FMC process to comply with NEPA. A major concern is whether the public would be adequately included. Many suggestions were provided on how to make the FMC process more accessible.

4. *Reasonable Alternatives.* There is consensus that reasonable alternatives must be able to achieve the objectives of the management action. In addition,

several specific suggestions were offered as to how to further define “reasonable alternatives.”

5. *Tiering/Scaling the Level of Analysis.* There is agreement that not every action merits the same level of detail and length in its analysis and that some form of scaling is appropriate, but disagreement as to how to determine the appropriate level of analysis. Some commenters felt that the existing EA/EIS distinction adequately allows for determining the appropriate level of analysis based on an action's degree of significance. Other commenters suggested alternative approaches. Two commenters opposed applying specific criteria to determine the level and detail of analysis and indicated that the circumstances around each action would dictate what level of analysis is appropriate.

6. *Eliminating the EA/EIS Distinction.* Many commenters support keeping this distinction, although one commenter identified a potential benefit of avoiding litigation over which type of analysis should have been prepared.

7. *Reducing the Length of the Comment Period to 30 days.* There is disagreement as to whether longer or shorter comment periods are desirable, as well as on the effects of any change on streamlining and process.

8. *Scientific Research and Experimental Fishing.* The need to improve NEPA's application to scientific research and experimental fishing was pointed out.

At its May 2007 meeting the CCC decided to recommend its strawman to NMFS as the basic approach for the new process and made several additional comments and suggestions. Since May 2007, NMFS has consulted with CEQ and the CCC subcommittee to develop the environmental review procedures proposed in this rule.

B. Alternatives Considered by NMFS

In addition to conducting public outreach, NMFS engaged in an internal scoping process to consider the most appropriate means to revise and update the NEPA procedures to better integrate NEPA and MSA. NMFS examined a number of important issues during this process, which included, but were not limited to: NEPA's role in the fishery management context; ways to integrate the NEPA and MSA process to ensure successful implementation of MSA actions; mechanisms for improving public participation; whether NMFS, the FMCs, or both should prepare environmental analyses; and the type of environmental document and level of analysis applicable to a specific fishery management measure or action. As a

result, and after careful consideration of public comments on NMFS' trigger questions, the CCC subcommittee Strawman proposal and public input received at each of the Council listening sessions, NMFS developed an array of alternatives intended to achieve the following goals: (1) Ensure compliance with NEPA when developing and implementing fishery management measures and actions under the MSA; (2) Adhere to the principles of public involvement and agency accountability (i.e., requirements that agencies consider and respond to public comment) set forth in the existing CEQ regulations; (3) Integrate NEPA's requirements into the MSA public processes for developing and approving fishery management measures and actions; (4) To the extent appropriate, build on recommendations in the CCC Strawman document; (5) Appropriately align public participation in the NEPA process to reflect differences in the roles of the Regional Fishery Management Councils (FMCs) and NMFS in the development and approval of fishery management measures and actions and conducting the NEPA analysis; and (6) Conform the MSA and NEPA timelines to achieve greater efficiencies in fisheries management and allow rapid response to fishery management needs, while providing the public meaningful opportunity to influence policy decisions.

In developing these proposed procedures, NMFS attempted to determine where fishery-specific improvements could be gained while supplementing the key elements of the CEQ regulations that ensure opportunities for public participation and agency accountability. Some of the key features of the CEQ regulations centered around the early public scoping process, the opportunity for public comment on a draft analytical document, a revised final document that addresses public comment, a cooling-off period prior to the final decision, and a Record of Decision (ROD) documenting the agency's final decision. NMFS then considered whether the procedural aspects of these elements (such as timing, sequencing, and feedback mechanisms) could be implemented to provide more appropriate opportunities for public participation in the process for developing MSA measures and actions. Specifically, NMFS sought an approach that would: (1) Integrate NEPA's public participation opportunities with the FMC development of analyses and alternatives and NMFS' decisionmaking under the MSA; and (2) allow the MSA

decision-making process to proceed in a timely manner to address real time fishery management needs.

NMFS identified alternatives for possible fisheries-specific improvements in several general categories: form of documentation; roles and responsibilities; timing and flow of process; and other elements (experimental fishing, emergencies, page limits, and the range of alternatives to be analyzed).

1. Form of Documentation

a. Single Integrated Document

Pursuant to NEPA, an EIS must be prepared for any major Federal action significantly affecting the quality of the human environment. An EA may be prepared as a first step to inform the determination of whether a proposed action would have a significant effect on the quality of the human environment, thereby requiring an EIS. Generally, the EIS is a more thorough analysis of impacts and alternatives than the EA. For development of FMPs by FMCs, however, this is not always the case. Development of FMPs or amendments under the MSA requires development of a comprehensive analysis that incorporates almost all of the content requirements for an EIS. In many cases, an FMC can relatively easily incorporate the additional EIS content requirements (i.e., cumulative impact analysis and reasonable range of alternatives) into the existing fishery management analysis.

Given these requirements, one possible approach would be to eliminate the EA/EIS distinction, ensure that content requirements of an EIS are included in the MSA analysis, and adjust the procedures and timing for completing an EIS through the FMC process. Rather than focusing on whether or not an action is "significant," this approach would undertake the more comprehensive analysis and consideration of alternatives for every action. Among other things, this approach would ensure preparation of EIS-level documents in "close call" situations. This approach was recommended by the CCC in their strawman, which would have required a single analytical document labeled an Environmental Impact Analysis (EIA).

However, there was little support for this approach expressed through public comment. One of the most noted concerns expressed by the public focused on the potential difficulty in developing scaling criteria, and how EIAs would be tailored to allow an appropriate scaling of the analysis based on the scope of the proposed action.

This approach could result in unnecessary analysis and delay for actions where an EA/FONSI is appropriate.

b. Status Quo

NMFS considered retaining the three main forms of documentation currently provided for in the CEQ regulations: The EIS, EA/FONSI, and CE. While these forms of documentation are familiar to the public, retaining them as they currently exist in the CEQ regulations would negate the opportunity for improvements to the NEPA process for MSA actions as intended by the MSRA.

c. New Forms of Documentation

The preferred alternative, as set forth in this proposed rule, would provide for four types of documentation based on the current EIS/EA structure, but tailored to address the unique needs of the fishery management process: (1) An IFEMS, which would be similar to an EIS but with more explicit integration of MSRA requirements, (2) an EA/FONSI, (3) a CE, and Determination of Categorical Exclusion, and (4) a Memorandum of Framework Compliance (this would allow NMFS and the FMCs to efficiently implement the NEPA process for actions (e.g., frameworks and annual specifications) that fall within the scope of a prior NEPA analysis). These documents, with the exception of the Memorandum of Framework Compliance, would have content requirements similar to those provided under existing NMFS procedures and caselaw, but with revisions to address specific fishery-related needs. In combination with the adjustments to process and timing described below, the intent of these revisions is to retain the flexibility to utilize an EA/FONSI or CE, where appropriate, but to make the process for completing an EIS-level document (i.e., IFEMS), and/or utilizing a Memorandum of Framework Compliance, better integrated with existing MSA timing and decision-making requirements.

2. Roles and Responsibilities

NMFS analyzed the MSA and NEPA statutory and regulatory requirements and identified several different ways of viewing the roles and responsibilities of NMFS and the FMCs in an integrated MSA/NEPA process.

a. FMCs Responsible for NEPA Compliance

One option would be to vest sole responsibility for preparing the NEPA analysis with the FMC and require that

the FMC develop the NEPA analysis during development of MSA management recommendations. This option would give the FMC full responsibility for completing the NEPA analysis. Under this scenario, the NEPA document would be primarily an FMC document. FMCs would be solely responsible for developing the final NEPA document prior to recommending management measures and actions to NMFS. The analysis would be prepared in accordance with the requirements for an EIS. NMFS would not participate substantially in the development of the document. The FMCs would be required to complete all required NEPA procedures, including the cooling-off period, prior to taking the final vote to recommend a measure or action. Because of the MSA's unique structure, based on the FMCs considering public input and making management recommendations to NMFS, and NMFS' subsequent decision to approve, disapprove, or partially approve any recommendation, this approach would effectively align NEPA's consideration of impacts and alternatives with the FMC's consideration of alternatives for recommendation to NMFS. However, NMFS is the Federal action agency ultimately responsible for NEPA compliance, and this option would not give NMFS involvement in the NEPA documentation and process to assure that NMFS satisfies its NEPA obligations.

b. NMFS Solely Responsible for NEPA

NMFS identified two approaches by which NMFS could comply with the mandates of NEPA without involving the FMCs. However, neither of these scenarios would result in the type of information sharing and public participation envisioned by NEPA and these proposed regulations.

(i) *Separating the NEPA Analysis From the FMC's Process.* Under this first scenario, NMFS, as the action agency, would conduct the NEPA analysis and prepare the appropriate NEPA document. NMFS would publish and make available the NEPA document separate from the FMC process, but if practicable NMFS could align its release of the document within the FMC process. NMFS, as a member of the FMC, could recommend NMFS's alternatives and NEPA analysis to the FMC as it considered alternatives prior to its final vote. However, NMFS has only one vote on each FMC and therefore could not ensure the range of alternatives NMFS analyzed in the NEPA document would be considered by the FMC as it developed its recommendation under the MSA. While

the Secretary must disapprove a recommendation that does not comply with NEPA, MSRA directed NMFS to revise and update its procedures to integrate NEPA procedures with the procedure for the preparation and dissemination of fishery management plans, amendments, or other actions taken or approved pursuant to the MSA. NMFS did not adopt this alternative because it does not effectively integrate consideration of alternatives and impacts for the NEPA analysis and for the FMCs' development of management recommendations.

(ii) *NMFS Prepares the NEPA Analysis After the FMC Takes Final Action.* Under this scenario, NMFS would again conduct the NEPA analysis and prepare the appropriate NEPA document. However, the NEPA process would not commence until after the FMC takes a final vote on its recommendations. This option is based on the theory that there is no proposed Federal action to analyze until the FMC transmits its recommendation and the Secretary is required to take action on the FMC's recommendation. However, this approach does not effectively integrate the analysis of alternatives and impacts for the NEPA analysis with the FMCs' development of recommended management measures and actions. This option would require significant reductions in the amount of time available for public review and comment on the NEPA analysis for all fishery management measures and actions.

c. Preferred Alternative

The third alternative NMFS considered would modify the procedural requirements for conducting the NEPA analysis and preparing the appropriate NEPA document to accommodate the unique relationship between the FMCs and NMFS in the MSA context.

This alternative is intended to better align public input to FMC recommendations and NMFS authority for approval and implementation of fishery management measures and actions and would establish a regulatory requirement that FMCs consider public comments on an IFEMS before taking a final vote. It is based on an understanding of the role of the FMC as an advisory body that narrows alternatives and makes recommendations and which, therefore, should be informed by public comment. This alternative also recognizes that NMFS, after having provided input and guidance to the FMC for the development of the NEPA document, bears ultimate responsibility for

compliance with both MSA and NEPA. The requirements of NMFS procedures implementing NEPA would be modified to accommodate the respective roles of the FMCs and NMFS in the NEPA process. This alternative would provide for more explicit integration of NEPA in the MSA decisionmaking process and maximize opportunities for public participation by providing opportunities for review and comment at by both FMC and NMFS, levels, while allowing flexibility to reduce comment periods for FMCs in certain circumstances to meet fishery management need.

3. Timing and Flow of Process

NMFS analyzed different ways to build flexibility and predictability into the timing requirements of the NEPA procedures to assure the appropriate level of NEPA analysis is prepared and to allow for the maximum amount of public participation during the FMCs' development of recommended management measures and actions.

a. CCC Strawman (Three-Meeting Minimum for IFEMS)

The CCC strawman includes a recommended process that would require a minimum of three FMC meetings to develop a management recommendation and associated NEPA documentation. Upon further consideration at its May 2007 meeting, however, the CCC determined that some management recommendations needing to be completed in fewer than three meetings would benefit from and/or require analysis in an EIS-level document and recommended that the revised procedures address this issue.

b. Preferred Alternative (Two-Meeting Minimum for IFEMS)

After analyzing the minimum timelines set forth in the CEQ regulations, the statutory timelines of the MSA, and the practical issues surrounding scheduling of FMC meetings and the logistics of completing the necessary steps to develop a fishery management recommendation, NMFS constructed an approach that would allow for the development of an IFEMS through a minimum two-meeting cycle, thus allowing for even the most time-constrained fishery management needs to be informed by an IFEMS.

This alternative would take into account the statutory structure of the MSA decision-making process and the need for the FMC recommendation to move forward through Secretarial review to an ultimate decision in order to respond to real-time fishery management needs. This alternative accommodates the typical FMC process

for development of a management recommendation with an EIS-level document, which usually involves an iterative process with the public in which several versions of a draft are shared and modified over the course of several FMC meetings prior to a final FMC vote. This alternative also recognizes that in some circumstances certain minimum time periods identified in the CEQ regulations may need to be reduced to allow the completion of an IFEMS in as few as two FMC meetings as described below.

For a smaller subset of fishery management needs, various factors (such as the timing of the availability of fishery statistics, the timing of the opening of the fishing season, judicially-imposed deadlines, and the schedule of FMC meetings) can interact to constrain the available time between identification of a management need and the time when a management measure needs to be effective. The intent of this proposed rule is to maintain the iterative and deliberative processes of the FMCs as they exist for addressing management needs in a situation not subject to such time constraints, but to allow enough flexibility so that the system can also accommodate an IFEMS in a time-constrained situation. This proposed rule (§ 700.604) would establish the following considerations for determining the appropriateness of reductions in minimum time periods for public comment:

- (1) Whether there is a need for emergency action or interim measures to address overfishing;
- (2) The potential long- and short-term harm to the fishery resource;
- (3) The potential long- and short-term harm to the marine environment, including non-target and protected species;
- (4) The potential long- and short-term harm to fishing communities;
- (5) FMC meeting schedules and ability to respond;
- (6) Degree of public need for the proposed action, including the consequences of delay;
- (7) Time limits imposed on the agency by law, regulations, or Executive Order.

An important component of this approach would be supplementation of the requirement in the CEQ regulations linking the start of minimum time periods for public comments and the delay associated with the cooling off period to the Environmental Protection Agency's (EPA's) publication of the notice of availability (NOA). EPA publishes a notice in the **Federal Register** each Friday, listing all the EISs that were filed with EPA the previous

week. In severely time-constrained fishery management situations, the time that is lost prior to EPA's weekly filing could be used by NMFS, the FMCs, and the public to complete better documents, to have a few more days of public comment, and/or to be able to complete an IFEMS on a very short deadline. The preferred alternative would allow NMFS to start the clock on the minimum time periods by filing the NOA of the IFEMS in the **Federal Register** as soon as the IFEMS is available to the public and filed with EPA. In such circumstances, the minimum time period could be calculated from the **Federal Register** publication date of the NMFS NOA. The EPA notice to follow would state that, pursuant to MSRA and EPA's authority to reduce prescribed periods for timing of agency action (40 CFR 1506.10(d)), EPA has reduced the applicable time according to the number of days provided for in preceding the NMFS NOA.

In addition to providing for time savings in time-constrained situations, this proposed change would allow NMFS to start the clock on the comment period on the NEPA document simultaneously with the start of the comment period on the proposed fishery management measure or action. Allowing the clocks for the two sets of comment periods to begin and run simultaneously would further integrate the requirements of NEPA and the MSA.

4. Other Elements (Experimental Fishing, Emergencies, Page Limits, and the Range of Alternatives To Be Analyzed)

a. Experimental Fishing

The public raised the issue that NEPA's requirements sometimes hinder the ability of research organizations to obtain EFPs. NMFS considered maintaining the status quo, as well as whether there may be opportunities to improve the current NEPA procedures with regard to EFPs. The preferred alternative would specify that, where experimental fishing activities proposed to be conducted under an EFP, and where the fish to be harvested have been accounted for in other analyses of the fishery such as by factoring a research set-aside into the allowable biological catch (ABC), optimum yield (OY), or fishing mortality, the activities could be eligible for a CE, as appropriate. Activities that are truly "scientific research," as defined by 50 CFR 600.10, are not subject to regulation under the MSA and thus not subject to this rulemaking.

b. Emergencies and Interim Actions Pursuant to the MSA

NMFS possesses authority under section 305(c) of the MSA to promulgate emergency rules or interim measures. NMFS's must be able to respond quickly to emergency or overfishing situations while accommodating NEPA's requirements to ensure adequate public involvement and prepare the requisite analyses for a particular measure or action.

As part of this proposed rulemaking, NMFS considered two options to comply with NEPA in the context of section 305(c) emergency and interim actions. One option would have allowed NMFS to prepare an abbreviated NEPA analysis for the measure or action. The scope and degree of analysis would have been determined in light of the nature and timeframe in which to address the emergency. Further, if good cause existed to waive the requirements for notice and opportunity for public comment on the proposed rule under the Administrative Procedure Act, NMFS would have afforded an opportunity for public comment on the NEPA document after implementation of the emergency or interim measures. The preferred option, as described in § 700.701, would establish the option of developing programmatic alternative arrangements for NEPA compliance with CEQ for emergency or interim actions that may result in significant impacts. The intent is to limit such arrangements to specific types of emergency or interim actions that necessitate immediate attention and for which public involvement or detailed analyses would interfere with NMFS' ability to control the immediate impacts of the emergency. While this alternative would still allow for the use of ad hoc approaches where appropriate, it would allow flexibility to prepare planned and managed approaches that would avoid the inefficiencies and uncertainties of reactive, situation-specific arrangements.

c. Page Limits

CEQ's guidance for preparation of EISs states that the text "shall normally be less than 150 pages," and for proposals of unusual scope or complexity "shall normally be less than 300 pages." 40 CFR 1502.7. NMFS and FMC-generated NEPA documents sometimes exceed these expected page limits. It has been suggested that reducing the number of pages of MSA NEPA documents could improve the overall analytical quality and public accessibility and understanding of the documents. The complexity of the

alternatives that must be analyzed for fishery management actions and measures and the difficulty of sufficiently analyzing these alternatives in a relatively short document, however, may result in documents exceeding these page limits. NMFS proposes to consult with CEQ on a programmatic basis in those situations where page limits for NEPA analyses are exceeded.

d. The Range of Alternatives To Be Analyzed

A Federal agency's range of alternatives is reasonable if the alternatives meet an agency's stated purpose and need and, if they are consistent with an agency's statutory authorities and policy objectives. Although the range of alternatives should not be so narrowly defined so as to preclude meaningful consideration of alternate ways of accomplishing agency objectives, courts have afforded agencies much discretion to define what they consider to be reasonable in light of the controlling statute or purpose and need for the action. In some cases the lack of precisely drawn alternatives has led to overly complex NEPA documents.

The CCC Subcommittee commented, in the context of MSA fishery management actions, that a literal interpretation of the requirement in CEQ's regulations that the EIS "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated," results in FMCs and NMFS analyzing alternatives that the FMC would never recommend, requires detailed analysis of every reasonable alternative suggested by the public, and results in an overapplication of NEPA's requirements. The CCC Subcommittee recommended striking the word "all" from before "reasonable alternatives" and clarifying that the requirement is to consider a "reasonable range" of reasonable alternatives. NMFS believes that clear guidance on the range of alternatives in the fishery management context would reduce the over-inclusion of alternatives that results in overly complex and voluminous alternatives analyses. The proposed rule would not eliminate the word "all," but would encourage better analysis of an appropriate, not overly-inclusive, range of alternatives.

III. Proposed Changes to Existing NEPA Review Procedures

After consulting with the FMCs and CEQ, and carefully considering input from the public, NMFS is proposing to implement new regulations, to be

published at 50 CFR part 700, establishing fisheries-specific procedures for NEPA compliance. This approach would replace the existing NMFS procedures for complying with NEPA in the context of fishery management under the MSA. These specific regulations for implementing NEPA in the context of fishery management under the MSA would supplement the general CEQ regulations implementing the procedural provisions of NEPA. While the CEQ definitions (40 CFR part 1508) and other generally applicable provisions of the CEQ regulations are not paraphrased or repeated, they would remain relevant and applicable. Based on public review and comment on these proposed regulations, CEQ will review the final NMFS regulations for conformity with NEPA. 40 CFR 1507.3.

A. Form of Documentation

The proposed process would utilize four forms of documentation: The IFEMS, the EA/FONSI, the CE, and the Memorandum of Framework Compliance.

1. IFEMS

The IFEMS would be comparable to an EIS-level analysis. As the name indicates, it would integrate applicable environmental analyses into a single document.

The content of the IFEMS would be largely similar to that of an EIS. This proposed rule contains additional specificity concerning what constitutes a reasonable range of alternatives, including the "no action" alternative, how incomplete or unavailable information should be treated for purposes of fishery management, and a specific requirement to consider cumulative impacts. The proposed process would also allow for the timing and procedures associated with the IFEMS to be modified from those CEQ has established for EISs.

While the NEPA-related contents of the IFEMS would be similar to the EIS, the procedural requirements would be different. The proposed name change from EIS to IFEMS is intended to make clear that the requirements applicable to an IFEMS are distinct from those applicable to an EIS, especially in terms of procedure and timing, but also regarding the identification of alternatives, how to deal with incomplete information, and the requirement to analyze cumulative impacts. Existing FMPs and EISs would not need to be amended to comply with the new IFEMS requirement. IFEMS would only need to be developed for

new actions or to take advantage of new frameworking measures.

This proposed rule would also establish categories of actions that would normally require an IFEMS, such as new FMPs, and FMP amendments with significant impacts (§ 700.103). These categories are expected to assist with agency and FMC planning and inform public expectations on the appropriate level of NEPA documentation. For example, when initiating analysis of a new action, an FMC or NMFS would be able to quickly determine which level analysis would most likely be applicable to that type of action. However, the determination of significance for a particular action would still ultimately be based on the application of the significance criteria.

2. EA/FONSI

The EA/FONSI would still be available for use based on the "significance" test as is currently the case. In addition, the proposed revisions would establish certain categories of actions that would normally qualify for this level of analysis, such as emergency actions and annual specifications or frameworks not covered by a Memorandum of Framework Compliance as described below. The effect of these categories would also be to assist with agency and FMC planning and inform public expectations. However, the determination of significance for a particular action would still ultimately be based on the application of the significance criteria.

In addition, new § 700.401(d) would authorize the use of a FONSI for an action that may have significant or unknown effects, as long as the significance and effects have been analyzed previously. This provision is intended to address situations such as recurrent annual management measures, the effects of which are significant or unknown, and which therefore do not qualify for a CE, but nevertheless do not require a new EIS every year given the previous analysis.

3. CE (and Determination of Categorical Exclusion (DCE)) (§§ 700.105 and 700.702)

The current CEQ guidance defines CEs and encourages agencies to use them. The proposed revisions include a new section on CEs that would establish a new form of documentation (DCE). The proposed revisions would also establish a new CE category for experimental fishing activities permitted under an EFP, where the fish to be harvested have been accounted for in other analyses of the FMP, such as by factoring a research set-aside into the

ABC, OY, or fishing mortality. In addition, the proposed revisions would establish, by regulation, other categories of actions that would qualify for a CE and which are currently contained in NOAA's Administrative Order that provides internal agency guidance on administering NEPA (NOA 216-6).

4. Framework Implementation Procedures and the Memorandum of Framework Compliance (§ 700.104)

This section would allow the NEPA process for fishery management to be streamlined for measures or actions that have been previously analyzed by the FMCs or NMFS. Specifically, this proposal would allow FMCs or NMFS to establish Framework Implementation Procedures (FIPs), i.e., formal mechanisms to allow actions to be undertaken pursuant to a previously planned and constructed management regime without requiring additional NEPA analysis. In its simplest terms, the goal of a FIP is to provide that, when the environmental impacts of fishery management measures have been analyzed in a broad parent document, subsequent actions to implement these measures, e.g., a framework action, annual specifications, or harvest limits, would not need further NEPA analysis, so long as the impacts of a subsequent action fall within the range of effects considered by the broad parent document.

The proposed use of FIPs would allow FMCs and NMFS to integrate NEPA's requirements into an existing MSA management tool that provides for advance planning and rapid response to real-time fishery management needs. Many FMPs include provisions, known as "frameworks," that permit a class of actions to be undertaken pursuant to procedures described under the FMP without requiring an amendment to the underlying FMP. The FMP or FMP amendment that establishes these procedures often includes extensive analysis of a range of measures and actions that are anticipated to be taken in the future through the use of these framework procedures. The FIP provisions proposed in this rule would allow an FMC or NMFS to utilize the same sort of advance planning for analysis of environmental impacts. FIPs could be used for a variety of fishery management measures and actions, including traditional framework actions, annual specifications, and other fishery management actions, as appropriate.

To establish a FIP, the FMCs or NMFS would include procedures in an FMP that comply with the requirements specified in § 700.104(a) of the proposed regulations. For example, the FIP would

need to specify criteria that would trigger the requirement to supplement a prior analysis if a new IFEMS or EA for the subsequent fishery management action would be needed.

This proposed rule would also establish a Framework Compliance Evaluation process to evaluate whether a fishery management action taken pursuant to an FIP established under an FMP requires additional action-specific analysis. At a minimum, the Framework Compliance Evaluation would serve two purposes: First, to identify the applicable underlying NEPA document(s) for the subsequent fishery management action; and second, to determine whether the underlying NEPA document(s) can support the action (i.e., whether the action and its anticipated effects fall within the scope of the prior analysis) or whether the NEPA analysis requires supplementation due to new information or because the effects of the subsequent action have not been previously analyzed.

The Framework Compliance Evaluation would result in one of two outcomes, as specified in § 700.104(c) and (d): (1) The development of a Memorandum of Framework Compliance that documents briefly how the fishery management action taken pursuant to a FIP falls within the scope of a prior NEPA analysis; or (2) the determination that supplementation of the prior NEPA analysis is needed to satisfy NMFS's NEPA obligation for the subsequent fishery management action.

B. The Role of the FMCs and NMFS in the NEPA Process

The proposed approach recognizes that the MSA created a unique structure for Federal fisheries management, under which both the FMCs and NMFS have important roles. The FMCs are advisory bodies that develop management alternatives and make recommendations that NMFS must approve or partially approve unless they are inconsistent with applicable law. Given the primary role FMCs play in the development of fishery management measures and actions, FMC decisions should be directly informed by public comment, and the MSA's public process requirements address this need. For its part, NMFS has the authority to approve and implement fishery management measures and actions and bears ultimate responsibility for compliance with the MSA and NEPA. To account for these different roles, portions of the proposed procedures would differ from the current NMFS procedures with respect to the requirements for public participation and consideration of and

responses to public comment by NMFS and the FMCs.

This proposed rule would establish new duties and opportunities intended to ensure both that public input relevant to the development of alternatives and policy recommendations is provided to the FMC when the FMC is developing its recommendations, and that NMFS considers and responds to comments addressing its decision to approve, disapprove, or partially approve an FMC recommendation, which includes consideration of NEPA compliance. This proposed rule would establish: a new requirement for FMCs to consider public comments on draft IFEMSs prior to voting to recommend a measure or action for Secretarial review; flexibility to reduce the public comment period on IFEMSs to fit a two-meeting cycle where necessary; additional requirements for consideration and response to public comments by NMFS (including a new comment period on the Final IFEMS and a new requirement to respond to comments on the Final IFEMS in the ROD, as appropriate); and flexibility for NMFS to reduce the cooling-off period where necessary.

In light of the important role the FMCs play in the MSA process, public comment regarding scope of analysis, alternatives, and impacts should appropriately be directed to the FMCs during the development of recommended management measures and actions. However, NMFS recognizes that this requirement could affect the FMCs' ability to respond rapidly to a fishery management need in some cases. Because integrating NEPA requirements into the FMC process requires assurances that public input can be considered prior to narrowing the range of alternatives, this proposed rule attempts to balance opportunities for public input with the need for rapid response to management needs. Therefore, this proposed rule includes modifications to timing and process as discussed further in section C below.

C. Timing and Process

This proposed rule would establish a process for conducting the necessary NEPA analyses within the context of the FMC process. For EAs and CEs, the procedures currently used by the FMCs would not be affected. Likewise, there would not be significant changes to the existing process for Secretarial and HMS actions. Therefore, this discussion focuses on the proposed process by which an IFEMS would be prepared for an FMC-initiated action.

The key concept behind the proposed changes in procedure is that the opportunities for public participation

and the requirements for comment and response have been revised to align with the MSA process and to reflect the respective roles of the FMCs and NMFS under the MSA, as discussed above. To allow the process to flow, as envisioned under the MSA, from FMC recommendation to an ultimate final agency action by NMFS, flexibility would be built into the procedural timelines.

As described in the discussion of roles in section B. above, this proposed rule strikes a balance between creating additional NEPA procedures required for the FMCs and where appropriate allowing for reductions of time for public review and input. While it imposes new duties on the FMCs to consider public input before voting, it does so in a manner intended to allow the process to continue moving forward to a decision point at the NMFS level. It is vital that FMCs and NMFS retain the ability to respond rapidly to fishery management needs. It is important to note that the public would be given as much time to review the draft as the FMC members and that any reduction in time must be supported by one of the criteria enumerated in these proposed regulations.

To offset any potentially shortened public review period on the draft during the development of FMC recommendations, this proposed rule would add additional public input requirements for NMFS. This would include a new comment period on a Final IFEMS, and a new requirement to respond to comments on the Final IFEMS in the ROD.

The goal of the proposal is to make the process flexible enough to allow adequate public involvement, but to allow for adjustments when necessary to meet a time-sensitive resource management need. The minimum time period in which an FMC recommendation supported by an IFEMS could be completed under the proposed regulations would be over the course of two FMC meetings.

For FMC-initiated actions, the process would flow as follows:

1. Scoping

The basic scoping approach for FMC-initiated actions would be based on the MSA process. Generally, the initial scoping notice would be published in the **Federal Register** as part of an FMC's meeting agenda notice, and no less than 14 days in advance of the FMC meeting. This provision would not limit the ability of an FMC or NMFS to publish a scoping notice earlier in the process. In addition to the FMC meeting, other scoping activities could also be

conducted by the FMC or NMFS. NMFS would have to ensure that the scoping process meets the purposes of scoping as proposed to be set forth at § 700.108. The scoping notice would be required to be titled and formatted in a manner that provides the public with adequate notice of the NEPA-related scoping process. For NMFS-initiated actions, including HMS actions, NMFS would initiate scoping via a **Federal Register** notice and would provide notice of scoping activities, if any, conducted in conjunction with HMS Advisory Panel meetings or other meetings held by NMFS.

While the intent is to utilize the existing FMC processes to the extent practicable, the proposed regulations would allow scoping to be satisfied by many different mechanisms, including: FMC or NMFS planning meetings and public hearings; requests for public comment on public hearing documents; discussion papers; and other versions of decision and background environmental documents. Scoping meetings should adequately inform interested parties of the proposed action and alternatives to facilitate substantive participation in the development of the management measures and environmental document. If the proposed action has already been subject to a lengthy development process that has included early and meaningful opportunity for public participation in the development of the proposed action, those prior activities may be used as part of meeting the scoping components of these environmental review procedures.

Note that, in order to get the scoping notice out as early as possible, the FMC may not identify alternatives prior to publication of the notice. In this case, it would be sufficient to indicate that alternatives will be identified through the FMC process and that the public will have an opportunity to provide input through the FMC process.

NMFS, working with the FMCs, will develop guidance on the appropriate format and content for scoping notices.

In addition, the proposed rule includes a requirement at § 700.112 that, with respect to any responsibilities not clearly assigned by this rule, NMFS and the FMC would assign these responsibilities prior to completion of the scoping process.

2. Draft IFEMS

The draft IFEMS would be circulated for public comment for at least 45 days prior to the FMC voting to recommend an action to NMFS, unless any of the considerations in § 700.604(b)(2) are met. The FMC would be required to consider public comment on the IFEMS

prior to voting to recommend the action. At a minimum, the notice of its availability would be required to be published no later than with the agenda notice for the upcoming FMC meeting at which FMC action would take place.

Under the proposed rule, the allowable public comment period on a draft IFEMS might, in extraordinary circumstances, be only 14 days, compared to CEQ's required minimum time period of 45 days for public comment on draft EISs (DEISs). It is important to note, however, that the draft IFEMS informs the FMCs in their development of recommended management measures and actions. In light of the unique role the FMCs play, the draft IFEMS would be specifically designed to link NEPA's considerations to the FMC process of developing recommended management measures and actions under the MSA.

3. Public Comment

In order to ensure that the public has a meaningful opportunity to participate in the NEPA process as the FMC develops its recommended management measures and actions, as well as ensure that the FMC is well-informed when making its MSA recommendations, the FMC would be required to consider public comment on the draft IFEMS prior to voting to make a final recommendation to the Secretary. Because FMC meetings are public meetings and transcripts are kept, there would be a record of how the FMC addresses comments. The FMC's vote would also provide evidence of how the FMC responded to comments. In addition, this proposed rule would require the final IFEMS to document how both the FMC and NMFS responded to comments on the draft (§ 700.304).

Likewise, the commenting public would need to raise comments pertinent to the FMC's analysis, such as the scope of the analysis, the alternatives considered, and the expected environmental impacts, to the FMC prior to its vote. The proposed regulations state that NMFS is not obligated to respond to comments relevant to the draft IFEMS that are raised for the first time during Secretarial review. (See § 700.305(d)). The proposed regulations are intended to encourage the public to seek any change in the policy recommendation or alternatives considered before the FMC's vote when this can and should appropriately be done via the FMC process. Therefore, the proposal highlights the obligations of the interested public to raise pertinent comments at appropriate points in the

process. As discussed below, comments relevant to the draft IFEMS raised for the first time when the action is under MSA Secretarial review will be considered only in light of the Secretary's decision on the proposal's ultimate approvability, which includes compliance with NEPA and other applicable law.

4. Vote

The FMC would vote to recommend action. Depending on the outcome of the vote, either a final IFEMS or a supplemental IFEMS could be prepared. A final IFEMS could be prepared and submitted with the transmittal package to begin Secretarial review if the FMC voted to recommend: (1) An alternative considered and analyzed in the draft IFEMS; (2) a hybrid of the alternatives analyzed in the draft; or (3) another alternative not specifically analyzed in the draft IFEMS, but otherwise within the range of the alternatives analyzed in the draft. If, however, the FMC voted to recommend a completely new alternative ("outside the box" alternative) that was not previously analyzed, there would be a requirement for additional analysis, but the proposed approach would offer some flexibility in determining how to proceed as described below.

5. Supplemental IFEMS

Section 700.203(b)(5) is intended to address the question of how to allow the FMC's recommended action to move forward towards submission to NMFS for decision, while assuring meaningful opportunity for the public to comment on the NEPA analysis both as the FMC develops its recommendation and as NMFS reviews the recommended action. Because the FMC process culminates in a vote from the FMCs, the FMCs rarely have a preferred alternative fully fleshed out prior to their vote. At FMC meetings, after hearing public testimony, an FMC may vote to recommend an action that is a modification of alternatives or combinations of alternatives specifically analyzed. Unless the impacts are beyond the scope of the analysis the FMC considered, these types of changes should not require a new draft IFEMS, but rather can be fully assessed in a final IFEMS and distributed for additional public comment before NMFS's final decision. The intention is to prevent the FMC from becoming trapped in a cycle of preparing a revised analysis to address the new alternative and conducting another vote, which again results in a completely new alternative, leading to yet another round of analysis and voting. On occasion, this

cycle can lead to gridlock such that necessary and appropriate conservation and management measures or actions are inordinately delayed. If, however, the FMC selects a completely new alternative beyond the scope of the draft IFEMS, the public must be provided an opportunity to review a supplemental IFEMS.

As described below, the proposed approach would give the FMCs and NMFS some flexibility in determining how to proceed when an unanalyzed alternative is selected by the FMC. The FMC could choose to take public comment on the supplemental IFEMS through the FMC process or to transmit the supplemental IFEMS to NMFS and have NMFS take public comment on it during Secretarial review of the proposed action.

The FMC could decide to supplement the analysis, take public comment at the FMC level, and then submit the final IFEMS to NMFS with the transmittal package for the MSA recommendation(s). The supplemental document would be distributed to the public as another "draft" IFEMS and would comply with timing and commenting provisions regarding drafts. This approach would allow the FMC to maintain control of their analysis in the MSA process, and would allow a new vote at the FMC level prior to Secretarial review in the event that the supplemental analysis identified impacts that caused the FMC members to change their votes.

Alternatively, the supplemental IFEMS could be prepared and submitted with the transmittal package for the MSA recommendation(s). NMFS would then request comment on the supplement during the Secretarial review period. This approach also contemplates that the supplemental IFEMS would be treated as another "draft" IFEMS and would comply with timing and commenting regarding drafts. There are many drawbacks to this approach, and NMFS anticipates that it would be used rarely, if ever, and only to address extraordinary circumstances. The FMC would not have the ability to revise its recommendation based on the results of the supplemental IFEMS. In addition, because of the limited time available for an additional notice and comment opportunity during the MSA's Secretarial review period, this approach would involve extremely tight turn-arounds due to the MSA's statutory time periods. This type of scheduling would involve severe workload burdens on staff and would involve a high risk of failure to meet the statutory deadline. However, in certain circumstances

requiring the need for rapid response, this approach may be appropriate.

To allow for the necessary steps to be completed within the mandatory review periods, when NMFS is reviewing an FMC-recommended regulation with a supplemental IFEMS on the MSA clock (MSA sec. 304(b)), the proposed rule would allow the minimum NEPA time periods to be adjusted to run concurrently with the comment period on the proposed regulation, if justified.

The FMCs and NMFS should continually evaluate the adequacy of existing IFEMS that cover ongoing management activities.

6. Final IFEMS

For fishery management actions developed through the FMC process, the final IFEMS would: Describe the public comments received through the FMC public process; describe any changes made through the FMC public process, either to the analysis or to the proposed action; and describe any additional modifications to the alternative recommended as the proposed action by the FMC.

7. Transmittal

When the package is complete, it would be "transmitted" to NMFS to initiate the MSA statutory review time periods.

8. Cooling Off Period and Comment Period for a Final IFEMS

a. For a final IFEMS submitted with the transmittal package, NMFS would publish in the **Federal Register** an NOA of the Final IFEMS as part of the appropriate notice of proposed rulemaking or NOA of a proposed FMP or FMP amendment and solicit public comment on the IFEMS, along with public comment on the FMC's recommended action. This would represent a new opportunity for public comment not provided for under CEQ NEPA regulations or current NMFS NEPA procedures. Comments would address the Secretary's decision to approve, disapprove, or partially approve the recommended action, which requires consideration of consistency with applicable law such as the MSA and NEPA. The reason for providing a new opportunity for comment on the final IFEMS is to assure that, as the Federal action agency, NMFS provides the public an opportunity to participate in its decision-making. In addition, this provision would better align the MSA public comment opportunities during Secretarial review with those for the NEPA analysis.

As discussed above, this proposed rule would require comments relevant to the FMCs' NEPA analysis to be raised via the FMC process. Therefore, comments on the final IFEMS should address issues relevant to NMFS' decision on the FMC's recommendation, such as compliance with the MSA, its National Standards, and other applicable law including NEPA. If comments requesting a change in the FMC's policy recommendation or otherwise relevant to the draft IFEMS are not made initially during the FMC process, but could have been, the Secretary would not be required to consider them at a later stage.

Comments would be addressed in the ROD as provided for in the regulations (see § 700.502(b)(4)). The Final IFEMS would also need to be filed with the EPA, and NMFS' publication of the NOA for the IFEMS would initiate the 30-day cooling-off period (which could be reduced to 15 days under certain circumstances).

b. If a Supplemental IFEMS is submitted with the transmittal package, a Final IFEMS would need to subsequently be prepared and circulated for a period of public comment (which could be reduced to 15 days if the action is a regulatory amendment) during Secretarial review. Publication of the Final IFEMS would initiate the 30-day cooling-off period (which could be reduced to 15 days if necessary to complete the Final IFEMS within the MSA's Secretarial review period).

9. ROD

In the ROD, NMFS would respond to comments received on the Final IFEMS. However, as described below, NMFS would not be required to respond to comments raised for the first time with respect to a Final IFEMS if such comments were required to be raised with respect to a draft IFEMS pursuant to § 700.303(b) and § 700.304(d).

10. Public Comment and Agency Response Under the New Process

As discussed above, in order to inform the development of the NEPA document and fishery management alternatives considered by the FMCs, comments relevant to the draft IFEMS, such as comments on the statement of purpose and need, range of alternatives, and evaluation of environmental impacts, would need to be raised prior to the FMC's vote to recommend a measure or action to NMFS. Because section 304 of the MSA limits NMFS' discretion to approval, partial approval, or disapproval of FMC-recommended actions, the proposed rule is intended to discourage the public from seeking a

policy change for the first time at the NMFS level when this should appropriately be done via the FMC process. Therefore, the proposal highlights the obligations of the interested public to raise pertinent comments at appropriate points in the process. Comments raised for the first time when the action is under MSA Secretarial review would be considered only in light of the Secretary's decision whether to approve the proposal, which includes compliance with NEPA and other applicable law. Recommendations for additional or revised policy approaches not presented to the FMC are inappropriate at this time.

D. Alternatives To Be Analyzed

Through this proposed rule, NMFS clarifies that "reasonable alternatives" are those derived from the statement of purpose and need of the action and that satisfy, in whole, or substantial part, the objectives of the proposed Federal action. Alternatives that are impractical or ineffective are not "reasonable alternatives." This means that alternatives that are not consistent with the MSA and its national standards are not reasonable.

With regard to the range of alternatives to be considered, the proposed rule uses the same language as the CEQ regulations requiring that the IFEMS "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." The new language explicitly linking the scope of reasonable alternatives to the statement of purpose and need, in combination with existing language regarding the elimination of alternatives from detailed study, should provide more clarity to NMFS and FMCs that detailed analysis of alternatives not linked to the purpose of the action is unnecessary. As a result, NMFS and the FMCs will be better able to reduce the over-inclusion of alternatives that results in overly complex and voluminous alternatives analyses.

These proposed regulations would also clarify NEPA's requirement to consider the "no action" alternative in the context of fishery management actions. For purposes of the MSA, unless a fishery is regulated, at least with regard to approved gear types, fishing is unrestricted. However, FMPs vary in the way management measures are implemented. In some FMPs, management measures sunset at the end of a certain time period, in others they have annual expirations, and in others they are effective until modified or

removed. Thus, a literal interpretation of the term "no action" could sometimes result in an unregulated, open access fishery. Other times "no action" could mean a complete closure of the fishery. Still other times, it could mean something in between. NMFS proposes to clarify that the "no action" alternative does not mean the literal result of no Federal action. Rather, in a fishery management context, the no action alternative means the presumption that the fishery would continue being prosecuted in the same manner that it is being prosecuted at the time the development of the IFEMS is initiated. This interpretation produces a reasonable approximation of a baseline for purposes of NEPA's comparative analysis. Thus "no action" does not mean the literal management regime that would result if no Federal action were taken (such as sunseting of measures resulting in open access, or complete closure of the fishery). Rather it means presumed continuation of management at the current baseline. However, in cases where it is reasonable to consider open access or complete closure alternatives, the analysis should include these as part of the reasonable range.

NMFS notes however that the selection of alternatives for the purposes of NEPA compliance may be more limited than the selection of alternatives pursuant to other analytical requirements, including the Regulatory Flexibility Act, Executive Order 12866 and OMB Circular A-4, and the Unfunded Mandates Act. Pursuant to these authorities, the agency may consider alternatives that are inconsistent with the MSA or the National Standards, in the same way that the "no action" alternative may be inconsistent with statutory requirements. In addition, NMFS and the FMC may include in their analyses alternatives that are not "reasonable alternatives" at the time of the scoping decision for other reasons.

E. Experimental Fishing

The preferred alternative would specify that, in cases where experimental fishing activities are proposed to be conducted under an EFP, and where the fish to be harvested have been accounted for in other analyses of the FMP, such as by factoring a research set-aside into the ABC, OY, or fishing mortality, the proposed activities would be eligible for a CE.

F. Incomplete/Unavailable Information

Pursuant to the mandates of section 301(a)(2) of the MSA, NMFS and the FMCs are required to utilize the "best

available scientific information” in developing fishery management measures and actions. Case law has held that the MSA does not require NMFS or the FMCs to generate new information not already available (see, e.g., *Recreational Fishing Alliance v. Evans*, 172 F. Supp. 2d 35 (D.D.C. Sep 20, 2001), *Southern Offshore Fishing Ass’n v. Daley*, 995 F. Supp. 1411 (D.D.C. 1998), *Blue Water Fisherman’s Ass’n v. Mineta*, 122 F. Supp. 2d 150 (D.D.C. 2000), *A.M.L. Intern., Inc. v. Daley*, 107 F. Supp. 2d 90 (D. Mass. 2000)). However, to maintain consistency with the existing CEQ regulations, this proposed rule would include a requirement that:

NMFS shall identify incomplete information that is relevant to reasonably foreseeable significant adverse impacts and that is essential to a reasoned choice among alternatives and determine the overall costs and benefits of obtaining it. If NMFS finds that the overall costs of obtaining the information are not exorbitant, NMFS shall ensure that the information is obtained and include the information in the IFEMS. (§ 700.220)

MSA National Standard 2 requires FMCs and NMFS to base their decisions on the best scientific information available. In light of the MSA’s statutory provisions, in determining whether the costs of obtaining such information are “exorbitant,” NMFS must consider the availability of appropriated funds and research priorities identified by the agency, the FMC Science and Statistical Committees and FMCs pursuant to section 302(h)(7) of the MSA. It is also necessary to consider the cost of delaying an action to seek additional information. In addition, NMFS recognizes that the nature of the stock assessment process creates a dynamic flow of information, and that fishery management will always involve uncertainty. Therefore, the relevance of unavailable information must be considered within this context. § 700.220(c) would also specify that, if the uncertainties have already been analyzed in a prior analysis, subsequent analyses would cite to the previous analyses on the issue of unavailable information.

G. Emergency and Interim Actions

This proposed rule would allow for the development of programmatic alternative arrangements for NEPA compliance with CEQ for emergency or interim actions that may result in significant impacts. The intent is to limit such arrangements to specific types of emergency or interim actions that necessitate immediate attention and for which public involvement or

detailed analyses would interfere with NMFS’s ability to control the immediate impacts of the emergency. For emergencies or interim actions that will not result in significant impacts, NMFS would prepare an EA and FONSI. In the event the nature and scope of the emergency requires immediate promulgation of regulations and NMFS has not completed the EA and FONSI, NMFS would be required to publish the draft EA and FONSI with the final rule and subsequently complete the NEPA analysis prior to the expiration or extension of the emergency or interim rules’ effective period.

H. Page Limits/Contents

This proposed rule would require that NMFS consult with CEQ on a programmatic basis in those situations where recommended page limits are exceeded. The intent would be to assess the effectiveness of these documents and the reasons why a particular document or documents exceed the recommended limit and determine the feasibility of complying with this recommended goal.

I. Conflicts of Interest

The proposed rule would clarify the conflicts of interest safeguards that apply when NMFS or the FMC selects a contractor to work on an analysis. It would require contractors to execute a disclosure statement specifying that they have no financial or other interest in the outcome of the project. If the NEPA document is prepared by contract, this proposed rule would require the responsible Federal official to provide guidance to contractors, to participate in the preparation of the contracted document, and to independently evaluate the IFEMS prior to its approval and take responsibility for its scope and contents. This proposed rule would also clarify that, to the extent that members of an FMC are involved in development of an IFEMS, they must comply with the rules regarding conflicts of interest as set forth in section 302(j) of the MSA, 15 CFR 14.42, 15 CFR 24.36(b), and 40 CFR 1506.5(c).

Relationship to the CEQ Implementing Regulations

NMFS proposes these regulations as a customization of and a supplement to the CEQ NEPA implementing regulations at 40 CFR Parts 1500–1508. Readers familiar with the CEQ regulations will find many similarities, and in some places restatement of CEQ language into these regulations. However, where there are differences between the two, NMFS intends that

these more specific regulations will be followed (in place of the general CEQ regulations) for fishery management actions. Similarly, for issues where these regulations are silent, the CEQ regulations continue to apply to fishery management actions where relevant.

Classification

The NMFS Assistant Administrator has determined that this proposed rule is consistent with the provisions of the Magnuson-Stevens Act, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be significant for purposes of Executive Order 12866.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities. The factual basis for this certification is as follows:

The proposed rule would implement a new environmental review process under the National Environmental Policy Act (NEPA) for fishery management actions pursuant to the MSA.

This rulemaking is being conducted pursuant to section 304(i) of the MSA, which requires the Secretary of Commerce, in consultation with CEQ and the FMCs, to revise and update the NMFS procedures for compliance with NEPA for actions taken pursuant to the MSA. The purpose of the legislation is to conform the environmental review procedures to the time lines for review and approval of fishery management actions, and integrate applicable environmental analytical procedures with the procedure for preparation and dissemination of fishery management actions.

The proposed rule is procedural in nature and is intended solely for internal agency and FMC use when preparing NEPA analyses for fishery management actions. Moreover, the proposed rule does not mandate that small entities behave in a particular way or regulate existing or future activities of an economic nature. Thus, the Department of Commerce does not anticipate that any small entities would be affected, directly or indirectly, by this proposed action.

As a result, an initial regulatory flexibility analysis is not required and none has been prepared.

List of Subjects in 50 CFR Part 700

Administrative practice and procedure, Environmental protection, Fisheries, Intergovernmental relations.

Dated: May 2, 2008.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons set out in the preamble, NMFS proposes to amend 50 CFR Chapter VI by adding part 700 to read as follows:

PART 700—ENVIRONMENTAL REVIEW PROCESS FOR FISHERY MANAGEMENT ACTIONS

Subpart A—General

Sec.

- 700.1 Policy.
- 700.2 Authority.
- 700.3 Definitions.
- 700.4 NMFS capability to comply.
- 700.5 Agency procedures.
- 700.6 Elimination of duplication with State and local procedures.
- 700.7 Effective date and applicability.

Subpart B—NEPA and Fishery Management Planning

- 700.101 Apply NEPA throughout the fishery management process.
- 700.102 When to prepare an environmental assessment.
- 700.103 When to prepare an IFEMS.
- 700.104 Using a memorandum of framework compliance pursuant to a framework implementation procedure.
- 700.105 Using a Categorical Exclusion.
- 700.106 Lead agencies.
- 700.107 Cooperating agencies.
- 700.108 Scoping.
- 700.109 Time limits.
- 700.110 Adoption.
- 700.111 Combining documents.
- 700.112 Assignment of tasks.

Subpart C—Integrated Fishery and Environmental Management Statement

- 700.201 Purpose of the IFEMS.
- 700.202 Implementation.
- 700.203 Timing.
- 700.204 Interdisciplinary preparation.
- 700.205 Page limits.
- 700.206 Writing.
- 700.207 Phases of analysis; draft, final, and supplemental IFEMSs.
- 700.208 Recommended format.
- 700.209 Cover sheet.
- 700.210 Summary.
- 700.211 Purpose and need.
- 700.212 Alternatives including the proposed action.
- 700.213 Affected environment.
- 700.214 Environmental consequences.
- 700.215 List of preparers.
- 700.216 Preparation of an appendix.
- 700.217 Circulation of the IFEMS.
- 700.218 Tiering.
- 700.219 Incorporation by reference.
- 700.220 Incomplete or unavailable information.
- 700.221 Cost-benefit analysis.

700.222 Methodology and scientific accuracy.

700.223 Environmental review and consultation requirements.

Subpart D—Public Participation

- 700.301 Public outreach.
- 700.302 Inviting comment on the IFEMS.
- 700.303 Opportunity to comment.
- 700.304 Specificity of comments.
- 700.305 Response to comments.

Subpart E—Fishery Conservation and Management Actions That Significantly Affect the Quality of the Human Environment

- 700.401 Determining the significance of NMFS's actions.
- 700.402 Guidance on significance determinations.

Subpart F—NEPA and Fishery Management Decisionmaking

- 700.501 Fishery management decisionmaking procedures.
- 700.502 Record of decision.
- 700.503 Implementing the decision.

Subpart G—Additional Requirements and Limitations

- 700.601 Limitations on fishery management actions during MSA-NEPA process.
- 700.602 NMFS responsibility for environmental documents produced by a third-party.
- 700.603 Filing requirements.
- 700.604 Minimum time periods for agency action.

Subpart H—Emergencies and Categorical Exclusions

- 700.701 Emergencies.
- 700.702 Categorical exclusions.

Authority: 16 U.S.C. 1854(i).

Subpart A—Policy and Authority

§ 700.1 Policy.

(a) The National Marine Fisheries Service (NMFS) and the Fishery Management Councils (FMCs) shall to the fullest extent possible:

(1) Integrate the requirements of the National Environmental Policy Act (NEPA) and other planning and environmental review procedures required by law with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) procedures for preparation and dissemination of fishery management plans, plan amendments, and other actions taken or approved pursuant to the MSA in order to provide for timely, clear, and concise analysis.

(2) Implement procedures to make the NEPA and MSA processes more useful to decisionmakers and the public; to reduce paperwork and the accumulation of extraneous background data; and to emphasize real environmental issues and alternatives. Environmental documents shall be concise, clear, and to the point, and shall be supported by

the best available scientific information and evidence that NMFS has made the necessary environmental analyses.

(3) Encourage and facilitate public involvement in decisions which affect the quality of the human environment, utilizing, to the extent practicable, the public involvement procedures set out in the MSA.

(4) Apply NEPA through the MSA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment.

(b) In the development of fishery management actions pursuant to the MSA NMFS and the FMCs shall:

(1) Integrate the requirements of NEPA early and throughout the MSA's fisheries conservation and management process to insure implementation of NEPA's policies and the standards of the MSA while eliminating unnecessary delay in environmental impact assessment and fisheries conservation and management decisions.

(2) Provide for consideration of environmental impacts, alternatives, and public comments at key points in the process to inform both the FMC's development of recommendations to the Secretary and the Secretary's decision whether to approve and implement the fishery management action.

(3) Identify at an early stage the significant environmental issues deserving of detailed study and deemphasizing insignificant issues, thereby narrowing the scope of the environmental document accordingly.

(4) Provide for appropriate time limits on the processes provided by this part.

(c) NMFS shall use all practicable means, consistent with the requirements of the MSA, NEPA, and other essential considerations of national policy, to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions upon the quality of the human environment.

§ 700.2 Authority.

This part is applicable to and binding on NMFS and the FMCs, and other interested agencies and members of the public for implementing the procedural provisions of NEPA, as amended (Pub. L. 91-190, 42 U.S.C. 4321 *et seq.*), in the context of fishery management actions except where compliance would be inconsistent with other statutory requirements. These regulations are issued pursuant to NEPA, the MSA as amended (Pub. L. 109-479, sec. 107), and Executive Order 11514, Protection and Enhancement of Environmental Quality (March 5, 1970, as amended by

Executive Order 11991, May 24, 1977). The regulations apply to NMFS compliance with the whole of NEPA section 102. The provisions of NEPA, the MSA, and of these regulations must be read together as a whole in order to comply with the spirit and letter of the law. Subject to the limitations in MSA section 305(f), judicial review of NMFS' compliance with these regulations shall not occur before NMFS has promulgated regulations with a final Integrated Fishery Environmental Management Statement (IFEMS), has made a finding of no significant impact (when such a finding will result in action affecting the environment), or has made a Determination of Categorical Exclusion, or takes action that will result in irreparable injury. Any trivial violation of these regulations shall not give rise to any independent cause of action.

§ 700.3 Definitions.

For the purposes of this part, all terms defined in the regulations implementing NEPA established by the Council for Environmental Quality at 40 CFR part 1508 apply where relevant. The following definitions supplement these definitions.

(a) *Amendment*. A change to an FMP (FMP amendment) or to an FMP's implementing regulations (regulatory amendment). For purposes of Secretarial review and procedure, the MSA treats an FMP amendment the same as an FMP (MSA section 304(a)). An amendment is different from a Framework Action in that a Framework Action is an action provided for within the structure of an existing FMP or regulatory scheme. An amendment is a change to the underlying FMP or regulatory scheme itself. See also the definitions of FMPs and Framework Actions, below.

(b) *Emergency action*. A fishery management emergency action is an action taken pursuant to section 305(c) of the MSA, that responds to a situation that: Results from recent, unforeseen events or recently discovered circumstances; presents serious conservation or management problems in the fishery, including loss of life or serious injury; and can be addressed through emergency regulations for which the immediate benefits outweigh the value of advance notice, public comment, and deliberative consideration of the impacts on participants to the same extent as would be expected under the normal rulemaking process.

(c) *Environmental document*. An EA, FONSI, draft IFEMS, supplement to a draft IFEMS, final IFEMS, supplement to a final IFEMS, or a Record of Decision (ROD). The memorandum issued to

document a CE ("DCE") or Framework Compliance Evaluation is also considered an environmental document.

(d) *Integrated Fishery and Environmental Management Statement (IFEMS)*. The analysis undertaken, to:

(1) Identify the scope of issues related to a conservation and management need;

(2) Make decisions that are based on understanding the environmental consequences of the proposed action; and

(3) Determine the necessary steps for NEPA compliance.

(e) *Fishery Management Plan (FMP)*. A management plan for a federal fishery or fisheries developed and implemented pursuant to the MSA. The MSA establishes certain components that each FMP must include and sets up required policy considerations with which FMPs must comply (national standards). An FMP may include some measures that are implemented as regulations and others that are not. The MSA establishes separate timelines and review tracks for regulatory versus nonregulatory measures.

(f) *Framework implementation procedure*. A Framework Implementation Procedure is a procedure established under an FMP that allows actions to be undertaken pursuant to a previously planned and constructed management regime without requiring additional environmental analysis. The types of measures that could fall within a Framework Implementation Procedure may include traditional framework actions, annual specifications and other fishery management actions, as appropriate. The intent of a Framework Implementation Procedure is to facilitate the adjustment of management measures within the scope and criteria established by an underlying management regime and analysis to provide for real time management of fisheries. A Framework Implementation Procedure achieves this goal by developing early broad-based analysis of management approaches and impacts that provide a foundation that specified subsequent actions, or categories of actions, may rely on. As long as subsequent management actions and their environmental effects fall within the scope of a prior analysis, no additional action-specific analysis would be necessary.

(g) *Framework Compliance Evaluation (FCE)*. Documentation to determine whether an existing NEPA document remains adequate to support a fishery management action undertaken pursuant to a Framework Implementation Procedure. The FCE

will culminate in either a determination that the existing NEPA analysis must be supplemented or preparation of a Memorandum of Framework Compliance for the file. Section 700.104 establishes a process for the development of an FCE.

(h) *Determination of Categorical Exclusion*. A memorandum for the record providing the specific rationale that a fishery management action qualifies for a Categorical Exclusion under § 700.701.

§ 700.4 NMFS capability to comply.

NMFS shall ensure that it is capable (in terms of personnel and other resources) of complying with the requirements enumerated herein. Such compliance may include use of other's resources, but NMFS shall itself have sufficient capability to evaluate what others do for it. NMFS shall:

(a) Fulfill the requirements of section 102(2)(A) of NEPA to utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on the human environment. NMFS shall designate a person to be responsible for overall review of agency NEPA compliance.

(b) Identify methods and procedures required by section 102(2)(B) to insure that presently unquantified environmental amenities and values may be given appropriate consideration.

(c) Ensure preparation of adequate IFEMSs pursuant to section 102(2)(C).

(d) Study, develop, and describe alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources. This requirement of section 102(2)(E) extends to all such proposals, not just the more limited scope of section 102(2)(C)(iii) where the discussion of alternatives is confined to IFEMSs.

(e) Comply with the requirements of section 102(2)(H) that the agency initiate and utilize ecological information in the planning and development of resource-oriented projects.

(f) Fulfill the requirements of sections 102(2)(F), 102(2)(G), and 102(2)(I) of NEPA, and of Executive Order 11514, Protection and Enhancement of Environmental Quality, section 2.

§ 700.5 Agency procedures.

NMFS and the FMCs shall periodically review, and revise as necessary, their procedures to comply with the requirements set forth in the regulations in this part.

§ 700.6 Elimination of duplication with State and local procedures.

(a) NMFS and the FMCs shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and State and local requirements, unless the agencies are specifically barred from doing so by some other law. Such cooperation shall to the fullest extent possible include:

- (1) Joint planning processes.
- (2) Joint environmental research and studies.

(3) Joint public hearings (except where otherwise provided by statute).

- (4) Joint environmental assessments.

(b) NMFS and the FMCs shall cooperate with State and local agencies to the fullest extent possible to reduce duplication between NEPA and comparable State and local requirements, including through development of joint environmental documents. In such cases NMFS and one or more State or local agencies may be joint lead agencies. Where State laws or local ordinances have environmental impact statement requirements in addition to but not in conflict with those in NEPA, NMFS shall cooperate in fulfilling these requirements as well as those of Federal laws so that one document will comply with all applicable laws.

(c) Where applicable, to better integrate environmental documents into State or local planning processes, environmental documents shall discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the environmental document should describe the extent to which NMFS would reconcile its proposed action with the plan or law.

§ 700.7 Effective date and applicability.

The effective date of this part is [INSERT DATE 30 days from publication of the final rule in the Federal Register]. This part shall apply to fishery management actions initiated by NMFS or the FMCs after this effective date. NMFS or an FMC may also apply these regulations to actions already under development if NMFS or the FMC determines it is appropriate. No completed environmental documents need be redone by reasons of this part.

Subpart B—NEPA and Fishery Management Planning**§ 700.101 Apply NEPA throughout the fishery management process.**

NMFS and the FMCs shall integrate the NEPA process at the earliest

possible time and throughout fisheries conservation and management planning to ensure that planning and decisions reflect environmental values and the purposes and policies of the MSA including the MSA's national standards, to avoid delays later in the process, and to head off potential conflicts. NMFS and the FMCs shall:

(a) Comply with the mandates of section 102(2)(A) of the NEPA, to "utilize a systematic, interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts in planning and in decisionmaking which may have an impact on man's environment," and National Standard 2 of the MSA (section 301(a)(2)).

(b) Identify environmental effects and values in adequate detail so they can be compared to economic and technical analyses. Environmental documents and appropriate analyses shall be made readily available and reviewed at the same time as other fisheries conservation and management planning and decision documents.

(c) Study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources as provided by section 102(2)(E) of the NEPA.

§ 700.102 When to prepare an environmental assessment.

(a) An environmental assessment will normally be prepared for the following types of actions:

(1) Framework actions or annual specifications taken pursuant to a fishery management plan and tiered to an IFEMS, EIS, or prior EA that are not covered by a CE or Memorandum of Framework Analysis; and

(2) Emergency and interim actions under MSA section 305(c) developed in accordance with § 604 of this part.

(b) An environmental assessment is not necessary if NMFS or an FMC has decided to prepare an IFEMS or an environmental impact statement (EIS), or if NMFS has determined a DCE or Memorandum of Framework Analysis applies.

(c) NMFS or an FMC may prepare an environmental assessment on any action at any time in order to assist fisheries conservation and management planning and decisionmaking.

(d) An EA is required for a proposal for fishery management action that is not analyzed in an IFEMS or EIS and is not appropriately included in a categorical exclusion (§ 700.702).

§ 700.103 When to prepare an IFEMS.

(a) In determining whether to prepare an IFEMS, NMFS, in consultation with the relevant FMC and considering the principles set forth in NOAA Administrative Order (NAO) 216–06 section 6.02, shall determine whether the proposal is one which normally requires an IFEMS, including:

(1) Development of new fisheries management plans;

(2) Amendment of existing fisheries management plans that have significant environmental effects; and

(3) Other actions determined to be significant in accordance with the criteria set forth in subpart E of this part.

(b) If the proposed action is not covered by paragraph (a) of this section and is not covered by a category of actions that NMFS has found normally do not require either an environmental impact statement or an environmental assessment (categorical exclusion § 700.702), NMFS or the relevant FMC shall prepare an environmental assessment (§ 700.102). NMFS and the FMCs where relevant, shall involve environmental agencies and the public, to the extent practicable, in preparing assessments required by § 700.102.

(c) NMFS, working with the FMC where relevant, shall ensure that either NMFS or the FMC begins the scoping process (§ 700.108) if an IFEMS will be prepared.

§ 700.104 Utilizing a memorandum of framework compliance pursuant to a framework implementation procedure.

(a) An FMP may establish a Framework Implementation Procedure which provides a mechanism to allow actions to be undertaken pursuant to a previously planned and constructed management regime without requiring additional environmental analysis, as provided in this section. Such a procedure:

(1) Shall allow for an evaluation of whether a fishery management action taken pursuant to a Framework Implementation Procedure falls within the scope of a prior environmental document;

(2) Shall specify criteria that would trigger a requirement to supplement the prior analysis or would require an IFEMS or EA for the fishery management action taken pursuant to a Framework Implementation Procedure; and

(3) May specify criteria that would permit actions under revision or review to continue during supplementation or revision of the prior document, and, if so, establish criteria for determining when this is appropriate.

(b) A fishery management action taken pursuant to a Framework Implementation Procedure established under an FMP does not require additional action-specific analysis if NMFS determines through a Framework Compliance Evaluation that the management measures in the action and their environmental effects fall within the scope of a prior analysis. A Framework Compliance Evaluation shall:

(1) Identify the prior EIS, IFEMS, or EA that analyzed the impacts of the fishery management action proposed to be taken pursuant to the Framework Implementation Procedure;

(2) Identify new information, if any, relevant to the impacts of the fishery management action proposed to be taken pursuant to a Framework Implementation Procedure; and

(3) Evaluate whether the fishery management action proposed to be taken pursuant to a Framework Implementation Procedure falls within the scope of the prior analyses and whether new information, if any, requires supplementation.

(c) If the Framework Compliance Evaluation results in a determination that supplementation is not required, a Memorandum of Framework Compliance must be prepared for the file. A Memorandum of Framework Compliance is a concise (ordinarily 2 pages) document that briefly summarizes the fishery management action taken pursuant to a Framework Implementation Procedure, identifies the prior analyses that addressed the impacts of the action, and incorporates any other relevant discussion or analysis for the record.

(d) If the Framework Compliance Evaluation results in a determination that supplementation is required, appropriate supplemental analyses shall be conducted.

§ 700.105 Using a Categorical Exclusion.

(a) A fisheries management action may qualify for a Categorical Exclusions (CE) if NMFS determines that the action does not have the potential to pose individually and cumulatively significant effects to the quality of the human environment. NMFS will make this determination in accordance with 700.701.

(b) *Determination of Categorical Exclusion.* NMFS must document a determination that an action qualifies for a CE in a Determination of Categorical Exclusion (DCE). The DCE must state the specific rationale behind why the action qualified for a categorical exclusion. For FMC-initiated actions, the DCE must be included in

the record available for public comment on the action. In addition, NMFS must include the DCE in its final decision documents for the action.

§ 700.106 Lead agencies.

NMFS shall be the lead Federal agency for the purpose of preparing the IFEMS and shall, where applicable, designate co-lead agencies consistent with the provisions of 40 CFR 1501.5.

§ 700.107 Cooperating agencies.

Upon request of NMFS, any other Federal agency which has jurisdiction by law shall be a cooperating agency. In addition any other Federal agency which has special expertise with respect to any environmental issue, which should be addressed in the statement, may be a cooperating agency upon request of NMFS. An agency may request NMFS to designate it a cooperating agency.

(a) NMFS shall:

(1) Request the participation of each cooperating agency in the NEPA process at the earliest possible time;

(2) Use the environmental analysis and proposals of cooperating agencies with jurisdiction by law or special expertise, to the maximum extent possible consistent with its responsibility as lead agency; and

(3) Meet with a cooperating agency at the latter's request.

(b) Each cooperating agency has the same responsibilities under this part it does under 40 CFR 1501.6.

§ 700.108 Scoping.

(a) NMFS and each FMC shall ensure that the MSA fishery management process includes an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process shall be termed scoping.

(1) *FMC-initiated actions.* Scoping shall be based on the MSA's public process for the development of fishery management actions by FMCs and shall be initiated by a publication in the **Federal Register** of a scoping notice. NMFS shall publish a scoping notice as soon as practicable after the decision to initiate development of a fishery management action. NMFS and FMCs may conduct scoping hearings as independent scoping hearings, or as part of an FMC's public meetings. If scoping is conducted as part of an FMC meeting, a scoping notice must, at a minimum, be included as a component of the appropriate FMC's next meeting agenda (MSA section 302(i)(2)(C)) and must be titled and formatted in a manner that provides the public with adequate

notice of the NEPA-related scoping process.

(2) *NMFS-initiated actions.* For any fishery management action initiated by NMFS, as soon as practicable after its decision to initiate development of a fishery management action and/or prepare an IFEMS, NMFS shall publish a scoping notice in the **Federal Register**. The **Federal Register** notice shall be titled and formatted in a manner that provides the public with adequate notice of the NEPA-related scoping process and scoping activities conducted in conjunction with meetings of advisory panels.

(b) As part of the scoping process for FMC-initiated actions:

(1) NMFS, working with the appropriate FMC, shall ensure that affected Federal, State, and local agencies, any affected Indian tribe, the proponents of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds) are invited to participate. NMFS, working with the appropriate FMC, shall ensure that the scoping process meets the purposes of scoping as set forth in 40 CFR 1501.7.

(2) NMFS and the appropriate FMC shall cooperate to determine the scope (40 CFR 1508.25(a)) and the significant issues to be analyzed in depth in the environmental document.

(3) NMFS and the appropriate FMC shall cooperate to identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§ 700.110), narrowing the discussion of these issues in the environmental document to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.

(4) NMFS and the appropriate FMC shall allocate assignments, with NMFS retaining responsibility for the final environmental document.

(5) NMFS and the appropriate FMC shall indicate any public environmental assessments, environmental impact statements, IFEMS, and other environmental documents which are being or will be prepared that are related to but are not part of the scope of the environmental document under consideration.

(6) NMFS and the appropriate FMC shall identify other environmental review and consultation requirements in order to integrate them with the environmental document as provided in § 700.223.

(7) NMFS and the appropriate FMC shall indicate the relationship between the timing of the preparation of environmental analyses and NMFS' and

the FMC's tentative planning and decisionmaking schedule.

(c) As part of the scoping process for a NMFS-initiated action, NMFS shall:

(1) Ensure that affected Federal, State, and local agencies, any affected Indian tribe, the proponents of the action, and other interested persons (including those who might not be in accord with the action on environmental grounds) are invited to participate and ensure that the scoping process meets the purposes of scoping as set forth in 40 CFR 1501.7.

(2) Determine the scope (40 CFR 1508.25(a)) and the significant issues to be analyzed in depth in the environmental document.

(3) Identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (§ 700.110), narrowing the discussion of these issues in the environmental document to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere.

(4) Allocate assignments, with NMFS retaining responsibility for the final environmental document.

(5) Indicate any public environmental assessments, environmental impact statements, IFEMS, and other environmental documents which are being or will be prepared that are related to but are not part of the scope of the environmental document under consideration.

(6) Identify other environmental review and consultation requirements in order to integrate them with the environmental document as provided in § 700.223.

(7) Indicate the relationship between the timing of the preparation of environmental analyses and NMFS' tentative planning and decisionmaking schedule.

(d) As part of the scoping process NMFS or an FMC may:

(1) Set page limits on environmental documents (§ 700.205).

(2) Set time limits (§ 700.109).

(3) Hold an early scoping meeting or meetings which may be integrated with any other FMC meeting or other early planning meeting convened by NMFS or the FMC.

(e) For FMC-initiated actions, NMFS and the FMC shall cooperate to revise the determinations made under paragraphs (a) and (b) of this section if substantial changes are made later in the proposed action, or if significant new circumstances or information arise which bear on the proposal or its impacts. For NMFS-initiated actions, NMFS shall revise determinations made

under paragraphs (a) and (c) of this section if substantial changes are made later in the proposed action, or if significant new circumstances or information arise which bear on the proposal or its impacts.

§ 700.109 Time limits.

(a) For FMC-initiated actions, NMFS and FMCs shall cooperate to set time limits or targets appropriate to individual actions (consistent with the minimum time periods required by § 700.604) provided that the limits and targets are consistent with the purposes of NEPA and other essential considerations of national policy. For NMFS-initiated actions, NMFS shall set such time limits or targets.

(b) NMFS and the FMCs may:

(1) Consider the following factors in determining time limits or targets:

(i) Potential for environmental harm.

(ii) Size of the proposed action.

(iii) State of the art of analytic techniques.

(iv) Degree of public need for the proposed action, including the consequences of delay.

(v) Number of persons and agencies affected.

(vi) Degree to which relevant information is known and if not known the time required for obtaining it.

(vii) Degree to which the action is controversial.

(viii) Other time limits imposed on the agency by law, regulations, or executive order.

(2) Set overall time limits or targets for each constituent part of the NEPA process, which may include:

(i) Decision on whether to prepare an IFEMS (if not already decided).

(ii) Determination of the scope of the IFEMS.

(iii) Preparation of the draft IFEMS.

(iv) Review of any comments on the draft IFEMS from the public and agencies.

(v) Preparation of the final IFEMS.

(vi) Review of any comments on the final IFEMS.

(vii) Decision on the action based in part on the IFEMS.

(3) Designate a person (such as the project manager or a person in the agency's office with NEPA responsibilities) to expedite the NEPA process.

(c) State or local agencies or members of the public may request that NMFS set time limits.

§ 700.110 Adoption.

(a) NMFS may adopt a Federal draft or final environmental assessment, environmental impact statement, IFEMS, or portion thereof provided that

the assessment or statement or portion thereof meets the standards for an adequate environmental document under these regulations.

(b) If the actions covered by the original environmental document and the proposed action are substantially the same, NMFS is not required to recirculate the other agency's final environmental document except as a final environmental document. Otherwise NMFS shall treat the environmental document as a draft and recirculate it.

§ 700.111 Combining documents.

Any environmental document in compliance with NEPA may be combined with any other NMFS or FMC document to reduce duplication and paperwork.

§ 700.112 Assignment of tasks.

For the purposes of this part, where the language provides that NMFS and/or an FMC must take action, or where the language does not specify a particular entity to take action, NMFS and the appropriate FMC must establish which entity shall carry out such action. This clarification may be established through a Memorandum of Understanding for each environmental document individually or for classes of environmental documents, but in no case should scoping activities be considered complete until such clarification is made.

Subpart C—Integrated Fishery and Environmental Management Statement

§ 700.201 Purpose of the IFEMS.

A primary goal of the Integrated Fishery and Environmental Management Statement (IFEMS) is to better integrate the consideration of environmental impacts into the MSA's process for FMC and NMFS development of fishery management recommendations and actions, to more effectively align these considerations with the points in time where alternatives are being considered. The IFEMS will meet the policies and goals of NEPA and shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment. NMFS and the FMCs shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. IFEMS shall be concise, clear, and to the point, and shall be supported by evidence that

the agency has made the necessary environmental analyses. An IFEMS is more than a disclosure document. It shall be used by NMFS and the FMCs in conjunction with other relevant material to plan actions and make decisions.

§ 700.202 Implementation.

To achieve the purposes set forth in § 700.201, NMFS and the FMCs shall prepare IFEMSs in the following manner:

(a) An IFEMS shall be analytic rather than encyclopedic.

(b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues.

(c) An IFEMS shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA, the MSA, and other applicable requirements. Length and level of detail should be proportional to potential environmental problems and the scope of the fishery management action under consideration.

(d) An IFEMS shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of NEPA and other environmental laws and policies.

(e) The range of alternatives discussed in an IFEMS shall encompass those to be considered by the Secretary.

(f) NMFS shall not commit resources prejudicing selection of alternatives before making a final decision (§ 700.601).

(g) An IFEMS shall serve as the means of assessing the environmental impact of proposed fishery management actions, rather than justifying decisions already made.

§ 700.203 Timing.

(a) In general, preparation of an IFEMS shall be commenced as close as possible to the time that NMFS or an FMC is developing fishery conservation and management measures and actions and considering alternatives so that the IFEMS can serve practically as an important contribution to the FMC deliberations and NMFS decisionmaking process and will not be used to rationalize or justify decisions already made. For recommendations initiated by an FMC, the FMC must use the draft IFEMS in its deliberations. Both the draft and final IFEMS, and the public comments thereon, inform the Secretary's final decision.

(b) *IFEMS for fishery management actions developed by an FMC.* (1) NMFS shall publish a Notice of Availability (NOA) of a draft IFEMS in the **Federal**

Register no later than public release of the FMC's meeting agenda notice. NMFS shall ensure that the draft IFEMS is made available to the public at least 45 days in advance of the FMC meeting (unless this time frame is reduced under § 700.604(b)).

(2) The public shall have an opportunity to comment on the draft IFEMS both by attending the FMC meeting and by submitting written comments to the FMC.

(3) The FMC shall review the draft IFEMS and consider all public comments on the draft IFEMS prior to making the final FMC recommendation on a fishery management action.

(4) The FMC shall deliberate and vote in accordance with procedures adopted in accordance with § 700.501.

(5) After the FMC's vote, the IFEMS shall be revised as necessary to reflect the FMC's action and any necessary changes to the analysis. The final IFEMS must address all public comments and modifications that occurred through the council process and must be submitted with the recommended management measure or action to begin Secretarial review. If necessary, the FMC or NMFS shall supplement the draft IFEMS in accordance with § 700.207(c). In its final vote to recommend an action, an FMC may select combinations of parts of various alternatives analyzed in the draft IFEMS or a new alternative within the scope of those analyzed in the draft IFEMS. NMFS may accept this recommendation without further analysis or supplementation by the FMC.

(6) The final or supplemental IFEMS shall be transmitted to NMFS along with the FMC's proposed action.

(i) *Final IFEMS submitted with transmittal package.* NMFS shall publish in the **Federal Register** an NOA of the final IFEMS as part of the appropriate notice of proposed rulemaking or NOA of a proposed FMP or FMP amendment as required by MSA sections 304(a)(1)(B) and 304(b)(1)(A), and shall solicit public comment on the IFEMS along with public comment on the FMC's recommended action. Publication of the NOA initiates the 30 day period set forth at § 700.604(c).

(ii) *Supplemental IFEMS submitted with transmittal package.* NMFS shall publish in the **Federal Register** an NOA of any supplemental IFEMS as part of the appropriate notice of proposed rulemaking or notice of availability of a proposed FMP or FMP amendment as required by MSA sections 304(a)(1)(B) and 304(b)(1)(A), and shall solicit public comment on the supplemental IFEMS along with public comment on the FMC's recommended action. Prior to

making a final decision on the proposed action, NMFS shall publish a final supplemental IFEMS that responds to public comments in accordance with § 700.604. Publication of the NOA initiates the 30 day period set forth at § 700.604(c).

(7) NMFS shall prepare and issue its Record of Decision (ROD) on the final IFEMS concurrently with its decision on the FMC-recommended action as provided for in § 700.502.

(c) *Fishery management actions developed by NMFS.* For FMPs, FMP amendments, and regulations developed by the Secretary pursuant to MSA sections 304(c), (e), and (g) (including HMS), and 305(d) the draft IFEMS shall be circulated for public comment in accordance with § 700.604(b).

The Final IFEMS shall respond to public comments received on the Draft and shall be published prior to the decision on the proposed action in accordance with § 700.604(c).

§ 700.204 Interdisciplinary preparation.

IFEMSs shall be prepared using an inter-disciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts (section 102(2)(A) of NEPA). The disciplines of the preparers shall be appropriate to the scope and issues identified in the scoping process (§ 700.108).

§ 700.205 Page limits.

To the extent practicable, IFEMS shall comply with the non-binding page limits established for Environmental Impact Statements by 40 CFR 1502.7; NEPA-related text of final IFEMSs (e.g., paragraphs (d) through (g) of § 700.208) should be less than 150 pages (excluding maps, charts, and graphic displays of quantitative information), but may be up to 300 pages for proposals of unusual scope or complexity. NMFS and the FMC may use tiering, cross-referencing, and appendices to help minimize the size of the IFEMS. NMFS shall consult with CEQ on a programmatic basis if these page limits are regularly exceeded.

§ 700.206 Writing.

NMFS and the FMC must develop the IFEMS based on the best scientific information available, including analysis and supporting data from the natural and social sciences. Each IFEMS should use all appropriate techniques to clearly and accurately communicate with the public and with decisionmakers, including plain language, tables, and graphics, with particular emphasis on making complex

scientific or technical concepts understandable to the non-expert.

§ 700.207 Phases of analysis: Draft, final, and supplemental IFEMSs.

IFEMSs shall be prepared in two stages and shall be designed to be supplemented as necessary to address substantial changes in fishery conservation and management actions and significant new circumstances or information.

(a) *Drafts.* Draft IFEMSs shall be prepared in accordance with the scope decided upon in the scoping process. NMFS, and the FMC as appropriate, shall work with any cooperating agencies and shall obtain comments as required in subpart D of this part. The draft IFEMS must fulfill and satisfy to the fullest extent possible the requirements established for detailed statements in section 102(2)(C) of NEPA. If a draft IFEMS is so inadequate as to preclude meaningful analysis, a revised draft of the appropriate portion shall be prepared and circulated. All major points of view on the environmental impacts of the alternatives including the proposed action must be included in the draft IFEMS to the extent practicable.

(b) *Final.*—(1) *In general.* A Final IFEMS shall respond to comments as required in subpart D of this part. The IFEMS shall discuss at appropriate points any responsible opposing view which was not adequately discussed in the draft and shall indicate both NMFS's and, for those actions initiated by an FMC, the FMC's response to the issues raised.

(2) *FMC-initiated actions.* For fishery management actions being developed through the FMC process, the final IFEMS will also: describe the public comments received through the FMC public process; describe any changes made through the FMC public process either to the analysis or to the proposed action; and describe any additional modifications to the alternative recommended as the proposed action by the FMC.

(c) *Supplements.* (1) NMFS or an FMC shall prepare supplements to a draft or final IFEMS if:

(i) There are substantial changes in an action that are relevant to environmental concerns (either prior to the Secretary's approval of the recommended proposal for agency action or during its implementation); or

(ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the action or its impacts.

(2) NMFS or an FMC may also prepare supplements when NMFS or the FMC determine that the purposes of NEPA

and the MSA will be furthered by doing so.

(3) NMFS or an FMC shall adopt procedures for introducing a supplement into its formal administrative record, if such a record exists.

(4) A supplement to an IFEMS shall be prepared, circulated, and filed in the same fashion (exclusive of scoping) as a draft and final IFEMS.

(5) Preparation of a supplement to an IFEMS does not require suspension of ongoing fishery management actions, such as implementation of an FMP, covered by the IFEMS during the supplementation process.

(6) In the event that an FMC modifies the proposal and votes to recommend an alternative not within the range of alternatives analyzed in the draft IFEMS, the affected portions of the IFEMS shall be amended to include an analysis of the effects of the recommended action prior to transmission of the proposal for initiation of Secretarial review pursuant to the MSA. The supplemental draft IFEMS shall be available for public comment as specified in § 700.203(b).

§ 700.208 Recommended format.

NMFS and the FMCs shall use a format for IFEMSs which will encourage good analysis and clear presentation of the alternatives including the proposed action. The following standard format for IFEMSs should be followed unless NMFS determines that there is a compelling reason to do otherwise:

- (a) Cover sheet.
- (b) Summary.
- (c) Table of contents.
- (d) Purpose of and need for action.
- (e) Alternatives including proposed action (sections 102(2)(C)(iii) and 102(2)(E) of NEPA).
- (f) Affected environment.
- (g) Environmental consequences (especially sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA and additional requirements of the MSA and other applicable law as appropriate).
- (h) List of preparers.
- (i) List of Agencies, Organizations, and persons to whom copies of the IFEMS are sent.
- (j) Index.
- (k) Appendices (if any).

Note to § 700.208: The IFEMS will consist of, at a minimum, items outlined in paragraphs (d) through (g) of this section; shall be presented in a format which will encourage good analysis and clear presentation of the alternatives including the proposed action; and may also include such other elements as may be necessary to fulfill the requirements of the MSA and other applicable law. If a different format is used,

it shall include paragraphs (a), (b), (c), (h), (i), and (j) of this section and shall include the substance of paragraphs (d), (e), (f), (g), and (k) of this section, as further described in §§ 700.208 through 700.216, in any appropriate format.

§ 700.209 Cover sheet.

The cover sheet shall not exceed one page. It shall include:

(a) Reference to NMFS as lead agency and the applicable FMC, as appropriate, and the list of cooperating agencies if applicable.

(b) The title of the proposed action that is the subject of the IFEMS (and if appropriate the titles of related cooperating agency actions), together with the geographic location where the action is located.

(c) The name, address, and telephone number of the person at the agency or FMC who can supply further information.

(d) A designation of the IFEMS as a draft, final, or draft or final supplement.

(e) A one paragraph abstract of the IFEMS.

(f) The date by which comments must be received, calculated in accordance with § 604 of this part.

§ 700.210 Summary.

Each IFEMS shall contain a summary which adequately and accurately summarizes the IFEMS. The summary shall stress the major conclusions, areas of controversy (including issues raised by agencies and the public), and the issues to be resolved (including the choice among alternatives). The summary should not exceed 15 pages.

§ 700.211 Purpose and need.

The IFEMS shall briefly specify the underlying purpose and need to which the proposed fishery management actions and alternatives are responding.

§ 700.212 Alternatives including the proposed action.

In this section NMFS, and as appropriate, the FMCs shall:

(a) Based on the information and analysis presented in the sections on the Affected Environment (§ 700.213) and the Environmental Consequences (§ 700.214), present in the IFEMS the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the Secretary, NMFS, the FMCs and the public.

(b) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated. For fishery management

actions, "reasonable alternatives" are those derived from the statement of purpose and need of the action, in context of the MSA's National Standards and requirements and requirements of other applicable laws, and which satisfy, in whole, or substantial part, the objectives of the proposed federal action. Alternatives that are impractical or would not achieve stated purposes and needs are not "reasonable alternatives."

(c) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits.

(d) Include reasonable alternatives not within the jurisdiction of the lead agency.

(e) Include the alternative of no action. "No action" means continued management of the fishery as it is being prosecuted at the time development of the IFEMS is initiated, taking into account the underlying management regime with assumptions as to how it would continue being prosecuted into the future. "No action" does not mean the literal fishery management regime that would result in the absence of a Federal action.

(f) Identify the preferred alternative or alternatives, if one or more exists, in the draft IFEMS and identify such alternative in the final IFEMS unless MSA or other applicable law prohibits the expression of such a preference.

(g) Include appropriate mitigation measures not already included in the proposed action or alternatives.

§ 700.213 Affected environment.

The IFEMS shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. This description shall be no longer than is necessary for the Secretary and the public to understand the effects of the alternatives. Data and analyses incorporated in an IFEMS shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or incorporated by reference to existing descriptions of the affected environment that NMFS regularly maintains and makes available to the public. NMFS shall avoid useless bulk in IFEMS and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an IFEMS.

§ 700.214 Environmental consequences.

This section forms the scientific and analytic basis for the comparisons under

§ 700.212. It shall consolidate the discussions of those elements required by sections 301 and 303 of MSA and sections 102(2)(C)(i), (ii), (iv), and (v) of NEPA which are within the scope of the IFEMS and as much of section 102(2)(C)(iii) as is necessary to support the comparisons. The discussion will include the environmental impacts of the alternatives including the proposed action, any adverse environmental effects which cannot be avoided should the proposal be implemented, the relationship between short-term uses of the fishery and other affected aspects of the human environment and the maintenance and enhancement of long-term productivity, and any irreversible or irretrievable commitments of resources which would be involved in the proposal should the proposed fishery conservation and management measures be implemented. This section should not duplicate discussions in § 700.212. It shall include discussions of:

(a) Direct effects and their significance.

(b) Indirect and cumulative effects and their significance.

(c) Possible conflicts between the proposed action and the objectives of Federal, regional, State, tribal and local plans, policies and controls for the area concerned. (See § 700.602(d).)

(d) The environmental effects of alternatives including the proposed action. The comparisons under § 700.212 will be based on this discussion.

(e) Energy requirements and conservation potential of various alternatives and mitigation measures.

(f) Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures.

(g) Historic and cultural resources, and reuse and conservation potential of various alternatives and mitigation measures.

(h) Means to mitigate adverse environmental impacts (if not fully covered under § 700.212(f)).

§ 700.215 List of preparers.

The IFEMS shall list the names, together with their qualifications (expertise, experience, professional disciplines), of the persons who were primarily responsible for preparing the IFEMS or significant background papers, including basic components of the IFEMS (§§ 700.204 and 700.206). Where possible the persons who are responsible for a particular analysis, including analyses in background papers, shall be identified.

§ 700.216 Preparation of an appendix.

If NMFS or an FMC prepares an appendix to an IFEMS the appendix shall:

(a) Consist of material prepared in connection with an IFEMS (as distinct from material which is not so prepared and which is incorporated by reference (§ 700.219)).

(b) Normally consist of material which substantiates any analysis fundamental to the impact assessment.

(c) Normally be analytic and relevant to the decision to be made.

(d) Be circulated with the IFEMS or be readily available on request.

§ 700.217 Circulation of the IFEMS.

NMFS shall ensure that the entire draft and final IFEMS, except for certain appendices as provided in § 700.216 and an unchanged IFEMS as provided in § 700.304, are circulated in a format that is readily accessible to decision-makers and the public.

§ 700.218 Tiering.

NMFS and the FMCs shall tier their environmental documents to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review (40 CFR 1508.28). Whenever a broad IFEMS has been prepared (such as for a program, policy, or fishery management plan or amendment) and a subsequent IFEMS or environmental assessment is then prepared on an action included within the entire program, policy, or fishery management plan or plan amendment, the subsequent IFEMS or environmental assessment need only summarize the issues discussed in the broader IFEMS, incorporate discussions from the broader IFEMS by reference, and shall concentrate on the issues specific to the subsequent action. NMFS shall ensure that the broader IFEMS is maintained in locations and in a format that is readily accessible to decision-makers and the public, and the subsequent document shall state where the earlier document is available.

§ 700.219 Incorporation by reference.

NMFS and the FMCs shall incorporate material into an IFEMS by reference when the effect will be to reduce the length or complexity of the IFEMS without impeding agency and public review of the action. The incorporated material shall be cited in the IFEMS and its content briefly described and instructions on how the public can access the incorporated material provided in the IFEMS. Material that is incorporated by reference must be maintained in locations and in a format

that is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference.

§ 700.220 Incomplete or unavailable information.

When NMFS or an FMC is evaluating reasonably foreseeable significant adverse effects on the human environment in an IFEMS and despite a review of the best available scientific information, there is incomplete or unavailable information, consistent with MSA section 303(a)(8) and National Standard 2, NMFS or the FMC shall make clear that such information is lacking.

(a) NMFS or the FMC shall identify incomplete information that is relevant to reasonably foreseeable significant adverse impacts and that is essential to a reasoned choice among alternatives and determine the overall costs and benefits of obtaining it. If NMFS finds that the overall costs, including the costs of delay, of obtaining the information are not exorbitant, NMFS shall ensure that the information is obtained and include the information in the IFEMS.

(b) If NMFS finds that the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the IFEMS shall include:

(1) A statement that such information is incomplete or unavailable;

(2) A statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;

(3) A summary of the best available scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and

(4) An evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

(c) Any time an IFEMS considers and addresses incomplete or unavailable information, subsequent actions relating

to the same uncertainties may reference the initial assessment or evaluation.

§ 700.221 Cost-benefit analysis.

To the extent that a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the IFEMS as an aid in evaluating the environmental consequences. To assess the adequacy of compliance with section 102(2)(B) of NEPA the IFEMS shall, when a cost-benefit analysis is prepared, discuss the relationship between that analysis and any analyses of unquantified environmental impacts, values, and amenities. For purposes of complying with NEPA, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis. The IFEMS should separately indicate qualitative considerations that are not monetized and are likely to be relevant and important to a decision, including factors not related to environmental quality.

§ 700.222 Methodology and scientific accuracy.

NMFS and the FMCs shall insure the professional integrity, including scientific integrity, of the discussions and analyses in IFEMSs. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources upon which they relied for facts or conclusions in the IFEMS. Discussion of methodology may be placed in an appendix.

§ 700.223 Environmental review and consultation requirements.

(a) To the fullest extent possible, NMFS and the FMCs shall prepare draft IFEMSs concurrently with and integrated with environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*), the National Historic Preservation Act of 1966 (16 U.S.C. 470 *et seq.*), the Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*), and other environmental review laws and executive orders.

(b) The draft IFEMS shall list all Federal permits, licenses, and other entitlements which must be obtained in implementing the proposal. If it is uncertain whether a Federal permit, license, or other entitlement is necessary, the draft IFEMS shall so indicate.

Subpart D—Public Participation

§ 700.301 Public outreach.

For fishery management actions developed through the FMC process, NMFS and the FMCs shall solicit public involvement, including through the MSA's public FMC process. For fishery management actions developed by the Secretary, NMFS shall conduct similar outreach, including through existing MSA public processes. NMFS and the FMCs where applicable, shall:

(a) Make diligent efforts to involve the public in preparing and implementing their NEPA procedures for fishery management actions.

(b) Provide public notice of NEPA-related hearings, public meetings, and the availability of environmental documents so as to inform those persons and agencies who may be interested or affected.

(1) In all cases NMFS shall ensure that notice is mailed to those who have requested it on an individual action.

(2) In the case of an action identified by NMFS as having effects of national concern, notice shall include publication in the **Federal Register**, notice by mail to national organizations reasonably expected to be interested in the matter, and outreach via the Internet. When engaged in rulemaking, NMFS shall provide notice to national organizations who have requested that notice regularly be provided. NMFS shall maintain a list of such organizations.

(3) In the case of an action with effects primarily of local concern the notice may include:

(i) Notice to State and areawide clearinghouses.

(ii) Notice to Indian tribes where tribal resources may be affected.

(iii) Notice following the affected State's public notice procedures for comparable actions.

(iv) Publication in local newspapers (in papers of general circulation rather than legal papers).

(v) Notice through other local media.

(vi) Notice to potentially interested community organizations including small business associations.

(vii) Publication in newsletters that may be expected to reach potentially interested persons particularly in the major fishing ports of the region and in other major fishing ports having a direct interest in the affected fishery.

(viii) Direct mailing to owners and occupants of nearby or affected property.

(ix) Posting of notice on and off site in the area where the action is to be located.

(x) Outreach via the Internet.

(c) Hold or sponsor public hearings or public meetings whenever appropriate or in accordance with statutory requirements. Criteria shall include whether there is:

(1) Substantial environmental controversy concerning the proposed action or substantial interest in holding the hearing.

(2) A request for a hearing by another agency with jurisdiction over the action supported by reasons why a hearing will be helpful. If a draft IFEMS is to be considered at a public hearing, NMFS or the FMC should make the document available to the public at least 45 days in advance of FMC action. This time period may be reduced in accordance with criteria specified in § 700.608.

(d) Solicit appropriate information from the public.

(e) Explain in its procedures where interested persons can get information or status reports on environmental documents and other elements of the NEPA process.

(f) Make environmental documents, the comments received, and any underlying documents available to the public pursuant to the provisions of the Freedom of Information Act (5 U.S.C. 552(a)(2)), without regard to the exclusion for interagency memoranda where such memoranda transmit comments of Federal agencies on the environmental impact of the proposed action. Materials to be made available to the public shall be provided to the public without charge to the extent practicable, or at a fee which is not more than the actual costs of reproducing copies required to be sent to other Federal agencies, including CEQ.

§ 700.302 Inviting comment on the IFEMS.

(a) After preparation of a draft IFEMS and before preparation of a final IFEMS, NMFS shall ensure that NMFS or the FMC:

(1) Obtains the comments of any Federal agency which has jurisdiction by law or special expertise with respect to any environmental impact involved or which is authorized to develop and enforce environmental standards affecting fishery conservation and management.

(2) Requests the comments of:

(i) Appropriate State, tribal, and local agencies which are authorized to develop and enforce environmental standards;

(ii) Indian tribes that may be affected or have special expertise;

(iii) Any agency which has requested that it receive environmental documents on actions of the kind proposed; and

(iv) Any affected FMC (as provided by MSA sections 304(c)(4) and 304(g)(1)).

(3) Requests comments from the public, affirmatively soliciting comments from those persons or organizations that may be interested or affected.

(b) *Comments on final*. NMFS shall request comments on a final IFEMS before making a final decision on whether to approve a proposed action except as provided in §§ 700.608 (minimum time periods) and 700.701 (emergencies). In any case, other agencies or persons may make comments before the Secretary makes a final decision under MSA Section 304. Public comment on the final IFEMS may address the sufficiency of compliance with NEPA to inform the Secretary's decision whether to approve, disapprove, or partially approve a fishery management plan, or amendment pursuant to MSA section 304(a)(3), or promulgate regulations pursuant to MSA section 304(b), as applicable.

§ 700.303 Opportunity to comment.

(a) *Comments of other agencies.* Federal agencies with jurisdiction by law or special expertise with respect to any environmental impact involved and agencies which are authorized to develop and enforce environmental standards are required (by 40 CFR 1503.2) to comment on IFEMSs within their jurisdiction, expertise, or authority. A Federal agency may reply that it has no comment. If a cooperating agency is satisfied that its views are adequately reflected in the IFEMS, it should reply that it has no comment.

(b) *Comments of the interested public*—(1) *Fishery Management Actions developed by the FMCs.* For fishery management actions being developed through the FMC process, the interested public must provide any comments it may have relevant to the draft IFEMS, such as comments on the statement of purpose and need, range of alternatives, and evaluation of environmental impacts, to the FMC during the public comment period on the draft IFEMS by submitting written comments or during the appropriate FMC meeting by providing oral testimony.

(2) *NMFS actions.* For fishery management actions developed by NMFS, the interested public must provide any comments it may have relevant to the draft IFEMS, such as comments on the statement of purpose and need, range of alternatives, and evaluation of environmental impacts, to NMFS either through NMFS' scoping process or during the comment period on the draft IFEMS to allow NMFS to

meaningfully consider and address all comments.

§ 700.304 Specificity of comments.

(a) NMFS and FMCs shall seek comments on an IFEMS that are as specific as possible and may address either the adequacy of the IFEMS or the merits of the alternatives discussed or both.

(b) NMFS and the FMC shall request that, when a commenting agency criticizes the predictive methodology used in the IFEMS, the commenting agency should describe the alternative methodology which it prefers and why.

(c) NMFS shall request that a cooperating agency specify in its comments whether it needs additional information to fulfill other applicable environmental reviews or consultation requirements and what information it needs. In particular, it is required to specify any additional information it needs to comment adequately on the draft IFEMS' analysis of significant site-specific effects associated with any grant or approval decision for applicable permit, license, or related requirements or concurrences by that cooperating agency.

(d) When a cooperating agency with jurisdiction by law objects to or expresses reservations about the proposal on grounds of environmental impacts, the agency expressing the objection or reservation is required (by 40 CFR 1503.3(d)) to specify the mitigation measures it considers necessary to allow the agency to grant or approve applicable permit, license, or related requirements or concurrences.

§ 700.305 Response to comments.

(a) Comments received on the draft IFEMS shall be addressed in the final IFEMS as follows. The final IFEMS shall assess the comments both individually and collectively, shall document how both the FMC and NMFS considered them collectively and individually, and shall describe how both the FMC and NMFS responded. Possible responses are to:

(1) Modify the alternatives including the proposed action to the extent consistent with the MSA.

(2) Develop and evaluate alternatives not previously given serious consideration.

(3) Supplement, improve, or modify the analyses.

(4) Make factual corrections.

(5) Explain why the comments do not warrant further response, citing the sources, authorities, or reasons which support this position and, if appropriate, indicate those

circumstances which would trigger reappraisal or further response.

(b) All substantive comments received on the draft IFEMS should be attached to the final IFEMS whether or not the comment is thought to merit individual discussion in the text of the IFEMS. In the event that multiple copies of the same comment are submitted, such as a form letter, it will suffice to attach one representative copy of the comment and include one representative response.

(c) If changes in response to comments are minor and are confined to the responses described in paragraphs (a) (4) and (5) of this section, they may be written on errata sheets and attached to the statement instead of rewriting the draft statement. In such cases only the comments, the responses, and the changes and not the final statement need be circulated (§ 700.217). The entire document with a new cover sheet shall be filed as the final statement (§ 700.603).

(d) *Responses to comments on the final.* In the record of decision (ROD), NMFS will respond to comments received on the Final IFEMS as provided in § 700.502(b). NMFS is not required to respond to comments raised for the first time with respect to a Final IFEMS if such comments were required to be raised with respect to a draft IFEMS pursuant to § 700.302(b).

Subpart E—Fishery Conservation and Management Actions That Significantly Affect the Quality of the Human Environment

§ 700.401 Determining the significance of NMFS's actions.

(a) NMFS, in consultation with the relevant FMC, must consider the proposed fishery management action in light of its context and intensity to determine the significance of environmental effects in order to determine whether to prepare a FONSI or IFEMS.

(b) *Context.* Context means that significance of an action must be analyzed with respect to society as a whole, the affected region and interests, and the locality. Both short- and long-term effects are relevant.

(c) *Intensity.* Intensity refers to the severity of the impact. The following factors must be considered in evaluating intensity:

- (1) Impacts may be both beneficial and adverse—a significant effect may exist even if NMFS believes that on balance the effect will be beneficial;
- (2) Degree to which public health or safety is affected;
- (3) Unique characteristics of the geographic area;

(4) Degree to which effects on the human environment are likely to be highly controversial;

(5) Degree to which effects are highly uncertain or involve unique or unknown risks;

(6) Degree to which the action establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration;

(7) Individually insignificant but cumulatively significant impacts;

(8) Degree to which the action adversely affects entities listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources;

(9) Degree to which endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973, are adversely affected; and

(10) Whether a violation of Federal, state, or local law for environmental protection is threatened.

(d) Potentially significant but previously analyzed effects. An FONSI may be appropriate for an action that may have significant or unknown effects, as long as the significance and effects have been analyzed previously.

§ 700.402 Guidance on significance determinations.

(a) NMFS may, as appropriate, develop guidance regarding criteria for determining the significance of effects on a national or regional level for purposes of informing the determination of whether a FONSI is appropriate or an IFEMS must be prepared.

(1) Such guidance may expand on, but not replace, the general language in § 700.401 of this part.

(2) NOAA and NMFS have developed guidance on the determination of significance of fishery management actions (e.g., NOAA Administrative Order (NAO) 216–6 and NMFS' Guidelines for the Preparation of a Finding of No Significant Impact, NMFS Instruction 30–124–1).

(b) NMFS may develop guidance for a specific region that considers how any of the following specific criteria apply.

(1) The extent to which the proposed action may be reasonably expected to compromise the sustainability of any target species that may be affected by the action.

(2) The extent to which the proposed action may be reasonably expected to compromise the sustainability of any non-target species.

(3) The extent to which the proposed action may be reasonably expected to cause substantial damage to the ocean

and coastal habitats and/or essential fish habitat as defined under the MSA and identified in FMPs.

(4) The extent to which the proposed action may be reasonably expected to have a substantial adverse impact on public health or safety.

(5) The extent to which the proposed action may be reasonably expected to adversely affect endangered or threatened species, critical habitat of these species, or marine mammals.

(6) The extent to which the proposed action may be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species.

(7) The extent to which the proposed action may be expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.).

(8) How to assess significant social or economic impacts that are interrelated with significant natural or physical environmental effects.

(9) The degree to which the effects on the quality of the human environment are likely to be highly controversial. Although no action should be deemed to be significant based solely on its controversial nature, this aspect should be used in weighing the decision on the proper type of environmental review needed to ensure full compliance with NEPA. Socio-economic factors related to users of the resource should also be considered in determining controversy and significance.

(10) Whether the action would result in the introduction or spread of nonindigenous species.

Subpart F—NEPA and Fishery Management Decisionmaking

§ 700.501 Fishery management decisionmaking procedures.

In addition to the procedures set forth herein, NMFS and the FMCs shall adopt and maintain procedures, consistent with current or future Statements of Organization, Practices, and Procedures, as described in 50 CFR 600.115, to ensure that fishery management decisions are made in accordance with the policies and purposes of NEPA and the MSA.

§ 700.502 Record of decision.

(a) NMFS shall complete a concise public ROD by the time of its final decision.

(b) The ROD must do the following.

- (1) Describe the decision.
- (2) Describe all alternatives considered by NMFS and the FMCs in developing the recommended action

and reaching the final decision, specifying the alternative or alternatives which were considered to be environmentally preferable.

(i) The description of alternatives may discuss preferences among alternatives based on relevant factors including economic and technical considerations under the MSA and other statutory requirements.

(ii) The description of alternative must also identify and discuss all such factors including any essential considerations of national policy which were balanced in developing the recommended action and in making the final decision and state how those considerations entered into the decision.

(3) State whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. Where the decision is based upon the existence of mitigation measures, the ROD must include a description of the monitoring and enforcement program adopted or to be adopted, and, if not yet adopted, any obstacles to its adoption.

(4) Contain NMFS's responses to comments received on the final IFEMS, if any. In the event the public identifies similar issues to those previously responded to in the final IFEMS, NMFS shall note in the ROD where the prior response to the same or similar comments can be located and provide additional response, if necessary. If the public fails to submit comments at the appropriate point in the process, as specified in § 700.303, NMFS may, but is not required to, address comments that should have been raised at the draft level.

§ 700.503 Implementing the decision.

NMFS may provide for monitoring to assure that the decisions are carried out and shall do so for any mitigation adopted to mitigate significant adverse effects or to obtain information for future IFEMSs or fishery conservation and management decisions. Mitigation (§ 700.502(b)(3)) and other conditions established in the IFEMS or during its review and committed as part of the decision shall be implemented by NMFS, the FMC, recipients of permits or licenses, or other agencies if appropriate. NMFS shall:

(a) Include appropriate conditions in grants, permits or other approvals.

(b) Condition funding of implementing actions on mitigation.

(c) Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures which

they have proposed and which were adopted by the Secretary.

(d) Regularly make available to decisionmakers and the public the results of relevant monitoring.

Subpart G—Additional Requirements and Limitations

§ 700.601 Limitations on fishery management actions during MSA-NEPA process.

(a) Until NMFS issues a record of decision as provided in § 700.502 (except as provided in paragraph (c) of this section), NMFS shall take no action concerning the proposal which would:

(1) Have an adverse environmental impact; or

(2) Limit the choice of reasonable alternatives.

(b) If NMFS is aware that a person is about to take an action within NMFS's jurisdiction that would meet either of the criteria in paragraph (a) of this section, then NMFS shall promptly notify the applicant that NMFS will take appropriate action to insure that the objectives and procedures of NEPA are achieved.

(c) While work on a required IFEMS is in progress and the action is not covered by an existing IFEMS or other program statement, NMFS shall not undertake in the interim any major Federal action covered by the plan or program which may significantly affect the quality of the human environment unless such action:

(1) Is justified independently of the IFEMS;

(2) Is itself accompanied by an adequate environmental document; and

(3) Will not prejudice the ultimate decision on the IFEMS. Interim action prejudices the ultimate decision on the IFEMS when it tends to determine subsequent development or limit alternatives.

§ 700.602 NMFS responsibility for environmental documents produced by a third-party.

(a) *Information.* If NMFS requires a non-Federal entity to submit environmental information for possible use by NMFS in preparing an environmental document, then NMFS should assist the non-Federal entity by outlining the types of information required. NMFS shall independently evaluate the information submitted and shall be responsible for its accuracy. If NMFS chooses to use the information submitted by the non-Federal entity in the environmental document, either directly or by reference, then the names of the persons responsible for the independent evaluation shall be included in the list of preparers. It is the

intent of this paragraph that acceptable work not be redone, but that it be verified by NMFS.

(b) *Environmental assessments.* If NMFS permits an applicant to prepare an environmental assessment, NMFS, besides fulfilling the requirements of paragraph (a) of this section, shall make its own evaluation of the environmental issues and take responsibility for the scope and content of the environmental assessment.

(c) *IFEMSs.* Any IFEMS prepared pursuant to the requirements of MSA section 304(i) and NEPA shall be prepared directly by NMFS, an FMC, or a contractor selected by NMFS or an FMC, or where appropriate under § 700.106(b), a cooperating agency. It is the intent of these regulations that the contractor be chosen solely by NMFS or the FMC, or by NMFS in cooperation with cooperating agencies, or where appropriate by a cooperating agency to avoid any conflict of interest. Contractors shall execute a disclosure statement prepared by NMFS, or where appropriate the cooperating agency, specifying that they have no financial or other interest in the outcome of the project. If the document is prepared by contract, the responsible Federal official shall furnish guidance and participate in the preparation and shall independently evaluate the IFEMS prior to its approval and take responsibility for its scope and contents. Nothing in this section is intended to prohibit any agency from requesting any person to submit information to it or to prohibit any person from submitting information to any agency. To the extent that members of an FMC are involved in development of an IFEMS, they must comply with the rules regarding conflicts of interest as set forth in section 302(j) of the MSA, 15 CFR 14.42, 15 CFR 24.36(b), and 40 CFR 1506.5(c).

§ 700.603 Filing requirements.

NMFS shall ensure the timely filing with EPA of IFEMSs together with comments and responses. NMFS shall file IFEMSs with EPA when they are transmitted to commenting agencies and made available to the public. EPA shall deliver one copy of each IFEMS to CEQ, which shall satisfy the requirement of availability to the President.

§ 700.604 Minimum time periods for agency action.

(a) *Calculation of time periods.* NMFS shall publish a notice in the **Federal Register** notifying the public of any draft or final IFEMS available for public comment. The minimum time periods set forth in this section may be calculated from the date of publication

of the notice in the **Federal Register**, in accordance with 40 CFR 1506.10(d).

(b) *Comment period on a draft IFEMS.* NMFS and the FMCs shall integrate the solicitation of public comment on the draft IFEMS with the MSA's existing public processes.

(1) Except as provided in paragraph (b)(2) of this section, NMFS and the FMCs shall provide at least 45 days for public comment on the draft IFEMS in advance of a meeting where the FMC may take action

(2) NMFS may, in consultation with the FMC and EPA, reduce the period for public comment on a draft IFEMS to a period of no less than 14 days if NMFS finds that such reduction is in the public interest, based on consideration of the following factors.

(i) Whether there is a need for emergency action or interim measures to address overfishing;

(ii) The potential long- and short-term harm to the fishery resource;

(iii) The potential long- and short-term harm to the marine environment, including non-target and protected species;

(iv) The potential long- and short-term harm to fishing communities;

(v) The ability of the FMC to consider public comments in advance of a scheduled FMC meeting;

(vi) Degree of public need for the proposed action, including the consequences of delay; and

(vii) Time limits imposed on the agency by law, regulations, or executive order.

(3) NMFS should not reduce the public comment period, even if in the public interest, if the value of public notice and comments outweighs the factors listed in paragraph (b)(2) of this section, based on the consideration of the following factors.

(i) The degree to which the affected communities had prior notice of NMFS' or the FMC's consideration of the proposed fishery management actions;

(ii) The complexity of the proposed action and accompanying analysis;

(iii) The degree to which the proposed action is not related to exigent circumstances; and

(iv) The degree to which the science upon which the action is based is uncertain or missing.

(4) In cases where the public comment period is reduced to less than 45 days, NMFS and the FMCs shall explain the rationale for the reduced time period in the NOA announcing the public comment period. The comment period must be the maximum amount of time consistent with the rationale provided.

(c) *Timing of NMFS Decision.* (1)

Except as provided in paragraphs (c)(2)

and (3) of this section, NMFS shall not make a final decision on a fishery management action until the later of the following dates:

(i) Ninety (90) days after publication of the NOA for a draft IFEMS for an FMP or FMP amendment.

(ii) Thirty (30) days after publication of the NOA for a final IFEMS.

(2) NMFS may make a final decision earlier than the times provided in paragraph (c)(1) of this section if the Secretary, in consultation with EPA, determines one of the following.

(i) NMFS is engaged in rulemaking under section 305(c) of the MSA and the Administrative Procedure Act (APA) for the purpose of protecting the public health or safety or is responding to a fishery management emergency, in which case NMFS may waive or reduce the time periods provided in this section and publish a decision on the final rule simultaneously with publication of the notice of the availability of the final IFEMS; or

(ii) NMFS has published a supplemental IFEMS and has solicited public comment during the review period provided by MSA section 304 and there is not sufficient time to complete the Final IFEMS and provide for the full 30-day cooling off period within the MSA timeframe. In this case the time periods provided for in paragraph (c)(1) of this section may be reduced by up to 15 days.

(3) For regulations published under section 304(b) of the MSA, the time periods provided by paragraph (c)(1) of this section shall be reduced or enlarged to be commensurate with the comment period provided for the review of the proposed rule.

(d) If the exception listed in paragraph (c)(2)(i) of this section applies, NMFS shall take comment on the final IFEMS for 30 days after publication.

Subpart H—Emergencies and Categorical Exclusions

§ 700.701 Emergencies.

(a) If NMFS finds that there is a need for an emergency action or interim measure to address overfishing, that the action may have significant environmental impacts, and that there is not sufficient time to finalize the NEPA analysis, NMFS shall develop alternative arrangements for NEPA compliance and consult with CEQ about such alternative arrangements. NMFS and CEQ shall limit such arrangements to actions necessary to control the immediate impacts of the emergency. NMFS may develop programmatic alternative arrangements to ensure that such arrangements are limited to the

actions necessary to control the immediate impacts of the emergency.

(b) If NMFS finds that an emergency exists and that proposed emergency regulations will not result in a significant environmental impact, NMFS shall document such finding in an EA and FONSI. If NMFS finds that the nature and scope of the emergency requires promulgation of emergency regulations prior to the completion of an EA and FONSI, the Secretary shall develop alternative arrangements for NEPA compliance that include promulgation of the emergency regulations with a draft EA and FONSI that shall be finalized prior to the expiration or extension of the effective period of the regulations.

(c) Other actions remain subject to NEPA review in accordance with this part.

§ 700.702 Categorical exclusions.

(a) The following categories of actions, as found by NOAA in consultation with CEQ for conformity with NEPA and CEQ implementing regulations, normally do not require either an environmental impact statement or an environmental assessment and constitute categorical exclusions:

(1) Ongoing or recurring fisheries actions of a routine administrative nature when the action will not have any impacts not already assessed or NMFS finds they do not have the potential to pose significant effects to the quality of the human environment (apart from those already described in an environmental document) such as: Reallocations of yield within the scope of a previously published IFEMS, FMP or fishery regulation, combining management units in related FMP, and extension or change of the period of effectiveness of an FMP or regulation;

(2) Minor technical additions, corrections, or changes to a Fishery Management Plan or IFEMS; and

(3) Research activities permitted under an EFP or Letter of Authorization where the fish to be harvested have been accounted for in other analyses of the FMP, such as by factoring a research set-aside into the ABC, OY, or Fishing Mortality.

(b) *NOAA and NMFS guidance.*

NOAA and NMFS may develop guidance pursuant to 40 CFR 1507.3 on how NMFS will identify categorical exclusions not specified in paragraph (a) of this section.

(c) *Extraordinary circumstances for categorical exclusions.* NOAA and NMFS may develop guidance on how NMFS will determine whether extraordinary circumstances exist such

that an action that normally qualifies for a categorical exclusion requires the preparation of an EA or IFEMS.

(d) *Existing guidance.* NOAA has developed additional guidance on the identification and use of Categorical

Exclusions (NOAA Administrative Order 216–6).

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**Excess Harvesting Capacity in U.S. Fisheries
A Report to Congress**

Mandated under Section 312(b)(6)

of the

**Magnuson-Stevens Fishery Conservation and
Management Act**

April 28, 2008

Appendix C: *National Assessment of Excess Harvesting Capacity in Federally Managed Commercial Fisheries* was not printed for this distribution and can be found at the NMFS web site on MSA reauthorization at www.nmfs.noaa.gov/msa2007.

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Executive Summary

As required in §312(b)(6) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), this report identifies and describes U.S. federally managed fisheries with the most severe examples of excess harvesting capacity, and recommends cost-effective and privately funded measures that could be used to reduce excess harvesting capacity.

This report defines and examines several dimensions of excess harvesting capacity. At a basic level, the National Marine Fisheries Service (NMFS) defines “excess harvesting capacity” to mean “too much” harvesting capacity. The findings are presented for fisheries, which generally refer to fishery management plans (FMPs), and fleets, which generally refer to a combination of vessel/gear type, area, and fishery. Information on the overfishing and overfished status of harvested stocks, as reported in the annual Report to Congress on the status of the U.S. fisheries, is presented to put the excess harvesting capacity estimates in a broader fishery management context.

Findings and Recommendations

As required by Congress, this report identifies 20 fisheries with the most severe examples of excess harvesting capacity. Because the excess harvesting capacity problem raises so many complex issues, the report also provides additional information and develops alternative lists, which highlight different analytical methods, and, in fisheries with sufficient data, different management targets. Although this report studies the problem from many angles, it does not assess all federally managed fisheries. Some federally managed commercial fisheries are excluded from the analysis if data limitations or other issues prevented meaningful quantitative assessments.

When reviewing this report, it is important to understand the limitations of the data and resulting analysis. These limitations and important caveats are discussed in detail in the report. In addition, the estimates are based on 2004 data, and it is important to recognize that biological, economic, and regulatory changes since 2004, some of which could have significant effects on excess harvesting capacity, are not reflected in the results.

The major quantitative and qualitative findings are summarized below.

Major Quantitative Findings

1. Excess capacity (capacity in excess of harvests) and overcapacity (capacity in excess of a management target) rates vary considerably—among regions and fisheries, and even among fleets and stocks within individual fisheries. Therefore, meaningful comparisons of national or even regional excess harvesting capacity rates are not possible.
2. For 12 of the 25 of the assessed fisheries and 18 of 60 of the assessed fleets, excess capacity levels were about 50 percent or more. Overcapacity was more difficult to assess, but in 6 of the 23 fisheries, overcapacity levels exceeded 30 percent.

3. In some fisheries with high rates of excess capacity and overcapacity in 2004, there was overharvest of quotas, overfishing or overfished stocks. However, in other fisheries with high rates of excess capacity and overcapacity, those three undesirable outcomes were prevented by effective management controls on harvesting capacity.

Major Policy Findings

1. Excess capacity and overcapacity rates in and of themselves do not determine if capacity should be reduced, by how much to reduce it, how to reduce capacity, or the urgency for reducing it. Such determinations will be further complicated in the case of (a) multispecies fisheries, (b) rebuilding stocks, (c) stocks subject to environmental fluctuations, (d) fisheries with significant recreational components, and (e) fisheries with significant foreign harvests.
2. Excess harvesting capacity exacerbates certain undesirable management outcomes, including overfishing, poor economic performance, less viable fishing communities, high rates of bycatch, excessive harm to habitats, poor at-sea safety, and a regulatory process that is complicated, contentious and costly.
3. Market-based management, including Limited Access Privilege Programs (LAPPs) and similar programs, has a strong track record for effectively and efficiently reducing excess harvesting capacity. NMFS bases this conclusion on a comparative assessment of the cost-effectiveness, lasting results, and legal and programmatic flexibility of various rationalization programs over nearly two decades.
4. Buybacks may play a helpful role in reducing excess harvesting capacity if they are (a) privately funded and (b) linked with a market-based management program.
5. License limitation programs will not decrease excess harvesting capacity and prevent subsequent increases in excess harvesting capacity unless the rules to obtain and renew a permit and to transfer a permit to a replacement vessel are sufficiently restrictive. However, license limitation programs may form a foundation for subsequent measures, such as LAPPs, that do reduce excess harvesting capacity on a more lasting basis.
6. Conventional harvest restrictions do not provide cost-effective or lasting method of reducing excess harvesting capacity. On the other hand, these harvest restrictions, if implemented in conjunction with a LAPP, can contribute to an effective management regime that meets the objectives of sustainable fisheries.
7. The major policy findings are consistent with the Administration's goal of implementing market-based management programs, such as LAPPs and similar programs, when the Councils and affected industry sectors support them

I. INTRODUCTION

This report to Congress on excess harvesting capacity draws on almost two decades of efforts by NOAA's National Marine Fisheries Service (NMFS) to better understand and effectively address the problems resulting from ineffective controls on the level and use of harvesting capacity. The report fulfills a Congressional mandate in §312(b)(6) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), in which Congress asked the agency to identify and describe the 20 fisheries with the most severe examples of excess harvesting capacity, recommend measures for reducing such excess harvesting capacity, and identify potential sources of funding for those measures. Therefore, the report has two distinct components. They are: (1) an assessment of excess harvesting capacity and (2) a discussion of the most cost-effective ways to reduce excess harvesting capacity. In conformity with the legislative mandate, NMFS has focused on privately-funded approaches to reduce capacity. Specifically, §312(b)(6) calls for a:

(6) REPORT-

(A) **IN GENERAL.-** Subject to the availability of funds, the Secretary shall, within 12 months, after the date of enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 submit to the Congress a report –

- (i) identifying and describing the 20 fisheries in United States waters with the most severe examples of excess harvesting capacity in the fisheries, based on value of each fishery and the amount of excess harvesting capacity as determined by the Secretary;
- (ii) recommending measures for reducing such excess harvesting capacity, including the retirement of any latent fishing permits that could contribute to further excess harvesting capacity in those fisheries; and
- (iii) potential sources of funding for those measures.

(B) **BASIS FOR RECOMMENDATIONS.-** The Secretary shall base the recommendations made with respect to a fishery on-

- (i) the most cost effective means of achieving a voluntary reduction in capacity for the fishery using the potential for industry financing; and
- (ii) including measures to prevent the capacity that is being removed from the fishery from moving to other fisheries in the United States, in the waters of a foreign nation, or on the high seas.

NMFS has organized this report to examine several dimensions of excess harvesting capacity. NMFS defines “harvesting capacity” as the capability of one or more specific vessels to catch fish and it measures harvesting capacity in terms of their potential pounds or tons of catch, and not in terms of the number, size or horsepower of those fishing vessels. NMFS uses the following three measures or indicators of excess harvesting capacity:

- **Excess Capacity:** capacity in excess of actual harvests
- **Overcapacity:** capacity in excess of the quotas
- **Overharvest:** harvest in excess of the quotas

The findings, which are for 2004, are presented for 25 fisheries and 60 fleets, where a fishery in most instances refers to the commercial fishing activity governed by a single fishery management plan (FMP) and a fleet is defined by vessel/gear type, area and fishery. Information on the overfishing and overfished status of the harvested stocks, as reported in the annual reports to Congress on the status of the U.S. fisheries, is presented to put the excess harvesting capacity estimates in a broader fishery management context. A stock that is subject to overfishing has a fishing mortality (harvest) rate above the level that provides for the maximum sustainable yield; and a stock that is overfished has a biomass level below a biological threshold specified in its FMP. NMFS interprets “fisheries in United States waters” to mean fisheries that are federally managed. Therefore, with the exception of the Northern shrimp fishery that is managed by the Atlantic States Marine Fisheries Commission, this report excludes fisheries managed by a state or a States Marine Fisheries Commission. The report also excludes the 20 federally managed fisheries for which data limitations or other issues prevented useful quantitative assessments of excess harvesting capacity. In addition, NMFS confined this report to federally managed commercial fisheries, because the concept of “excess harvesting capacity” does not apply in any meaningful way to the recreational sector.

Around 1990, after years of growth, domestic harvests began to level off, and managers and policymakers sought ways to prevent overfishing, in part by bringing about a better balance between harvesting capacity and the harvest levels that will meet the objectives of sustainable fisheries. One response was to introduce tradable individual fishing quotas (IFQs), which, from 1990 to 1995, were implemented in the Atlantic surfclam and ocean quahog fishery, the Atlantic wreckfish fishery, and the Alaska halibut and sablefish fisheries. In the 1990s, community development quotas and fishing cooperatives were also created in certain fisheries, chiefly in Alaska. In 2001, NMFS approved the Pacific Fishery Management Council’s limited entry fixed gear permit stacking program in which a vessel is allowed to “stack” up to three sablefish permits on one vessel and harvest the cumulative sablefish limits associated with the stacked permits.

Another response was to remove redundant fishing vessels, or to prevent the entry of additional vessels through buyback and license limitation programs. License limitation programs were introduced in most federally managed fisheries (except in the Caribbean area), and buybacks were implemented in several Northeast, Pacific Coast, and Alaska fisheries. In 1996, with the passage of the Sustainable Fisheries Act amendments to the MSA, Congress formally established a Fishing Capacity Reduction Program in Section 312(b-e), with the intent of encouraging industry-funded buybacks.

In response to the Congressional mandate, the second part of this report addresses measures to reduce excess harvesting capacity and sources of funding for those measures. Although the mandate for this report is included in a provision (MSA §312(b)) that deals with buybacks, NMFS prepared this report to review a wider range of management

responses, including market-based management, other limited access privilege programs (LAPPs) and other harvest-rights based programs, buybacks financed by the fishing industry and, potentially, by other private entities, license limitation programs, and conventional harvest restrictions. The review is based on the agency's broad understanding, gained over the past two decades, of how best to control the level and use of harvesting capacity.

In 1998, NMFS began an analytical program to address a range of issues related to harvesting capacity in marine capture fisheries. In 1999, NMFS initiated a plan to prepare three reports on harvesting capacity in federally managed commercial fisheries. The first report, *Identifying Harvest Capacity and Over-Capacity in Federally Managed Fisheries: A Preliminary Qualitative Report*, was completed in 2001. The second report, *Assessments of Excess Fishing Capacity in Select Federally Managed Commercial Fisheries*, was issued in 2006. The third report, *National Assessment of Excess Harvesting Capacity in Federally Managed Commercial Fisheries*, which was completed in early 2008, includes a report on harvesting capacity, excess capacity, overcapacity, and overharvest in 2004 for each of the six NMFS regions and two separate reports for the Atlantic fisheries for highly migratory species and for the fisheries of the U.S. Caribbean. The National Assessment is provided as Appendix C of this report.

The excess capacity, overcapacity, and overharvest estimates presented in this report were taken from the National Assessment. The definition of "harvesting capacity" used in this report and the methods used to estimate harvesting capacity are presented in Section II. Section III contains: (1) the basic terms of reference and constraints for the estimates in this report; (2) a discussion of the implications of high rates of excess capacity, overcapacity, or overharvest; (3) the estimated excess harvesting capacity rates and ex-vessel values by fishery; (4) excess capacity, overcapacity, and overharvest rankings, by fishery; (5) information on the numbers of stocks that were overharvested, subject to overfishing, or at an overfished level; and (6) the estimated excess capacity by fleet. The definitions and basic terms of reference and constraints for the estimates in this report are critical for understanding the estimates. Measures for reducing excess harvesting capacity and sources of funding for those measures are discussed in Section IV.

II. TERMS AND METHODS

A. AN OUTPUT-BASED DEFINITION OF CAPACITY

Ever since fishery experts at the United Nations Food and Agricultural Organization (FAO) began publishing studies in the early 1990s about the global dimensions of overfishing and overcapacity, many national governments and regional fishery management organizations (RFMOs) have engaged in efforts to assess and address excess harvesting capacity. In most cases, harvesting capacity has been measured in terms of “inputs”, such as the numbers and sizes of fishing vessels. Even today, the European Union uses a combination of the size and engine power of a fishing vessel as its measure of a vessel’s harvesting capacity. Similarly, the Inter-American Tropical Tuna Commission (IATTC) measures capacity in terms of the hold capacity of the tuna vessels operating in IATTC waters.

However, NMFS has chosen a different, output-based (catch or landings) definition of capacity. There are two reasons why NMFS defines and measures harvesting capacity in terms of the potential harvest of a fishing vessel or fleet of vessels. First, for most fishery management purposes, the potential harvest of a fleet is more important than one or two physical vessel characteristics. Second, for most industries in the United States, capacity is a measure of potential output, and although potential output depends on, among other things, the number and physical characteristics of plants or vessels, capacity is not normally measured in terms of those inputs.

In the instructions to the U.S. Census Bureau’s Survey of Plant Capacity Utilization, which is used to estimate capacity for most U.S. industries, capacity is defined as: “The maximum level of production that this establishment could reasonably be expected to attain under normal and realistic operating conditions fully utilizing the machinery and equipment in place.” NMFS developed the following definition of harvesting capacity:

Harvesting capacity is the maximum amount of fish that the fishing fleets could have reasonably expected to catch or land during the year under the normal and realistic operating conditions of each vessel, fully utilizing the machinery and equipment in place, and given the technology, the availability and skill of skippers and crew, the abundance of the stocks of fish, some or all fishery regulations, and other relevant constraints.

B. ANALYTICAL METHOD

NMFS selected data envelopment analysis (DEA) as an appropriate analytical tool to estimate harvesting capacity. DEA is a mathematical programming approach that has been used to estimate capacity for a variety of industries. With adequate data, DEA can be used to estimate (1) the potential or technically efficient harvest level for a specific trip and vessel when variable and fixed inputs limit its harvest; (2) the potential or capacity harvest level for a specific trip and vessel when only fixed inputs limit its harvest; and (3) the level of variable input use required to take the capacity harvest level.

Examples of fixed inputs are vessel length, engine horsepower, and gross tonnage. Examples of variable inputs are days at sea, number of sets, and crew size. A detailed discussion of DEA and how it was used to estimate harvesting capacity for each fishery is included in the National Assessment (see Appendix C).

C. HIGHER AND LOWER ESTIMATES

For each fishery in the National Assessment, two estimates were provided, if data on variable inputs were available. As a matter of convenience, these two estimates are simply referred to as the “higher” and “lower” capacity estimates.

- (1) The first and higher estimate, which is the usual measure of capacity output, provides an estimate of what the harvest would have been if all estimated technical inefficiency had been eliminated and if variable inputs had been fully utilized (i.e., used at the level required to attain capacity output). There was technical inefficiency if more could have been produced without increasing inputs.
- (2) The second and lower estimate provides an approximation of what the harvest would have been if the variable inputs had been fully utilized but if the estimated technical inefficiency had not been eliminated. Therefore, the lower estimate is based on the actual level of technical efficiency, not the estimated potential level of technical efficiency.

The second and lower estimate is provided to address the concern that the first estimate may overstate the amount of fish a given fleet could have expected to harvest under the normal and realistic operating conditions of each vessel. The reason for this concern is that, with the first and higher estimate, all of the differences in harvest levels among trips of a specific type are attributed to technical inefficiency and differences in the levels of both variable and fixed inputs when, in fact, some of the differences in harvest levels could have been due to unobserved factors, including differences in skill levels among skippers or crews, unobserved differences in fixed inputs, weather conditions, mechanical failures, luck (being at the right place at the right time to catch an unusually large amount of fish), and temporal or spatial differences in fish stocks.

The potential for the first estimate to overstate what the fleet could have harvested under the normal and realistic operating conditions of each vessel is greater when trip-level data are used to estimate harvesting capacity and much of the harvest is accounted for by trips in which only one species is harvested. When capacity is estimated by trip, the peer trips that are used to estimate capacity are defined in terms of both vessel characteristics and the species composition of the catch. For single species trips, all the trips for a given species and for vessels with similar vessel characteristics would be peer trips and the trip with the most catch would be the capacity estimate for all those peer trips. Conversely, if many species are taken on most trips and if the species composition differs by trip, there will be relatively few peer trips to estimate the capacity for each trip, which means that more of these trips will have no or few peers and will be estimated to be at or close to capacity. This may account for the relatively high estimates of excess capacity in some

of the North Pacific fisheries, such as the Alaska halibut, sablefish, and pollock fisheries. The other characteristic of those fisheries and other fisheries with LAPPs that probably contributed to relatively high rates of excess capacity and overcapacity is the additional control the harvest privilege owners have over when and how fish are caught. Some may have decided to use all their harvest privileges (e.g., IFQs) on a small number of large trips while others may have decided to make more but smaller trips. The trip level capacity estimates will tend to reflect the catch per trip from the larger trips; therefore, there will be high estimates of excess capacity if a large part of the total catch was taken with smaller trips. The lack of variable input data for the Alaska Region fisheries limited what could be done to account for such differences in trip types for the fisheries with IFQs or fishing cooperatives.

The higher and lower estimates are not intended to bracket the range of feasible harvesting capacity estimates; they are intended to allow for a more complete assessment of excess capacity and overcapacity by providing a range that accounts for different underlying assumptions about the vessels' ability to increase their harvest. However, given the definition of harvesting capacity stated above, and barring other factors that could result in the first estimate overstating or understating harvesting capacity, actual harvesting capacity would tend to be between the two estimates because the underlying assumptions for the first and second estimates, respectively, are too lenient and too restrictive relative to that definition of harvesting capacity. An estimate of what capacity would have been in 2004 in the absence of management measures that constrained landings per trip, the number of trips, or both in 2004 would have produced larger but more speculative capacity estimates. Similarly, estimates of what capacity would have been, if no stocks had been overfished, would have produced larger but again more speculative estimates of harvesting capacity.

For the fisheries without consistently available variable input data, it was not possible to provide estimates of the technically efficient harvest levels, estimates of the levels of variable input use required to harvest at the capacity level, and the lower estimates that were reported for most fisheries. This makes it more difficult to evaluate whether the harvesting capacity estimates for those fisheries are reasonable approximations of harvesting capacity as defined above. Because only the higher estimates are available for all fisheries, these higher estimates are used in identifying the fisheries with the most severe examples of excess harvesting capacity (see Table 4).

D. OVERCAPACITY

Assessments of overcapacity require commercial harvest quotas or quota proxies, because overcapacity is the difference between estimated harvesting capacity and the commercial harvest quota, which is assumed to be a target harvest level that will achieve the sustainability objectives for a fishery. However, some federally managed fisheries do not have quotas or quota proxies for all commercially important species, and, therefore, this report could not include estimates of overcapacity for those fisheries. However, in the future, the MSA requirement for annual catch limits (ACLs) will insure that quotas are available for all federally managed commercial fisheries.

III. EXCESS HARVESTING CAPACITY IN U.S. FISHERIES

A. ESTIMATES OF CAPACITY

This report summarizes the findings of seven of the eight regional assessments of excess harvesting capacity in federally managed commercial fisheries. NMFS believes it is useful to explain at the outset the following basic terms of reference and constraints for the estimates presented in this report.

1. The capacity estimates address commercial fisheries exclusively, and do not cover the for-hire charter and private angler recreational sectors, even though those sectors can account for much of the total catch of some species in federally managed fisheries.
2. This report estimates harvesting capacity, and does not address processing capacity. To the extent that processing capacity limited catch per trip, the number of trips, or both, it was implicitly accounted for in the estimates of harvesting capacity.
3. The estimates are based exclusively on data for vessels that participated in the fishery in 2004. Therefore, these estimates do not address the latent capacity of vessels that could have fished in 2004 but, for whatever reason, failed to do so. For some fisheries, including latent capacity would have substantially increased the excess capacity and overcapacity rates.
4. The estimates are for harvesting capacity as defined in this report; i.e., they are estimates of what the fleets could have caught in 2004 if they had used the variable inputs (e.g., days at sea, number of sets, and crew size) fully or if they had done that and also eliminated the estimated technical inefficiencies. They are not estimates of what the fishermen would have chosen to catch given the conditions and constraints they faced and their objectives in 2004.
5. Because the estimates use 2004 data, they do not capture changes in resource, environmental, market or regulatory conditions that took place after 2004. Examples of recent changes in regulatory conditions are the LAPP and buyback programs in some Alaska Region fisheries, the LAPP for the Gulf of Mexico red snapper fishery, reductions in days at sea in certain Northeast Region fisheries, and the more restrictive management measures in the Atlantic HMS fisheries.
6. The estimates are for stock conditions in 2004. There was no attempt to estimate excess harvesting capacity for alternative stock conditions. In rebuilding fisheries, estimates for 2004 do not indicate what the excess capacity and overcapacity rates would be after all stock had fully recovered.
7. Many fishing vessels contributed to the catch and, therefore, to the estimates of harvesting capacity, excess capacity and overcapacity for multiple species groups, fleets or fisheries. The species and fleet specific estimates presented in this report are of what catch would have been in 2004 if the catch for a specific type of trip had been greater than it actually was in 2004 but if neither the species composition of each trip nor the number of trips of each type had changed. Therefore, the species and fleet

specific harvesting capacity estimates do not reflect how much of each species group could have been caught in 2004 or how much each fleet could have caught in 2004 if the fishing vessels had changed either the catch composition or the number of trips for one or more types of trips. Under different circumstances, the harvesting capacity estimates could have been quite different. The present assessment was not intended to account for such shifts. This is somewhat less of a problem for the assessment of harvesting capacity by fleet for all species combined; however, because it is common for fishing boats to switch between gear types, the problem is not eliminated.

8. With the exception of the Pacific Coast and Alaska groundfish fisheries, the assessments are in terms of landings, not total harvests. Discards are not included in the estimates. If the commercial quotas were in terms of total harvest and if at-sea discards accounted for a significant part of the total harvest, overcapacity and overharvest could be underestimated.
9. Estimates of overcapacity and overharvest require a commercial quota or a functional equivalent. However, some federally managed fisheries include species that lack such quotas, and therefore overcapacity and overharvest could not be assessed for those species or in aggregate for such a fishery.
10. Except for the Northeast multispecies fishery and the Atlantic sea scallop fishery, the estimates of harvesting capacity are based on the actual number of trips each fishing vessel took in 2004, and not on the number in other years or the potential maximum number of trips each vessel could have taken in 2004 if the number of trips had not been limited by fishery management measures such as harvest quotas.
11. NMFS planned and prepared this report to minimize regional disparities and ensure as much comparability as possible. The analysts used the same terms, definitions, and DEA approach, and based their assessments on 2004 data. In addition, the same three economists worked with regional economists to conduct all the assessments. However, there were differences among the fisheries and sometimes within a single fishery with respect to industry structure, fleet makeup, management approaches, and the availability and quality of data. Such differences inevitably decreased the comparability of the estimates, both among fisheries and within some fisheries.

Of a total of 44 federally managed commercial fisheries, 27 were included in the National Assessment and 17 were excluded (see Table 1). Fisheries were excluded for the following reasons:

- (1) adequate data were not available for 2004;
- (2) neither a commercial quota nor its proxy was available for 2004;
- (3) the biological characteristics of the species made assessments of overcapacity not feasible or not useful;
- (4) management authority had been delegated to one or more states, and, therefore, the fishery was not federally managed; and
- (5) the fishery did not occur in 2004.

NMFS did not include the U.S. Caribbean fleets and fisheries for two reasons. First, substantial data quality issues for those fisheries and fleets make their estimates very tentative, and, second, the relatively small size and low value of those fisheries would tend to eliminate them from the list of the 20 fisheries with the most severe examples of excess harvesting capacity.

Table 1. Federally Managed Fisheries Included and Not Included in the National Assessment.

Fisheries Included in the National Assessment
Atlantic States Marine Fisheries Commission <ul style="list-style-type: none"> Northern Shrimp Fishery¹
Caribbean Fishery Management Council <ul style="list-style-type: none"> Spiny Lobster Fishery of Puerto Rico and the U.S. Virgin Islands Shallow Water Reeffish Fishery of Puerto Rico and the U.S. Virgin Islands Queen Conch Resources of Puerto Rico and the U.S. Virgin Islands
Gulf of Mexico Fishery Management Council <ul style="list-style-type: none"> Reef Fish Resources of the Gulf of Mexico
Mid-Atlantic Fishery Management Council <ul style="list-style-type: none"> Atlantic Surfclam and Ocean Quahog Fisheries Atlantic Mackerel, Squid, and Butterfish Fisheries Summer Flounder, Scup, and Black Sea Bass Fisheries Atlantic Bluefish Fishery Tilefish Fishery
New England Fishery Management Council <ul style="list-style-type: none"> Atlantic Sea Scallop Fishery Northeast Multispecies Fishery Monkfish Fishery Atlantic Herring Fishery Atlantic Deep Sea Red Crab Fishery
NMFS <ul style="list-style-type: none"> Consolidated Atlantic Highly Migratory Species Fishery
North Pacific Fishery Management Council <ul style="list-style-type: none"> Groundfish Fishery of the Gulf of Alaska Groundfish Fishery of the Bering Sea and Aleutian Islands Area Bering Sea/Aleutian Islands King and Tanner Crab Fisheries Scallop Fishery off Alaska Pacific Halibut Fishery (not an FMP fishery)
Pacific Fishery Management Council <ul style="list-style-type: none"> Coastal Pelagic Species Fishery Pacific Coast Groundfish Fishery U.S. West Coast Fisheries for Highly Migratory Species
South Atlantic Fishery Management Council <ul style="list-style-type: none"> Snapper-Grouper Fishery of the South Atlantic Region
South Atlantic and Gulf of Mexico Fishery Management Councils Joint Efforts <ul style="list-style-type: none"> Coastal Migratory Pelagic Resources of the Gulf of Mexico and South Atlantic Fisheries
Western Pacific Regional Fishery Management Council <ul style="list-style-type: none"> Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region² Pelagic Fisheries of the Western Pacific Region³

Table 1 Continued.

Fisheries Not Included in the National Assessment	
Gulf of Mexico Fishery Management Council	
•	Red Drum Fishery of the Gulf of Mexico
•	Stone Crab Fishery of the Gulf of Mexico
•	Shrimp Fishery of the Gulf of Mexico
Mid-Atlantic Fishery Management Council	
•	Spiny Dogfish Fishery
New England Fishery Management Council	
•	Small Mesh Multispecies Fishery
•	Skate Fishery
•	Atlantic Salmon
NMFS	
•	Federally permitted fisheries beyond the U.S. EEZ (e.g., U.S. tuna vessels in the Western Pacific)
North Pacific Fishery Management Council	
•	High Seas Salmon Fishery off the Coast of Alaska East of 175 Degrees East Longitude
Pacific Fishery Management Council	
•	West Coast Salmon Fishery
•	Pacific Halibut Fishery (not an FMP fishery)
South Atlantic Fishery Management Council	
•	Atlantic Coast Red Drum Fishery
•	Shrimp Fishery of the South Atlantic Region
•	Golden Crab Fishery of the South Atlantic Region
•	Dolphin and Wahoo Fishery
South Atlantic and Gulf of Mexico Fishery Management Councils Joint Efforts	
•	Spiny Lobster Fishery of the Gulf of Mexico and South Atlantic
Western Pacific Regional Fishery Management Council	
•	Crustaceans Fisheries of the Western Pacific Region

1. At the request of the New England Fishery Management Council, this fishery, which is managed by the Atlantic States Marine Fisheries Commission, was included in the National Assessment; however, it is not a federally managed fishery.
2. This includes only the Hawaii longline fleet, which accounted for about 54 percent of the commercial landings in this fishery in 2004. The American Samoa longline fleet, which accounted for about 28 percent of the landings in this fishery, was not included.
3. This includes only the Northwest Hawaiian Islands bottomfish fleet, which accounts for about 37 percent of the commercial landings in this fishery.

B. EXCESS HARVESTING CAPACITY IN FEDERALLY MANAGED COMMERCIAL FISHERIES

MSA §312(b)(6) directs the Secretary of Commerce to identify and describe the 20 federally managed commercial fisheries with the most severe examples of excess harvesting capacity. In responding to this mandate, NMFS provides a list of 20 fisheries in Table 4, but also elected to provide several other tables that examine excess harvesting capacity from different perspectives. The term “excess harvesting capacity” is interpreted in a broad sense, to mean too much harvesting capacity relative to actual harvests, the commercial quotas, or both. Therefore, NMFS uses the rates of excess capacity, overcapacity and overharvest as three measures, or indicators, of excess (i.e., too much) harvesting capacity. These perspectives on excess harvesting capacity are summarized with the following terms:

- (1) Excess Harvesting Capacity:** the generic term that means too much harvesting capacity
- (2) Excess Capacity:** capacity in excess of actual harvests
- (3) Overcapacity:** capacity in excess of the quotas
- (4) Overharvest:** harvest in excess of the quotas
- (5) Excess capacity (EC) rate:** the percentage reduction in harvesting capacity that would have eliminated excess capacity in 2004, which is the percent of harvesting capacity that was redundant with respect to the actual commercial harvest in 2004.
- (6) Overcapacity (OC) rate:** the percentage reduction in harvesting capacity that would have eliminated overcapacity in 2004, which is the percent of harvesting capacity that was redundant with respect to the commercial quota in 2004.
- (7) Overharvest (OH) rate:** the percentage reduction in commercial harvest that would have eliminated commercial fishery overharvest in 2004.

The following numerical example demonstrates the concepts of excess capacity, overcapacity and overharvest rates. If the harvest was 110 tons, if the commercial quota was 120 tons, and if the capacity estimate was 200 tons, then excess capacity was 90 tons ($200 - 110$ tons), overcapacity was 80 tons ($200 - 120$ tons), and overharvest was -10 tons ($110 - 120$ tons). Therefore, the excess capacity rate was 45 percent because if harvesting capacity had been 45 percent ($90/200$) less in 2004, and if the fleets had fully utilized their remaining harvesting capacity, both harvesting capacity and the harvest would have been 110 tons and there would have been no excess harvesting capacity in 2004. Similarly, the overcapacity rate was 40 percent, because if harvesting capacity had been 40 percent ($80/200$) less in 2004, the harvesting capacity would have been equal to the quota of 120 tons and there would have been no overcapacity in 2004. Finally, the overharvest rate was -9 percent because if the harvest had been 9 percent ($10/110$) greater

in 2004, the harvest would have been 120 tons, the same as the quota, and there would have been neither over nor under harvest.

The overcapacity and overharvest rates, respectively, would be negative if the harvesting capacity estimate and the harvest were less than the commercial quota. In these cases, the overcapacity and overharvest rates, respectively, indicate the percentage increases in harvesting capacity and harvest that would have been required to take the commercial quota or its proxy in 2004.

Each of these three measures of excess harvesting capacity provides different information. A high excess capacity rate indicates that the actual harvest in 2004 could have been taken by much smaller fleets, and therefore, at a lower cost. A smaller fleet could have consisted of fewer vessels, fishing vessels that each had less harvesting capacity, or both. The cost reductions could have included lower operating costs and annual fixed costs as well as reduced costs associated with, for example, bycatch, impacts on habitat, unsafe fishing practices, and fishery management. A high excess capacity rate does not indicate that there was either overcapacity or overharvest. It should be noted that typically there will be some excess capacity in each fishery; therefore, it is important to focus on situations with *high* excess capacity and not just any excess capacity.

A high positive overcapacity rate means that the fleets had the ability to harvest much more than the 2004 commercial quota. Therefore, much smaller fleets could have taken the commercial quota. Although high positive overcapacity rates are commonly accompanied by a high excess capacity rate, a high positive overcapacity rate can occur either without high (or even any) excess capacity or without overharvest. Smaller fleets could have taken the commercial quota and had some of the types of cost reductions mentioned in the previous paragraph. If the actual harvest was less than the commercial quota, the excess capacity rate was greater than the overcapacity rate.

A high positive overharvest rate indicates that the fleets had and used the ability to harvest much more than the commercial quota. This result can occur only if there is overcapacity and the use of that capacity is not adequately controlled. If there was a high positive overharvest rate, much smaller fleets would have had the same types of cost reductions mentioned above. Perhaps more importantly, smaller fleets, better control of the use of their harvesting capacity, or both would have prevented overharvest and the costs associated with overharvest. If the quota was set sufficiently below the overfishing level, a high overharvest rate does not necessarily mean that there was overfishing.

These three measures of excess harvesting capacity are presented in two ways:

- (1) by fishery, where a fishery generally refers to a specific FMP, in Tables 2 and 6, and
- (2) by fleet, which generally is defined by gear type, area and fishery, in Table 7.

The fisheries are all FMPs except the Pacific halibut fishery in the Alaska Region, which is federally managed but not under an FMP. In addition to the fishery assessments, the estimates are also presented by fleet in Table 7 for two reasons: (1) to focus on the level

of excess harvesting capacity for distinct fleets in a multi-fleet fishery and (2) to help in determining the appropriate measures to reduce excess harvesting capacity. For similar reasons, estimates of excess capacity and overcapacity by species group and fishery are presented in Appendix A.

In addition, to place the issue of excess harvesting capacity in a broader management context, information is provided on the overfishing and overfished status of the harvested stocks in each fishery. If there was not overfishing in 2004, the excess harvesting capacity in 2004 obviously did not contribute to overfishing, but it may have contributed to other undesirable outcomes. For fisheries with high overcapacity rates and overfishing in 2004, the overcapacity no doubt contributed to overfishing, but it was not necessarily the sole or major cause of overfishing. The failure to adequately control the use of the harvesting capacity that existed in 2004 also contributed to the overfishing, as is demonstrated by the fisheries with high excess capacity and overcapacity rates but without overharvest or overfishing in 2004. In some cases, catch or bycatch in other commercial fisheries (including foreign fisheries) or recreational fisheries contributed to or caused the overfishing.

In summary, because there is no single widely accepted criterion for assessing the severity of excess harvesting capacity, this report provides information that can be used to identify the 20 fisheries with the most severe examples of excess harvesting capacity based on one or more of the following: (1) excess capacity by fishery; (2) overcapacity by fishery; (3) overharvest by fishery; (4) ex-vessel values by fishery; (5) the number of stocks that were overharvested, subject to overfishing, or at an overfished level by fishery; and (6) excess capacity by fleet. The list given in Table 4 responds most directly to the Congressional mandate but all the tables provide useful and relevant information. More precisely, Tables 2 through 7, respectively, provide:

- Excess capacity, overcapacity, and overharvest rates and ex-vessel values for 25 fisheries for 2004 (Table 2);
- Rankings of the 25 fisheries in terms of those rates and values (Table 3);
- A list of 20 U.S. fisheries with the most severe examples of excess harvesting capacity based on their higher excess capacity and overcapacity rates, their overharvest rates and their ex-vessel values (Table 4);
- Number of stocks in the 25 fisheries with overharvest in 2004, with overfishing in 2004 and 2006, and with an overfished status in 2004 and 2006 (Table 5);
- Excess capacity and overcapacity rate estimates and the number of stocks that were overharvested, subject to overfishing, or at an overfished level in 2004 (Table 6); and
- Excess capacity rates for 60 fleets for 2004 (Table 7).

Table 2 presents the estimated excess capacity, overcapacity, and overharvest rates and ex-vessel values for 25 fisheries (28 fisheries minus the three excluded Caribbean fisheries), based on 2004 data. For the 25 fisheries, the higher excess capacity rates ranged from 17 percent to 59 percent in 2004. For the 17 fisheries for which the lower estimates could be generated, the lower excess capacity rates ranged from 1 percent to 51 percent in 2004. Of the 25 fisheries, 12 had reasonably high higher rates of excess

capacity (almost 50 percent or more) in 2004. Excluding the Alaska BSAI crab fishery, which had a substantial reduction in the size of its fleet and harvesting capacity after 2004 as the result of a LAPP and buyback, the top 20 fisheries in terms of the higher excess capacity rates are, first, the Northeast northern shrimp fishery, which had a higher excess capacity rate of 59 percent, and 20th the Pacific Coast groundfish fishery, which had a higher excess capacity rate of 26 percent.

For the 17 fisheries with aggregate overcapacity based on the higher capacity estimates, the higher overcapacity rates ranged from 1 percent to 67 percent. For the other 8 fisheries, 6 had undercapacity and 2 had no overcapacity estimates because there were no aggregate quotas in 2004. Therefore, based on the aggregate overcapacity rates alone for the higher capacity estimates, there were no more than 17 fisheries with severe examples of excess harvesting capacity in 2004. If the BSAI crab fishery is removed from the list for the reason noted above and if the fisheries with a higher overcapacity rate of less than 10 percent are eliminated, there would be only 14 fisheries with severe examples of excess harvesting capacity in 2004. Those 14 fisheries included only one fishery that is not on the top 20 list based on the higher excess capacity rates, the Gulf of Mexico reef fish fishery that was ranked 24th in terms of the higher excess capacity rates but 12th in terms of the higher overcapacity rates. If harvest was less than the quota in 2004, the overcapacity rate was less than the excess capacity rate; and for some fisheries the overcapacity rates were substantially less than the excess capacity rates because the harvests were well below the quotas.

The data were adequate to generate the lower capacity estimates for 17 fisheries. For 6 of those 17 fisheries, there was aggregate overcapacity based on the lower capacity estimates and the lower aggregate overcapacity rates ranged from 2 percent to 56 percent. For 10 of the other 11 fisheries, there was undercapacity in 2004; and, for the remaining fishery, overcapacity could not be calculated because there was no aggregate quota in 2004.

Table 2. Excess Harvesting Capacity Assessment and Ex-Vessel Value by Fishery¹, 2004.

Fishery	Value (\$ mill.)	Rates of				
		LEC ²	HEC ³	LOC ⁴	HOC ⁵	OH ⁶
NE northern shrimp	1.3	24%	59%	-7%	43%	-41%
NE multispecies	98.5	51%	55%	2%	10%	-101%
AK BSAI crab	140.7	- ⁷	53%	-	56%	8%
AK Pacific halibut	175.2	-	50%	-	48%	-4%
SW coastal pelagic species	31.5	-	50%	-	-17%	-133%
NE Atl. Herring	15.1	15%	49%	-125%	-37%	-166%
AK GOA groundfish	124.0	-	48%	-	18%	-58%
SE Atl. & GOM coastal migratory pelagics	11.4	15%	48%	-48%	11%	-73%
NE monkfish	30.3	39%	48%	32%	42%	-12%
SW West Coast HMS	33.4	-	47%	-	-	-
NE Atl. sea scallops	321.4	28%	47%	56%	67%	38%
Atl. HMS	43.9	27%	47%	-68%	-22%	-130%
NE summer flounder, scup & black sea bass	43.3	30%	41%	22%	35%	-11%
NE Atl. Bluefish	2.3	22%	37%	-9%	12%	-39%
NE Atl. mackerel, squid & butterfish	56.8	13%	35%	-80%	-33%	-106%
AK BSAI groundfish	500.1	-	32%	-	32%	-1%
NE Atl. surfclam & ocean quahog	58.9	13%	32%	-5%	18%	-20%
NE Atl. Tilefish	5.0	17%	31%	37%	48%	24%
AK GOA scallop	1.5	-	30%	-	8%	-31%
NE Atl. deep sea red crab	5.0	5%	26%	-27%	1%	-34%
NW Pacific Coast groundfish	49.9	-	26%	-	21%	-6%
PI Hawaii based pelagic fisheries	41.4	9%	25%	-	-	-
SE SA snapper-grouper	15.3	13%	21%	-199%	-171%	-244%
SE GOM reef fish	48.2	13%	18%	9%	15%	-4%
PI NWHI bottomfish fishery	0.9	1%	17%	-67%	-40%	-69%

1. The fisheries are listed in order by their HEC rates.
2. LEC lower excess capacity.
3. HEC higher excess capacity.
4. LOC lower overcapacity.
5. HOC higher overcapacity.
6. OH overharvest.
7. A “-” is used when that measure of excess harvesting capacity could not be generated because either variable input data or an aggregate commercial quota (or its proxy) was not available for a specific fishery.

Table 3 presents fishery-specific rankings in terms of the excess capacity, overcapacity, and overharvest rates and ex-vessel values. The ranks are provided for each of these four variables, for each of the three measures of excess harvesting capacity combined with the value of a fishery, and for the aggregate of the three combined measures. The rates are based on the higher harvesting capacity estimates because the lower estimates were available for only 17 of the 25 fisheries. Note that the 25 fisheries are listed in order of their higher excess capacity rates. For each set of rankings that combines an excess harvesting capacity estimate and ex-vessel value, equal weight is assigned to the capacity and value ranks. Similarly, for the rankings in the last column of Table 3, equal weight is assigned to each of the three combination rankings.

The rankings by value and by the higher excess capacity rates differ significantly. For example, the Northeast northern shrimp fishery ranks 1st by the excess capacity rates but 24th by value and the Alaska BSAI groundfish fishery ranks 16th by the excess capacity rates but 1st by value. In addition, the rankings by excess capacity, overcapacity and overharvest rates also differ dramatically.

Table 3. Rankings by Fishery, 2004.

Fishery	Rank by:				Rank by value and:			Aggregate rank
	Value	HEC	HOC	OH	HEC	HOC	OH	
NE northern shrimp	24	1	5	14	13	14	20	16
NE multispecies	6	2	15	18	3	9	11	6
AK BSAI crab	4	3	2	3	1	2	3	1
AK Pacific halibut	3	4	3	5	1	2	4	2
SW coastal pelagic species	15	5	18	21	7	16	18	14
NE Atl. Herring	18	6	21	22	10	20	21	18
AK GOA groundfish	5	7	10	15	4	5	8	5
SE Atl. & GOM coastal migratory pelagics	19	8	14	17	16	16	18	17
NE monkfish	16	9	6	9	13	10	12	12
SW West Coast HMS	14	10	-	-	10	-	-	-
NE Atl. sea scallops	2	11	1	1	5	1	1	2
Atl. HMS	11	12	19	20	8	15	14	13
NE summer flounder, scup & black sea bass	12	13	7	8	13	8	8	9
NE Atl. bluefish	22	14	13	13	20	18	17	19
NE Atl. mackerel, squid & butterfish	8	15	20	19	8	13	13	11
AK BSAI groundfish	1	16	8	4	6	4	2	4
NE Atl. surfclam & ocean quahog	7	17	11	10	10	6	7	6
NE Atl. tilefish	20	18	4	2	21	12	10	15
AK GOA scallop	23	19	16	11	24	20	16	21
NE Atl. deep sea red crab	21	20	17	12	23	19	15	20
NW Pacific Coast groundfish	9	21	9	7	17	6	5	8
PI Hawaii based pelagic	13	22	-	-	19	-	-	-
SE SA snapper-grouper	17	23	23	23	22	22	21	22
SE GOM reef fish	10	24	12	6	18	10	5	10
PI NWHI bottomfish	25	25	22	16	25	23	23	23

1. The fisheries are listed in order by their HEC rates.
2. HEC higher excess capacity.
3. HOC higher overcapacity.
4. OH overharvest.
5. The aggregate rank is based on the previous three ranks.
6. A “-“ is used when that measure of excess harvesting capacity could not be generated because an aggregate commercial quota (or its proxy) was not available for a specific fishery.

Table 4 lists the 20 U.S. fisheries with the most severe examples of excess harvesting capacity based on the aggregate rankings which reflect all three measures of excess harvesting and the ex-vessel value of each fishery. This list, drawn from the information in Table 3, comes closest to meeting the Congressional mandate, which directed that the report identify the 20 U.S. fisheries with the most severe examples of excess harvesting capacity “based on value of each fishery and amount of excess harvesting capacity.” However, as this report makes clear, NMFS believes that this approach to identifying the 20 most severe examples of excess harvesting capacity is just one way to make this determination. For example, Tables 5 through 7 provide additional information that may be useful in determining if or how that list of 20 fisheries should be modified. Finally, NMFS was not required to and did not prioritize the fisheries in Table 4. Half of the 20 fisheries listed in Table 4 are in the Northeast and 4 are in Alaska. The Northeast Region northern shrimp fishery was excluded from the list because it is not a federally managed fishery. The four fisheries that were excluded due to their aggregate ranks for 2004 are the Alaska Region Gulf of Alaska scallop fishery, the Pacific Islands Region Hawaii based pelagic and NWHI bottomfish fisheries, and the Southeast Region South Atlantic snapper-grouper fishery.

Table 4. Twenty U.S. Fisheries With The Most Severe Examples of Excess Harvesting Capacity Based on Their Higher Excess Capacity and Overcapacity Rates, Overharvest Rates, and Ex-Vessel Values in 2004.

Northeast Region
NE Multispecies
Atlantic herring
Monkfish
Atlantic sea scallops
Summer flounder, scup, and black sea bass
Atlantic bluefish
Mackerel, squid and butterfish
Surfclam and ocean quahog
Tilefish
Atlantic deep sea red crab
Atlantic HMS
Atlantic tunas, sharks, and billfish
Southeast Region
Atlantic and Gulf of Mexico coastal migratory pelagics
Gulf of Mexico reef fish
Southwest Region
Coastal pelagic species
West Coast highly migratory species
Northwest Region
Pacific Coast groundfish
Alaska Region
Bering Sea and Aleutian Islands crab
Pacific halibut
Gulf of Alaska groundfish
Bering Sea and Aleutian Islands groundfish

Table 5 presents information that places the assessment of excess harvesting capacity in a broader management context by summarizing information on the number of stocks in each of the 25 fisheries with overharvest in 2004, with overfishing in 2004 and 2006, and with an overfished status in 2004 and 2006.

There are a few factors that readers should keep in mind when reviewing this table. First, some fisheries include many species while others are single-species fisheries. Second, in certain cases some stocks subject to overfishing in a specific federally managed commercial fishery also are taken as catch or bycatch either in other commercial fisheries, including foreign fisheries, or in recreational fisheries. In these cases, overfishing can be principally due to the other fisheries and not due to excess harvesting capacity in the specific federally managed commercial fishery that is listed.

For the 25 fisheries, 17 had at least one stock that was overharvested in 2004, subject to overfishing in 2004 or 2006, or at an overfished level in 2004 or 2006; 11 had at least one stock that was overharvested in 2004; 12 and 10 had at least one stock that was subject to overfishing in 2004 and 2006, respectively; 10 had at least one stock that was at an overfished level in 2004 and 2006; and 10 had more than one stock in 2004 or 2006 that was subject to overfishing or was at an overfished level.

Table 5. Number of Stocks That Were Overharvested in 2004, Subject to Overfishing in 2004 and 2006, or at an Overfished Level in 2004 and 2006.

Fishery ¹	Number of Stocks With the Following Conditions				
	Overharvested	Overfishing		Overfished	
	2004	2004	2006	2004	2006
AK BSAI crab	3	0	0	4	2
AK BSAI groundfish	5	0	0	0	0
AK GOA groundfish	2	0	0	0	0
AK GOA scallop	0	0	0	0	0
AK Pacific halibut	0	0	0	0	0
Atl. HMS	3	9	9	7	9
NE Atl. Bluefish	0	0	0	1	0
NE Atl. deep sea red crab	0	0	0	0	0
NE Atl. Herring	0	0	0	0	0
NE Atl. mackerel, squid & butterfish	1	0	0	1	1
NE Atl. Sea scallops	1	1	0	0	0
NE Atl. surfclam & ocean quahog ²	0	0	0	0	0
NE Atl. Tilefish	1	1	0	1	0
NE monkfish	0	2	2	0	2
NE multispecies	1	8	8	12	13
NE northern shrimp	0	0	0	0	0
NE summer flounder, scup & black sea bass	1	2	2	0	1
NW Pacific Coast groundfish ³	1	3	1	6	6
PI Hawaii based pelagic fisheries	0	1	2	0	0
PI NWHI bottomfish	0	1	1	1	1
SE Atl. & GOM coastal migratory pelagics	0	0	0	0	0
SE GOM reef fish	2	4	5	5	2
SE SA snapper-grouper ⁴	0	10	10	10	3
SW coastal pelagic species	0	0	0	0	0
SW West Coast HMS ⁵	0	1	2	0	0

1. These are the 25 fisheries included in this report
2. The Maine mahogany quahog quota is a small part of the total ocean quahog quota.
3. The overharvest assessment for this fishery is for the target species, which accounted for the vast majority of the harvest in 2004, and not for the species that are being rebuilt and can only be taken as incidental catch in this fishery.
4. The overharvest assessment for this fishery is for the three species with explicit commercial quotas (TACs), amounting to only about one-third of the total harvest in this fishery.
5. The overharvest assessment for this fishery is for the two species with harvest guideline levels.

Table 6 combines the higher excess capacity and overcapacity rates with the information on the number of stocks that were overharvested, subject to overfishing, or at an overfished level in 2004. The aggregate overcapacity rate for a fishery indicates the potential for the aggregate commercial quota to have been exceeded; and, if the aggregate quota is not much less than the aggregate overfishing level, it also indicates the potential for the aggregate overfishing level to have been exceeded. However, in a multispecies fishery, it may be of little use with respect to indicating the potential for individual quotas or overfishing levels to have been exceeded. For example, there was undercapacity in the Atlantic HMS and the Atlantic mackerel-squid-butterfish fisheries but there was overharvest of one or more quotas for both fisheries in 2004.

For the 8 fisheries with overcapacity rates greater than 30 percent, only 5 had overharvest for any quota and only 4 had stocks that were subject to overfishing. Conversely, 3 of the 6 fisheries with undercapacity had stocks that were subject to overfishing in 2004. This suggests that care is needed in determining the extent to which a high rate of overcapacity contributed to overfishing in 2004. A small number of multispecies fisheries, such as the Northeast multispecies, Atlantic HMS, South Atlantic snapper-grouper, and Gulf of Mexico reef fish fisheries, accounted for most of the stocks subject to overfishing in 2004 and 2006.

The relationship between high excess capacity rates and the overfished status of stocks is equally tenuous. If a stock is being rebuilt as the result of being overfished, the reductions in quotas or other management actions that were taken to rebuild the stock may have increased excess capacity substantially.

Table 6. Excess Capacity and Overcapacity Rates and the Number of Stocks that Were Overharvested, Subject to Overfishing, or at an Overfished Level by Fishery¹ in 2004.

Fishery	HEC Rate	HOC Rate	Number of Stocks		
			Over-harvest	Over-fishing	Over-fished
NE Atl. sea scallops	47%	67%	1	1	0
AK BSAI crab	53%	56%	3	0	4
AK Pacific halibut	50%	48%	0	0	0
NE Atl. Tilefish	31%	48%	1	1	1
NE northern shrimp	59%	43%	0	0	0
NE monkfish	48%	42%	0	2	0
NE summer flounder, scup & black sea bass	41%	35%	1	2	0
AK BSAI groundfish	32%	32%	5	0	0
NW Pacific Coast groundfish	26%	21%	1	3	6
AK GOA groundfish	48%	18%	2	0	0
NE Atl. Surfclam & ocean quahog	32%	18%	0	0	0
SE GOM reef fish	18%	15%	2	4	5
NE Atl. Bluefish	37%	12%	0	0	1
SE Atl. & GOM coastal migratory pelagics	48%	11%	0	0	0
NE multispecies	55%	10%	1	8	12
AK GOA scallop	30%	8%	0	0	0
NE Atl. deep sea red crab	26%	1%	0	0	0
SW coastal pelagic species	50%	-17%	0	0	0
Atl. HMS	47%	-22%	3	9	7
NE Atl. mackerel, squid & butterfish	35%	-33%	1	0	1
NE Atl. Herring	49%	-37%	0	0	0
PI NWHI bottomfish fishery	17%	-40%	0	1	1
SE SA snapper-grouper	21%	-171%	0	10	10
PI Hawaii based pelagic fisheries	25%	- ²	0	1	0
SW West Coast HMS	47%	-	0	1	0

1. The fisheries are in the order of their higher overcapacity rates.
2. A “-” indicates that an estimate of overcapacity could not be generated because there was no aggregate quota in 2004.

Up to this point, this report has focused on “fisheries”, almost all of which are FMPs. The estimates of excess capacity for each of 60 fleets are presented in Table 7 for two reasons. First, estimates of excess capacity and overcapacity by fishery (e.g. FMP) may obscure the level of excess harvesting capacity for distinct fleets in a multi-fleet fishery. Second, the appropriate measures to reduce excess harvesting capacity can be identified

more readily when estimates are also available by fleet. For the 60 fleets, the higher excess capacity rates ranged from less than 1 percent to 71 percent in 2004.

For the 41 fisheries for which the lower estimates could be generated, the lower excess capacity rates ranged from 1 percent to 65 percent in 2004. Of the 60 fleets, 18 had reasonably high higher rates of excess capacity (almost 50 percent or more) in 2004 and 41 fleets had higher excess capacity rates of at least 25 percent. For most fisheries with multiple fleets, there were significant differences in excess capacity rates among the fleets in a fishery.

The 20 fleets with the highest excess capacity rates (45 – 71 percent) included a wide range of vessel and gear types, and they fish in both very small and very large fisheries (by volume and value). One-half of those 20 fleets were in Northeast fisheries, three each were in Alaska and Southeast fisheries, two were in Southwest fisheries, one each was in the Northwest and Atlantic HMS fisheries, and none was in the Pacific Islands fisheries. Far and away the largest fleet (in terms of volume) exhibiting severe excess harvesting capacity is the Alaska fleet of groundfish trawl catcher-vessels. The very low excess capacity rates for the Alaska trawl catcher-processor fleet may be in part explained by the fact that the estimates for that fleet were based on total catch, and not landed catch.

Table 7. Excess Capacity by Fishery and Fleet in 2004.

Fishery	Gear	Harvest	LEC Rate	HEC Rate	LEC Rank	HEC Rank
AK All	Dredge catcher processor	0.4	-	29%	-	32
AK All	Hook & line catcher processor	329	-	25%	-	41
AK All	Hook & line catcher vessel	119	-	54%	-	10
AK All	Pot catcher processor	11	-	15%	-	49
AK All	Pot catcher vessel	134	-	62%	-	4
AK All	Trawl catcher processor	2,206	-	0%	-	60
AK All	Trawl catcher vessel	2,089	-	50%	-	16
Atl. HMS	Bottom longline	2.8	39%	61%	5	5
Atl. HMS	Handgear	0.8	22%	39%	9	24
Atl. HMS	Other net	0.8	15%	31%	19	30
Atl. HMS	Pelagic longline	10	14%	28%	20	35
Atl. HMS	Trawl	0.1	13%	40%	23	22
NE Atl. Bluefish	Gillnet	1.8	7%	22%	33	43
NE Atl. Herring	Bottom trawl	11	1%	1%	41	59
NE Atl. Herring	Mid-water pair trawl	128	17%	50%	12	15
NE Atl. Herring	Midwater trawl	33	17%	50%	11	14
NE Atl. Herring	Purse seine	43	9%	44%	28	21
NE Atl. mackerel, squid & butterfish	Bottom trawl	143	12%	29%	24	33
NE Atl. mackerel, squid & butterfish	Midwater trawl	52	15%	45%	18	20
NE Atl. sea scallops	General category dredge	2.0	2%	10%	39	54
NE Atl. sea scallops	General category trawl	11	3%	9%	35	56
NE Atl. sea scallops	Limited access dredge	63	29%	49%	7	18
NE Atl. sea scallops	Limited access trawl	2.9	16%	32%	17	28
NE Atl. surfclam & ocean quahog	Dredge (Maine mahogany quahog)	0.1	50%	67%	2	2
NE Atl. surfclam & ocean quahog	Dredge (ocean quahog)	3.8	7%	22%	32	42
NE Atl. surfclam & ocean quahog	Dredge (surfclam)	3.1	17%	38%	14	25
NE Atl. Tilefish	Hook	2.7	17%	31%	13	29
NE Atlantic deep sea red crab	Pot	4.4	5%	26%	34	39
NE multispecies	Bottom trawl	86	49%	52%	3	12
NE multispecies	Gillnet	39	47%	56%	4	8
NE multispecies	Hook	2.6	65%	71%	1	1
NE northern shrimp	Trawl	3.9	24%	59%	8	6
NE summer flounder, scup & black sea bass	Bottom trawl (5.5-6.4 in.)	29	11%	21%	26	44
NE summer flounder, scup & black sea bass	Pots & traps	1.2	37%	55%	6	9

Table 7 Continued.

Fishery	Gear	Harvest	LEC Rate	HEC Rate	LEC Rank	HEC Rank
NW Pacific Coast groundfish	Hook & line	6	-	45%	-	19
NW Pacific Coast groundfish	Other Gear	0.8	-	28%	-	36
NW Pacific Coast groundfish	Pot	1.8	-	38%	-	26
NW Pacific Coast groundfish	Trawl	243	-	31%	-	31
NW Pacific Coast groundfish	Trawl catcher processor	162	-	10%	-	55
NW Pacific Coast groundfish	Trawl mothership	101	-	15%	-	51
PI NWHI bottomfish	Handline	0.4	3%	19%	36	47
PI Hawaii-based pelagics	Longline	18	9%	25%	30	40
SE Atl. coastal migratory pelagics	Gillnet	1.0	3%	35%	37	27
SE Atl. coastal migratory pelagics	Other	0.9	8%	59%	31	7
SE Atl. coastal migratory pelagics	Troll	1.8	16%	53%	16	11
SE Atl. coastal migratory pelagics	Vertical line	2.3	14%	39%	21	23
SE GOM coastal migratory pelagics	Troll	0.9	22%	62%	10	3
SE GOM coastal migratory pelagics	Vertical Line	1.7	17%	28%	23	46
SE GOM reef fish	Longline	8	9%	12%	29	52
SE GOM reef fish	Trap	1.0	10%	15%	27	50
SE GOM reef fish	Vertical line	11	13%	20%	22	46
SE SA snapper-grouper	Diving	0.2	1%	2%	40	58
SE SA snapper-grouper	Longline	0.5	11%	16%	25	48
SE SA snapper-grouper	Vertical Line	2.4	3%	5%	38	57
SW coastal pelagic species	Purse sine	309	-	50%	-	17
SW West Coast HMS	Drift Gillnet	0.7	-	12%	-	53
SW West Coast HMS	Gillnet	0.4	-	27%	-	37
SW West Coast HMS	Hook & line	3.9	-	27%	-	38
SW West Coast HMS	Seine	2.0	-	21%	-	45
SW West Coast HMS	Troll	30	-	51%	-	13

1. Harvest is in millions of pounds live weight except for (a) Atlantic HMS harvests, which are in dressed weight, (b) scallops, which are in meat weight, and (c) surfclam and ocean quahog, which are in millions of bushels.
2. LEC and HEC refer to the lower and higher excess capacity rates and ranks.
3. The NE Atlantic surfclam and ocean quahog fleets are defined by gear and stocks because clams from only one of three stocks were landed in any given trip and, to a great extent, different fleets of vessels targeted each of the three stocks. The Maine mahogany quahog quota is just a very small part of the total ocean quahog quota.
4. A “-“ is used when that measure of excess harvesting capacity could not be generated because variable input data were not available for a specific fleet.

With all the estimates viewed together, a better and more nuanced overall picture emerges of the extent of excess harvesting capacity in federally managed commercial fisheries in 2004. By extension, if it is determined that 50 percent is a reasonable threshold at which excess capacity and overcapacity rates call for management action to more effectively control the level and/or use of harvesting capacity, this report suggests that excess capacity rates in 12 fisheries and 18 fleets warrant such action. Using the same 50 percent threshold, the aggregate overcapacity rates in just 4 fisheries warrant such action. If, however, a 25 percent threshold is used, such action would be called for in 22 of the 25 fisheries and for 41 of 60 fleets based on their higher excess capacity rates and in 9 fisheries based on their higher overcapacity rates.

To place the capacity estimates in a more meaningful context, this report also provides management information on the fish stocks, in particular, whether they are subject to overfishing, overfished, or overharvested. In addition, in response to the Congressional mandate, the estimates include data on the ex-vessel value of the fisheries. If we combine all this information, this report supports the conclusion that a federally managed fishery may be assumed to have significant excess harvesting capacity if it has a relatively high excess capacity and/or overcapacity rate, a relatively high ex-vessel value, and exhibits the management problems (overfishing, overfished, and overharvests) listed in Tables 5 and 6.

Finally, NMFS stresses that this report gives various estimates of excess harvesting capacity, but does not address capacity targets or objectives. Although the excess capacity and overcapacity estimates are potentially useful for some management purposes, they do not, in and of themselves, indicate *if* capacity should be reduced, *by how much* to reduce it, *how* to reduce it, or the *urgency* for reducing it. Fortunately, as explained in Section IV, there are effective methods for reducing harvesting capacity that do not require such determination.

IV. MEASURES TO REDUCE EXCESS HARVESTING CAPACITY

A. THE FUNDAMENTAL PROBLEM

Congress mandated that this report identify measures for reducing excess harvesting capacity in the 20 fisheries “with the most severe examples of excess harvesting capacity,” and identify potential sources of funding for those measures. Excess harvesting capacity and, when it occurs, overfishing are just two of the often co-occurring undesirable outcomes of a common management problem that prevent the attainment of the objectives of sustainable fisheries. The other undesirable outcomes include high levels of bycatch, adverse impacts on habitat, substandard vessel safety, lower product quality, poor economic performance, less viable fishing communities, non-compliance with regulations, and a fishery management regime that is unnecessarily complex, unstable, burdensome, contentious, intrusive, and costly.

The common underlying management problem is that, in the absence of well-defined use rights or secure harvest privileges, the race for fish typically is used to allocate the allowable catch among competing fishermen, and the race for fish provides incentives for individual fishermen to increase harvesting capacity and to take other actions that prevent the attainment of the objectives of sustainable fisheries. The severity of the undesirable results of this problem can be increased by inadequate information, monitoring, and enforcement, which, in part, can be due to the underlying problem. Basically, without well defined use rights, such as those that can be established with limited access privilege programs (LAPPs) as authorized and described in the MSA, the interests of individual fishermen are not aligned with the objective of sustainable fisheries and fishermen do not have sufficient incentives to support investments in the conservation and management of fishery resources.

B. TWO SPECIAL PROBLEMS: THE MOVEMENT OF CAPACITY AND LATENT CAPACITY

Congress also mandated that recommendations made in this report with respect to a fishery include “measures to prevent the capacity that is being removed from the fishery from moving to other fisheries in the United States, in the waters of a foreign nation, or on the high seas.” Buybacks implemented under MSA §312(b-e) are already required to include such measures. However, enforcing the prohibition on the redeployment of bought-out vessels to other fisheries has imposed considerable costs on U.S. Government agencies (i.e., USCG and NMFS). On the other hand, such anti-redeployment measures are not required and have not been used in the other approaches for reducing excess harvesting capacity discussed in this report, i.e., limited access privileges, license limitation, and harvest restrictions. Measures to prevent the movement of capacity to other fisheries in these latter programs may or may not be justified when both their benefits and costs are carefully considered. To vessel owners, the costs include: (1) benefits foregone by not being able either to use the vessel in another fishery or to sell it to someone who would and (2) the cost of decommissioning or scrapping a vessel if that cost is paid by the vessel owners. The benefit of the prohibition is the protection it

provides to other fisheries by preventing the fishing vessels that are removed from one fishery from entering other fisheries. However, if there are not effective measures for managing harvesting capacity in those fisheries, harvesting capacity will tend to increase despite this redeployment prohibitions. Therefore, little protection and benefit would be provided. Conversely, if effective measures are in place in the other fisheries, the protection provided by this prohibition is not needed. Therefore, NMFS recommends that a prohibition on fishing vessel redeployment not be added to the other approaches (other than MSA §312(b-e) buybacks) for reducing excess harvesting capacity until it is clear that such measures make sense when both their benefits and costs are carefully considered.

Finally, some latent capacity exists in most federally managed fisheries, and can be addressed through several means, including license limitation and exclusive quota programs, including LAPPs. With respect to capacity reduction programs, buybacks should be accompanied by license limitation and other measures that will prevent the activation of latent permits after the buyback. In LAPPs, the market for harvest shares can remove excess harvesting capacity associated with active vessels, as well as that associated with the latent capacity of permitted but inactive vessels. Additional comments are offered on how to address latent permits in the following discussions of LAPPs and buybacks.

C. CRITERIA FOR RECOMMENDATIONS

In light of the Administration's analysis of the causes of excess harvesting capacity and its fishery management priorities, NMFS has identified the following criteria for evaluating options for reducing excess harvesting capacity:

- (1) Legal feasibility and proven effectiveness: Proposed programs must not be prohibited by the MSA and should have a proven track record.
- (2) Self-financing and cost-effective: The members of the fishing industry or other private parties who benefit from the program should bear some or all of the cost of capacity reduction and the additional management costs associated with the program and the program should be cost-effective.
- (3) Permanent effect: Programs should promote permanent reductions in excess harvesting capacity. A management system that adjusts capacity levels automatically to changes in commercial quotas, and market and environmental conditions is particularly desirable.
- (4) Flexibility: Given the diversity of U.S. marine fisheries, effective reform programs must be adaptable to the unique needs of individual fisheries.

These criteria will be used to evaluate the available options for reducing excess harvesting capacity. In light of the excess capacity, overcapacity, and overharvest assessments and the information on the status of the subject stocks presented in this report, NMFS generally recommends that the highest priority should be assigned to

capacity-reducing programs in fisheries that have excess harvesting capacity that contributes significantly to the current and future challenges of preventing/ending overfishing and rebuilding overfished stocks.

Finally, in response to the charge to identify sources of funding, this report focuses on potential private sources of funding for certain generic options for decreasing excess harvesting capacity. This report does not offer any estimates of fishery-specific, regional, or aggregate national funding needs for capacity reduction programs.

Based on the estimates and priorities provided in this report, NMFS strongly urges the Councils and the relevant industry sectors to initiate or accelerate efforts to identify feasible solutions that address the fundamental management problems in these fisheries, end overfishing, and recover overfished stocks within mandated schedules, and pave the way for cost-effective and permanent measures that will eliminate or substantially reduce excess harvesting capacity.

The MSA currently authorizes two privately funded capacity-reducing options: (1) market-based management and (2) industry-funded buyback programs, referred to in the MSA as Fishing Capacity Reduction Programs. These two approaches and a third option (buybacks funded by other entities) are discussed below. Finally, we provide a brief review of two other approaches for improving the management of the level and use of harvesting capacity: license limitation programs and conventional harvest restrictions.

D. MEASURES TO REDUCE CAPACITY

(1) Market-Based Management (Limited Access Privilege and Similar Programs)

For several years, the Administration has assigned a high priority to wider use of market-based management, and has announced its intent to double the number of LAPPs by 2010. This objective was stated explicitly in the 2004 U.S. Ocean Action Plan. In its 2005 proposal to reauthorize the MSA, the Administration recommended “dedicated access privileges”—including individual fishing quotas (IFQs), fishing cooperatives, community quotas, and area-based quota programs—as a vehicle for promoting market-based and more rational management. With the enactment of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, an entire section, §303A, is devoted to LAPPs. Notably, Congress explicitly linked LAPPs and overcapacity in §303A(c)(1)(B), which directs that a LAPP shall “if established in a fishery that is determined by the Secretary or the Council to have over-capacity, contribute to reducing capacity.”

A LAPP is a generic concept that includes individual fishing quotas (IFQs), regional fishery associations, and community quotas. However, other programs, such as fishing cooperatives and sector allocations, have similar characteristics, and may be referred to as LAPP-like programs. The MSA defines a “limited access privilege” as a Federal permit

to harvest a quantity of fish expressed by a unit or units representing a portion of the total allowable catch of the fishery that may be received or held for exclusive use by a person.

Fundamentally, LAPPs are a market-based management approach, in which harvest privileges are assigned exclusively to individuals or groups, and may be transferred to others. Transferability allows harvest privilege holders who want to leave a fishery to be compensated, and enables purchasers to consolidate their use of harvest privileges on fewer and/or more efficient fishing vessels. Thus, the transferability rules are critical in determining the extent and speed with which a LAPP will reduce harvesting capacity. In this regard, §303A(c)(6) stipulates that, when a Council creates a LAPP, it must “establish a policy and criteria for the transferability of limited access privileges (through sale or lease), that is consistent with the policies adopted by the Council for the fishery.”

LAPPs tend to eliminate or substantially decrease the perverse incentives to maintain or increase capacity when there is already excess harvesting capacity. Holders of specified harvest privileges will naturally use these privileges more wisely and with a longer-term view. When these privileges are transferable, fishermen who hold them will seek to maximize their value and, therefore, have an added incentive to maintain healthy resources. With transferable harvest privileges, excess harvesting capacity will be reduced over time by the market for harvest privileges. Compared to a “top-down” regulatory approach, the market mechanism can be more effective and efficient means of addressing excess harvesting capacity.

IFQs have a generally positive record of reducing harvesting capacity, even in fisheries with substantial amounts of latent capacity associated with permitted but inactive vessels. IFQs have been established in several federally managed fisheries on the East Coast and Alaska starting in 1990. As examples, the Atlantic surfclam/ocean quahog, Alaska halibut and sablefish, and BSAI crab IFQ programs have all significantly reduced the numbers of fishing vessels in those fisheries.

However, this report also shows that, in some IFQ programs, such as the Northeast surfclam and Alaska halibut and sablefish programs, there is still some excess capacity and overcapacity. There are three reasons why some excess capacity and overcapacity can continue in LAPP-managed fisheries:

First, a LAPP may include regulatory constraints on transfers that slow down or impede the removal of excess harvesting capacity. The Alaska halibut and sablefish IFQ program is a good example of a LAPP with design elements that restrict the sale of harvest shares to maintain a certain industry structure. In this IFQ program, although the number of share holders has declined significantly since the program’s inception in 1995, there remains some excess capacity. In the surfclam and ocean quahog program, virtually all the shares are controlled by processors, who presumably have somewhat less incentive to promote efficiency in the harvesting sector.

Second, the full reduction in harvesting capacity will not happen instantaneously. It will take fishermen time to decide how to respond to LAPPs and more time to carry out those

decisions. The size and speed of the reduction will depend on a variety of factors, including the transferability rules. For example, if the harvest privileges can be sold but not leased, fishermen who want to hold the privileges as an investment would have an incentive to remain in the fishery and use their annual privileges.

Third, participants in LAPPs may choose, for various reasons, to sacrifice some economic efficiency and retain a modest surplus of harvesting capacity. In other words, the industry's optimum level of harvesting capacity may include some excess capacity and overcapacity. One reason is that it is not practical to change the size and physical characteristics of a fleet each time conditions change. Another reason is that fishermen have multiple objectives and, in order to have a fishing vessel that is safer, more comfortable, and more versatile, a fisherman may choose to have a larger fishing vessel than typically is necessary for most fishing trips. In part because the capacity of a vessel cannot be tailored to the conditions of each fishery in which it is used, this would be particularly true for vessels that are used in multiple fisheries. As a result, the industry's "optimal" level of capacity may include some excess capacity and overcapacity in some years but very little in other years.

In summary, the estimates included in this report suggest that some excess capacity and overcapacity typically will remain even in well-managed fisheries. Over the long term, however, an effective LAPP will eliminate the race for fish and move the level of capacity in the right direction. Thus, excess capacity or overcapacity may persist in some LAPPs, but in a manageable range. Just as important, a LAPP can reduce the severity of other often co-occurring undesirable outcomes.

In addition to LAPPs, fishing (harvest) cooperatives have been created in several West Coast and Alaskan fisheries, starting in 1997. In the Bering Sea Pollock cooperatives, for example, capacity was removed by means of a buyback and further reduced by consolidation after implementation of the cooperative arrangements authorized by the 1998 American Fisheries Act. Harvest cooperatives, which reduced harvesting capacity, have also been implemented in the Pacific whiting and Alaska scallop fisheries by the fishing industry with the use of contracts.

Although it is explicitly not a LAPP as defined by MSA §303A, the Western Alaska community development quota (CDQ) program has also enabled participants in the BSAI groundfish fishery to consolidate fishing operations on fewer and more efficient fishing vessels. However, community quota programs, as opposed to CDQs, are LAPPs according to MSA §303A. NMFS believes that these community quota programs also have the potential to encourage reductions in harvesting capacity.

Sector allocation programs may or may not be treated as LAPPs under MSA §303A, but in many respects they resemble fishing cooperatives, and may also serve as vehicles for the reduction of harvesting capacity. Two sector allocation programs have been implemented in recent years in the Northeast multispecies fishery, but do not yet have a well-established record of capacity reduction. As of January 2008, 17 new sector allocation programs have been proposed to the New England Fishery Management

Council. Obviously, the potential of these sector allocations to reduce harvesting capacity will depend on the specifics of the program and specifically whether they address the underlying management problem.

In conclusion, a market-based system is an appropriate, legally available and effective management program to prevent and reduce excess harvesting capacity. In current U.S. fisheries, market-based management encompasses a broad range of exclusive and tradable share programs, including LAPPs (as defined by MSA §303A) and LAPP-like programs, such as fishing cooperatives, and sector allocation programs.

Congress also required that the recommended methods for reducing excess harvesting capacity be based on “the most cost effective means of achieving a voluntary reduction in capacity for the fishery using the potential for industry financing.” LAPPs are by and large industry funded because the additional management, enforcement, and data collection and analysis costs are recoverable, either by means of a fee of up to 3 percent of the ex-vessel value or through an auction of harvest privileges. In these programs, the industry effectively and voluntarily pays for capacity reduction when they buy harvest privileges and consolidate the number and type of vessels that will use the privileges. According to recent NMFS estimates, the government’s share of the costs of developing and implementing these programs is reasonable, especially in view of the broad range of expected benefits from these programs. This suggests that they are cost-effective from the government’s perspective. Similarly, industry support for LAPPs suggests they are cost-effective from the industry’s perspective too.

All these LAPPs and similar programs meet the criteria proposed by NMFS: (1) cost-effective and industry funding through cost recovery and through the sale and lease of harvest privileges; (2) legal availability through MSA §303A and other laws, all with a mostly positive track record going back to 1990 (3) permanence, in part due to automatic adjustment to changing conditions, and (4) flexibility of design.

A list of 13 existing IFQs, fishing cooperatives, community quotas, and sector allocation programs and data on their economic importance are provided in Table 8 on the following page. Note that this list includes a variety of LAPP and LAPP-like programs that have been implemented in practically all the NMFS regions (except the Southwest and Pacific Islands). These existing LAPPs and similar programs have an aggregate ex-vessel value of more than \$730 million, about 18 percent of the total ex-vessel revenues for all U.S. commercial fisheries, including both federally and non federally managed fisheries, in the last several years.

Table 8. Existing LAPP and LAPP-like Programs: (IFQs, Community Quotas, Fishing Cooperatives, and Sector Allocation Programs, 2007)

Program	First Year	Ex-Vessel Value (\$M)
Surfclam/ocean quahog IFQ	1990	49.0
South Atlantic wreckfish IFQ	1992	0.3
Western Alaska CDQ	1992	68.0
AK halibut/sablefish IFQ	1995	237.0
Pacific whiting cooperative	1997	21.8
Bering Sea pollock cooperatives	1998	266.0
Pacific sablefish permit stacking	2001	6.4
AK scallop cooperative	2001	1.0
Georges Bank hook sector	2004	0.6
AK Crab rationalization (IFQ & coop)	2005	65.0
Georges Bank fixed gear sector	2006	0.9
GOM red snapper IFQ	2007	9.0
Central GOA rockfish pilot sector	2007	8.5

Table 9 lists IFQs and fishing cooperative programs that NMFS anticipates have a good chance of approval in the next few years. This list does not include the proposed Northeast groundfish sector allocations because it is not yet clear how the New England Fishery Management Council will react to those proposals. According to this projection, by 2010, federally managed fisheries organized as IFQs, cooperatives, community quotas, and sector allocations will account for an aggregate ex-vessel value of almost \$900 million, or between 20 and 25 percent of the total ex-vessel value of all U.S. commercial fisheries, including federally managed and non-federally managed fisheries. In other words, within a few years, about one-fourth (by value) of all U.S. commercial fisheries will have completed the transition from open/limited access to some form of market-based LAPP or LAPP-like management. Although there is obviously a wide and growing variety of LAPPs and LAPP-like programs, the large majority of market-based management programs are IFQs and fishing cooperatives.

NMFS roughly estimates that the government's costs of developing and initially implementing these new LAPPs and LAPP-like programs may range from about \$5 to \$15 million annually over the next six fiscal years. In other words, public costs associated with the transition to LAPP management may amount to roughly 3 to 10 percent of the total ex-vessel value of the new LAPP fisheries.

Table 9. Anticipated LAPP and LAPP-like Programs (2008–2010)

Program	First Year	Ex-Vessel Value (\$M)
Mid-Atlantic tilefish IFQ	2008	3.0
BS Non-pollock groundfish coops	2008	52.0
NE Atl. scallops IFQ (General Category)	2009	18.0
GOM grouper (IFQ?)	2010	26.0
SA snapper-grouper (IFQ?)	2010	11.5
West Coast groundfish trawl IFQ	2010	51.0

The effectiveness of LAPPs as measures that will reduce excess harvesting capacity depends in large part on the rules governing the sale and lease of harvest privileges. Essentially, the more liberal the rules on transfers, the more quickly and effectively the program will adjust capacity levels to prevailing conditions and, therefore, eliminate/prevent excess harvesting capacity.

(2) Industry-Funded Buybacks

The second option for reducing excess harvesting capacity is to remove fishing vessels and reduce capacity directly by means of a buyback of fishing vessels or permits. Capacity reduction programs by means of buybacks are addressed in MSA §312(b-e). Buybacks are authorized under other laws, such as the Interjurisdictional Fisheries Act for disaster assistance. Fishery-specific buybacks have also been authorized by other laws, such as the 1998 American Fisheries Act provisions on buybacks of certain Bering Sea pollock catcher-processor vessels. In addition, other funds appropriated by Congress for disaster assistance have often been used for capacity reduction. Publicly and privately funded buybacks have been implemented in numerous East and West Coast and Alaska groundfish and crab fisheries in the last 13 years, and, in each case, one objective was the reduction of capacity.

Table 10 provides an overview of publicly and industry-funded vessel and permit buyback programs between 1995 and 2007, where a buyback through a Federal government loan that is repaid by the fishing industry is considered an industry-funded buyback. This table excludes three buybacks associated with Northwest Pacific salmon disasters in 1994, 1995, and 1998, because the Pacific salmon fishery has been excluded from this report. Table 10 shows that, in the last 13 years (1995-2007), a total of almost \$60 million was appropriated for a series of East and West Coast and Alaska buybacks, whose aggregate buyback amounts totaled almost \$340 million. In addition, it should be noted that the Federal Credit Reform Act requires subsidy costs to be budgeted for each buyback loan. Generally, these costs are about 1 percent of the total loan amount. The early East Coast buybacks tended to be publicly funded and the later West Coast and Alaska programs were financed largely, although not entirely, by industry.

Table 10. Publicly and Fishing Industry-Funded Buybacks in U.S. Marine Fisheries, 1995–2007 (\$ millions)

Program	Year	Buyback Amount	Appropriation
Northeast Multispecies	1995	\$ 1.89	\$ 1.89
Northeast Multispecies	1996	\$22.50	\$22.50
Northeast Multispecies	2002	\$10.00	\$10.00
BSAI Pollock	1998	\$90.00	\$15.00
Pacific Coast Groundfish	2003	\$45.70	\$10.00
BSAI Crab	2004	\$97.40	N/A
AK BSAI Groundfish Freezer Longliners	2007	\$35.00	N/A
TOTALS		\$337.49	\$59.39

The anticipated buybacks listed in Table 11 are estimated by NMFS to total another \$220 million, with the result that the value of completed and anticipated buybacks will amount to more than \$550 million. Most of this total will be in the form of federal loans that post-buyback fishermen (fishermen remaining in the fishery after the buyback program) will pay off with assessments on their post-buyback landings. Thus, the fishing industry has been and is expected to continue to be the major source of funding with this approach to capacity reduction.

Table 11. Anticipated Buybacks (\$ millions)

Program	Buyback Amount
Northeast multispecies	\$45
New England lobster	\$50
SE Alaska purse seine salmon	\$50
GOM reef fish	\$35
AK non-pollock groundfish	\$40
TOTAL	\$220

Based on the U.S. experience with buybacks, this approach to capacity reduction has certain advantages. Buybacks may be crafted to suit the needs of specific fisheries and are therefore flexible. They provide immediate relief and can target fisheries that exhibit a dire need. Under MSA §312(b-e), the affected industry develops a business plan, and fees paid by industry must be approved through a referendum. Buybacks may also be used to facilitate a transition to more effective management measures, including IFQs and cooperatives.

Although buybacks may be principally industry-funded, like LAPPs, they require some government resources in their planning and implementation. NMFS needs to review, approve, and administer the buyback, ensure that adequate and timely payments are made

on buyback loans, and may need to adjust the payment rate. If problems develop, NMFS has the legal flexibility to adjust the assessment rate up to 5 percent of the ex-vessel value. In addition, buybacks require some follow-up actions by two agencies. NMFS and the United States Coast Guard must ensure that fishing vessels removed from a fishery through a buyback are not redeployed in other fisheries anywhere in the world. Based on experience to date with vessel buybacks, NMFS has determined that mandatory scrapping is probably the most cost-effective means of meeting that requirement.

On the other hand, the major problems with buybacks are that: (1) they do not, by themselves, provide a permanent solution, and (2) if there is substantial latent capacity, they are more costly or less effective in reducing excess harvesting capacity. This approach fails to provide a permanent solution because it does not address the common underlying management problem and, therefore, it neither eliminates the incentive fishermen have to increase harvesting capacity nor provides a mechanism that responds automatically to changes in commercial quotas and both market and environmental conditions. One solution to this shortcoming is to implement both an industry-funded buyback and a LAPP or a LAPP-like program in the same fishery, as part of a capacity reduction program. For example, a LAPP and an industry-funded buyback were used together in Alaska crab fisheries; a LAPP-like program and a buyback that was partly paid for by the fishing industry were used in the Bering Sea/Aleutian Islands pollock fishery; and the industry-funded buyback in the Pacific Coast groundfish fishery in 2003 is expected to facilitate the implementation of a LAPP in that fishery.

(3) Buyouts Financed by Other Private Organizations

A third and more novel approach to private financing of capacity reduction is a buyout of vessels and/or permits by other private entities, such as a conservation organization. In this approach, vessel owners agree to sell their fishing vessels or permits, and a private entity agrees to buy and retire those fishing vessels or permits. We have no experience with this type of program, but, in theory, a conservation organization, a recreational association, or a firm in a non-related field could be interested in such an approach.

In a recent example in central California, The Nature Conservancy (TNC) funded a “conservation banking” scheme in Morro Bay, Monterey, Moss Landing, and Half Moon Bay. TNC purchased seven federal groundfish trawl permits in 2006, leasing one permit back to a local fisherman, and, in the following year, concluded a Conservation Fishing Agreement with local fishermen. It should be noted that this program is in its infancy, and, thus far, is arguably not a capacity reduction initiative. In fact, TNC may substitute hook and line permits for the trawl permits in an effort to promote the wider use of an alternative harvesting technology. Therefore, the major objectives of this program are reduced bycatch and habitat protection, rather than capacity reduction.

Using the four criteria for assessing the effectiveness of capacity reduction programs, NMFS is unable to draw firm conclusions because of the paucity of evidence. In principle, it may be said that buybacks funded by entities unrelated to the fishing industry offer one key advantage: instead of relying exclusively on fishing industry funding, this approach utilizes the financial resources of the conservation community and, potentially,

other private organizations that benefit from capacity reductions programs. Although this type of buyback is not explicitly addressed in the MSA, §303A(c)(D) states that harvest privileges in LAPPs may be acquired by:

“A United States citizen, a corporation, partnership, or other entity established under the laws of the United States or any State, or a permanent resident alien that meets the eligibility and participation requirements of the program.”

Therefore, a private party may be able to purchase fishing permits and vessels, depending on the specific eligibility and participation requirements of the fishery. For example, such a buyback program would not be possible under a LAPP that either includes a use-or-lose provision or prevents a private entity, such as a conservation organization, from buying and holding harvest privileges. Potentially, private entities could purchase harvest privileges in LAPPs, and conservation organizations have demanded the right to own shares. The feasibility of this approach will depend on the willingness of the Councils to approve programs in which non-fishing industry entities can participate in license limitation, LAPP and LAPP-like management programs.

Finally, this approach has the same two disadvantages of buybacks funded by the fishing industry, which are: (1) the failure to eliminate or substantially reduce the perverse incentives to increase or maintain harvesting capacity and (2) the latent capacity problem.

(4) License Limitation

The most common approach for managing harvesting capacity in a fishery is to implement measures that restrict the number and size of vessels that can participate in a fishery. This approach is referred to as license limitation or limited entry, and has been used in various forms in the large majority of federally managed commercial fisheries. The first step is to require a license or permit as a condition for participating in a fishery. Participants may then have to meet certain past and current requirements to obtain and renew a permit. However, unless the rules to obtain and renew a permit, to upgrade a fishing vessel, and to transfer a permit to a replacement vessel are sufficiently restrictive, there will be no lasting reduction in capacity. The basic problem with license limitation is its failure to address the common underlying management problem.

However, license limitation programs may pave the way for subsequent measures, such as LAPPs, that do achieve capacity reduction on a more lasting basis. This was the case for the industry-implemented cooperatives in the Pacific whiting and Alaska scallop fisheries. In both instances, restrictive license limitation programs made possible the adoption of cooperatives. In addition, a buyback would be even less effective in the absence of a somewhat restrictive license limitation program. It should be noted that a moratorium on new entrants is a prerequisite for an industry-funded buyback under MSA §312(b-e). Using the four criteria for assessing capacity reduction programs, we may conclude that license limitation programs (1) are available under the MSA and have been implemented in various forms in the vast majority of federally managed fisheries; (2) although not industry-funded, they can be relatively inexpensive, but tend to distort investment decisions and therefore are not cost-effective from the industry's standpoint;

and (3) they can be highly flexible; but (4) typically, they lead to at best temporary rather than permanent reductions of capacity, because the rules are not sufficiently restrictive and because the perverse incentives are not removed. NMFS believes that the major long-term benefit of these programs is that they may be precursors to more effective and lasting measures.

Finally, NMFS acknowledges that, if a LAPP is not feasible for a specific fishery, license limitation may be the most effective means for dealing with excess harvesting capacity. This could be the case, for example, in a fishery in which the adoption of a LAPP would involve prohibitively high costs of developing, monitoring, and enforcement of the LAPP. Fisheries for long-lived, low biomass, hard to identify and rare event species, such as some of the Pacific Coast rockfish species, may be examples of fisheries for which adequate monitoring and enforcement of the harvest privileges would be prohibitively expensive.

(5) Conventional Harvest Restrictions

The fifth generic option for addressing excess harvesting capacity does not directly reduce capacity, but limits the ability of each vessel in the fishery to harvest fish. Much of current marine fisheries management falls in this category, including measures that limit where, when, and with what gear a fishing vessel can be used. Area, seasonal, and gear restrictions increase costs and reduce revenues, and, therefore, may have the cumulative effect of forcing some vessels out of the fishery. These measures are used for a variety of reasons, including the reduction of bycatch, the conservation of essential fish habitat, and the protection of endangered and threatened species.

If we apply the four criteria for assessing capacity reduction programs to this category of measures, we conclude that: (1) these management actions are certainly provided for in law, and have been used to control both the level and use of capacity; (2) because there are so many types of harvest restrictions, these measures are highly flexible; and (3) the costs of implementing and enforcing harvest restrictions are not recoverable, but the effect of these regulations is to increase the industry's operating costs and reduce their revenues; but (4) these measures do not provide a permanent solution to the problem of excess harvesting capacity, unless they are made progressively more restrictive. This approach does not provide a permanent solution to the problem because these measures do not address the underlying management problem and do not respond automatically to changes in commercial quotas and both market and environmental conditions. In summary, harvest restrictions do not provide cost-effective or lasting solutions to excess harvesting capacity. On the other hand, conventional harvest restrictions, if implemented in conjunction with a LAPP, can contribute to an effective management regime that meets the objectives of sustainable fisheries.

V. CONCLUSIONS

A. Scope and Objectives of the Report

This report examines several dimensions of excess harvesting capacity. NMFS defines “harvesting capacity” as the capability of one or more specific vessels to catch fish and it measures harvesting capacity in terms of their potential pounds or tons of catch, and not in terms of the number, size or horsepower of those fishing vessels. NMFS interprets the term “excess harvesting capacity” to mean “too much” harvesting capacity and uses the following three measures or indicators of excess harvesting capacity:

- **Excess Capacity:** capacity in excess of actual harvests
- **Overcapacity:** capacity in excess of the quotas
- **Overharvest:** harvests in excess of the quotas

The findings are presented for 25 fisheries and 60 fleets, where a fishery generally refers to the commercial fishing activity governed by a single fishery management plan (FMP) and a fleet generally is defined by vessel/gear type, area and fishery. Information on the overfishing and overfished status of the harvested stocks, as reported in the annual reports to Congress on the status of the U.S. fisheries, is presented to put the excess harvesting capacity estimates in a broader fishery management context. Adequate data were available to generate both lower and higher estimates of the excess capacity and overcapacity rates for 17 of the 25 fisheries and for 41 of the 60 fleets. For the other 8 fisheries and 19 fleets, only the higher estimates could be generated. The higher and lower estimates provide a range that accounts for different underlying assumptions about the ability to increase the harvest of a specific set of vessels.

This report also reviews five generic programs for reducing harvesting capacity: (1) limited access privilege programs (LAPPs) and LAPP-like programs, (2) industry-funded buyback programs, (3) buybacks funded by other private entities, (4) license limitation programs, and (5) conventional harvest restrictions. These generic programs are evaluated according to four criteria:

- Is it self-financing and cost-effective?
- Is it available under current law, or at least consistent with law, and have a good track record?
- Does the program provide a permanent solution to excess harvesting capacity?
- Does the program offer sufficient flexibility of design and implementation?

B. Quantitative Estimates of Capacity: Major Findings

The information presented in the report can be used to identify the 20 fisheries with the most severe examples of excess harvesting capacity based on one or more of the following: (1) excess capacity rates by fishery; (2) overcapacity rates; (3) overharvest rates; (4) ex-vessel values; (5) the number of stocks that were overharvested, subject to overfishing, or at an overfished level; and (6) excess capacity rates by fleet. Of these

perspectives, the list of 20 fisheries in Table 4, which is based on the first four items, corresponds most closely to the Congressional mandate.

Excess capacity and overcapacity rates vary considerably – among regions and fisheries, and among fleets and stocks within individual fisheries. Overall, the higher excess capacity and overcapacity rates for 2004 were reasonably high in approximately one-third to one-half of the fisheries and fleets.

- For 12 out of 25 fisheries and 18 of 60 fleets, the higher excess capacity rate was approximately 50 percent or more in 2004.
- For 8 out of 23 fisheries, the higher overcapacity rate exceeded 30 percent in 2004. Overcapacity and overharvest could be calculated for only 23 of the 25 fisheries because aggregate commercial quotas or their proxies were not available for the other two fisheries.

High rates of excess capacity, overcapacity, or overharvest in 2004 were accompanied by stocks that were subject to overfishing (i.e., catch exceeded the overfishing levels) in only some federally managed commercial fisheries. In other fisheries with high rates of excess capacity and overcapacity, effective management of the use of harvesting capacity or other factors prevented overfishing.

- 17 of the 25 fisheries had at least one stock that was overharvested, subject to overfishing, or at an overfished level.
- Of these 17 fisheries, the higher excess capacity rate exceeded 45 percent for 7 fisheries and the higher overcapacity rate exceeded 30 percent for 8 fisheries.
- Of the other 8 fisheries, the higher excess capacity rate exceeded 45 percent for 5 fisheries and the higher overcapacity rate exceeded 30 percent for 3 fisheries.

Given all the relevant MSA mandates, the most meaningful measure of the severity of excess harvesting capacity would combine information on (1) the value of the landings, (2) the rates of excess capacity, overcapacity, and overharvest, and (3) the number of stocks that are subject to overfishing and/or are overfished.

C. Management Recommendations

General policy

1. The capacity estimates should be used with caution. The excess capacity and overcapacity rates do not indicate if capacity should be reduced, and, if so, by how much to reduce it, how to reduce capacity, or the urgency for reducing it. These determinations will be more difficult for (1) multispecies fisheries, (2) rebuilding stocks, (3) stocks subject to sharp environmental fluctuations, (4) stocks with significant recreational catch, and (5) international stocks with significant foreign harvests. However, with an effective LAPP in place, the need for such determinations is substantially reduced, if not eliminated.

2. The MSA emphasizes the need to focus on the most critical undesirable outcomes—stocks that are subject to overfishing (i.e., actual harvest exceeds the overfishing level) or are overfished (i.e., in need of being rebuilt) because virtually all of the objectives of sustainable fisheries depend on ending and preventing overfishing, and rebuilding overfished stocks. The most critical linkage connects excess harvesting capacity and overfishing.
3. Except in cases when other fisheries or incidental catches are responsible for overfishing, excess harvesting capacity must, by definition, exist in fisheries in which there is overfishing.
4. Given all the biological, economic, and social objectives of fisheries management, it is difficult, if not impossible, to determine an optimum level of harvesting capacity. The information in this report indicates that zero excess capacity and overcapacity are not desirable goals. NMFS does not propose quantitative capacity targets or ceilings in fishery management plans.
5. Although excess harvesting capacity is not the root cause of the other often co-occurring undesirable outcomes, high levels of excess harvesting capacity can increase the severity of those outcomes.
6. The eight Regional Fishery Management Councils provide an appropriate public forum to determine management priorities and the applicability of different methods of reducing capacity in the fisheries under their jurisdiction.

Limited access privilege programs (LAPPs)

1. Excess harvesting capacity and overfishing are just two of several often co-occurring undesirable outcomes of a common underlying management problem. The other undesirable outcomes include high levels of bycatch, adverse impacts on habitat, substandard vessel safety, lower product quality, poor economic performance, less viable fishing communities, and non-compliance with regulations.
2. The basic underlying problem is that, in the absence of well-defined harvest privileges, the race for fish typically is used to allocate the allowable catch among competing fishermen, and the race for fish provides incentives for individual fishermen to increase harvesting capacity and to take other actions that prevent the attainment of the objectives of sustainable fisheries. LAPPs can address the underlying management problem and, therefore, substantially reduce the severity of many of the often co-occurring undesirable outcomes.
3. NMFS and the Regional Fishery Management Councils have made significant progress since 1990 in developing and implementing a wide variety of LAPPs and LAPP-like programs. The flexible provisions of MSA §303A should encourage continued progress in this area. NMFS estimates that, in a few years, there will be LAPP and LAPP-like management programs in the large majority of regions. Although this report

shows that fisheries with LAPPs continue to exhibit some excess capacity and overcapacity, the weight of evidence indicates that harvesting capacity has been reduced in these fisheries and that the severity of other undesirable outcomes has been reduced.

4. With respect to preventing the capacity that is removed from one fishery from moving to other fisheries, an issue identified in MSA §312(b)(6)(B)(ii), NMFS does not believe that all capacity reduction programs should include a mandatory prohibition on the redeployment of vessels to other fisheries. Such a prohibition exists specifically for MSA §312(b-e) buybacks, but NMFS does not recommend applying such a ban to LAPPs. Restrictive provisions of this nature require a careful assessment of all the public and private costs and benefits on a case-by-case basis by the Regional Councils and NMFS.

Buybacks

1. Buyback programs have advantages and disadvantages. They can be used to target a capacity problem and produce an immediate and significant reduction in harvesting capacity. However, buybacks do not, by themselves, address the fundamental and underlying problem of economic incentives and, therefore, at best can result in only temporary reductions in excess harvesting capacity. Therefore, NMFS does not view stand-alone buybacks as an effective measure to prevent or eliminate excess harvesting capacity.
2. At the same time, recent experience, especially in Alaska, suggests that buybacks may be useful if they are part of a larger capacity reduction program that either includes a LAPP or leads to a LAPP.

License limitation and harvest restrictions

1. Unless the rules to obtain and renew a permit, to upgrade a fishing vessel, and to transfer a permit to a replacement vessel are sufficiently restrictive, a license limitation program will not reduce capacity or capacity will tend to increase after any initial reduction. However, such a program can lead to a LAPP or LAPP-like program that will address the underlying management problem.
2. Conventional harvest restrictions, which have been used to control both the level and use of harvesting capacity and to meet other management objectives, are often more effective in a management regime that includes a LAPP.

Future NMFS Actions

1. In domestic fisheries, NMFS will continue to conduct economic analyses of LAPPs and the other options for reducing capacity, and will urge the Councils to determine for each fishery what, if any, type of LAPP and LAPP-like program is appropriate for reducing excess harvesting capacity and decreasing the severity of other undesirable outcomes of the current management regime.

2. Internationally, NMFS will urge foreign governments and Regional Fishery Management Organizations, in which it participates, to study excess harvesting capacity in international fisheries, seriously consider measures to improve the management of the level and use of harvesting capacity in those fisheries, and promote the use of well defined and enforced harvest privileges, where it is feasible and appropriate.

Appendix A

Excess Capacity and Overcapacity by Fishery and Species Group in 2004.

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
AK BSAI Crab	Golden king crab	2.8	-	55%	-	58%	6%
AK BSAI Crab	Red king crab	7.2	-	47%	-	47%	0%
AK BSAI Crab	Snow crab	10.9	-	56%	-	61%	13%
AK BSAI groundfish	Atka mackerel	61	-	0%	-	-4%	-4%
AK BSAI groundfish	Pacific cod	212	-	44%	-	43%	-2%
AK BSAI groundfish	Pollock	1,482	-	34%	-	33%	-1%
AK BSAI groundfish	Sablefish	2.0	-	37%	-	-85%	-193%
AK BSAI groundfish	Alaska plaice	7.9	-	1%	-	-25%	-27%
AK BSAI groundfish	Arrowtooth flounder	18.2	-	9%	-	20%	12%
AK BSAI groundfish	Flathead sole	17.4	-	3%	-	0%	-4%
AK BSAI groundfish	Greenland turbot	2.2	-	15%	-	-24%	-46%
AK BSAI groundfish	Rock sole	49	-	2%	-	9%	7%
AK BSAI groundfish	Yellowfin sole	76	-	2%	-	-3%	-5%
AK BSAI groundfish	Other flatfish	5.0	-	5%	-	7%	2%
AK BSAI groundfish	Northern rockfish	4.7	-	0%	-	-7%	-7%
AK BSAI groundfish	Pacific Ocean perch	11.9	-	0%	-	-5%	-5%
AK BSAI groundfish	Rougheye rockfish	0.21	-	2%	-	7%	5%
AK BSAI groundfish	Shortraker rockfish	0.24	-	7%	-	-102%	-117%
AK BSAI groundfish	Other rockfish	0.32	-	8%	-	-130%	-151%
AK BSAI groundfish	Other species	29.3	-	22%	-	33%	14%
AK BSAI groundfish	Squid	1.01	-	2%	-	-5%	-7%

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
AK BSAI halibut	Pacific halibut	5.4	-	47%	-	41%	-12%
AK GOA groundfish	Atka mackerel	0.82	-	1%	-	27%	27%
AK GOA groundfish	Pacific cod	43.1	-	53%	-	48%	-11%
AK GOA groundfish	Pollock	63	-	55%	-	49%	-13%
AK GOA groundfish	Sablefish	15.6	-	50%	-	47%	-6%
AK GOA groundfish	Arrowtooth flounder	15.3	-	26%	-	-84%	-148%
AK GOA groundfish	Deep-water flatfish	0.68	-	31%	-	-512%	-790%
AK GOA groundfish	Flathead sole	2.4	-	30%	-	-219%	-354%
AK GOA groundfish	Rex sole	1.5	-	11%	-	-669%	-764%
AK GOA groundfish	Shallow-water flatfish	3.1	-	50%	-	-238%	-570%
AK GOA groundfish	Demersal shelf rockfish	0.26	-	13%	-	-50%	-73%
AK GOA groundfish	Northern rockfish	4.8	-	8%	-	7%	-1%
AK GOA groundfish	Pacific ocean perch	11.6	-	13%	-	0%	-15%
AK GOA groundfish	Pelagic shelf rockfish	2.7	-	11%	-	-48%	-67%
AK GOA groundfish	Shortraker/Rougheye rockfish	1.00	-	26%	-	2%	-32%
AK GOA groundfish	Thornyhead rockfish	0.82	-	35%	-	-55%	-137%
AK GOA groundfish	Other rockfish	0.89	-	0%	-	25%	24%
AK GOA groundfish	Other species	4.5	-	36%	-	-185%	-346%
AK GOA halibut	Pacific halibut	30.2	-	51%	-	50%	-2%
AK GOA Scallop	Scallop	0.19	-	30%	-	8%	-31%

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
Atl HMS	Albacore Tuna	137	10%	18%	-396%	-351%	-454%
Atl HMS	Blue Sharks	0.1	2%	2%	-268419%	-268419%	-272900%
Atl HMS	Large Coastal Sharks GOM	1,075	49%	69%	77%	86%	56%
Atl HMS	Large Coastal Sharks N. Atl	121	20%	41%	62%	72%	52%
Atl HMS	Large Coastal Sharks S/ Atl	695	19%	48%	29%	54%	12%
Atl HMS	Other Pelagic Sharks	146	9%	17%	-203%	-178%	-234%
Atl HMS	Porbeagle Sharks	2.6	0%	0%	-3450%	-3450%	-3450%
Atl HMS	Small Coastal Sharks GOM	55	17%	29%	-226%	-181%	-294%
Atl HMS	Small Coastal Sharks S. Atl	163	20%	41%	-10%	20%	-36%
Atl HMS	Swordfish	2,089	14%	24%	-194%	-156%	-240%
NE Atl Bluefish	Atl Bluefish	7.6	22%	37%	-9%	12%	-39%
NE Atl herring	Atl herring	207	15%	49%	-125%	-37%	-166%
NE Atl scallops	Atl scallops	64	28%	47%	56%	67%	38%
NE Atl tilefish	Atl tilefish	2.6	17%	31%	37%	48%	24%
NE Atl. mackerel, squid & butterfish	Butterfish	1.2	4%	11%	-962%	-883%	-1002%
NE Atl. mackerel, squid & butterfish	Illex Squid	58	16%	38%	23%	43%	8%
NE Atl. mackerel, squid & butterfish	Loligo Squid	34.1	10%	22%	1%	14%	-10%
NE Atl. mackerel, squid & butterfish	Mackerel	118	12%	38%	-146%	-74%	-179%

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
NE Atl. surfclam & ocean quahog	Maine Mahogany Quahog	0.1	50%	67%	49%	66%	-4%
NE Atl. surfclam & ocean quahog	Ocean Quahog	3.8	7%	22%	-21%	-1%	-30%
NE Atl. surfclam & ocean quahog	Surfclam	3.1	17%	38%	10%	33%	-9%
NE Atlantic deep sea red crab	Atlantic deep sea red crab	4.4	5%	26%	-27%	1%	-34%
NE Monkfish	Monkfish	47	39%	48%	32%	42%	-12%
NE Multispecies	American Plaice	3.8	41%	44%	-27%	-22%	-116%
NE Multispecies	Cod (GB)	7.7	55%	59%	62%	65%	15%
NE Multispecies	Cod (GOM)	8.4	61%	66%	60%	65%	-2%
NE Multispecies	Haddock (GB)	15.8	55%	59%	-51%	-36%	-232%
NE Multispecies	Haddock (GOM)	2.3	52%	56%	-129%	-110%	-373%
NE Multispecies	Pollock	11.2	40%	42%	-25%	-21%	-109%
NE Multispecies	Redfish	0.9	34%	35%	-171%	-164%	-309%
NE Multispecies	White Hake	7.7	37%	38%	31%	32%	-10%
NE Multispecies	Windowpane Flounder	0.2	73%	74%	-226%	-215%	-1104%
NE Multispecies	Winter Flounder (GB)	6.5	50%	56%	49%	55%	-2%
NE Multispecies	Winter Flounder (GOM)	1.1	61%	63%	-166%	-152%	-590%
NE Multispecies	Winter Flounder (SNE)	3.2	73%	76%	46%	52%	-96%
NE Multispecies	Witch Flounder	6.4	46%	48%	4%	8%	-77%
NE Multispecies	Yellowtail Flounder (GB)	13.7	44%	47%	3%	9%	-73%
NE Multispecies	Yellowtail Flounder (GOM)	1.8	59%	61%	56%	58%	-6%
NE Multispecies	Yellowtail Flounder (SNE)	0.4	79%	79%	10%	11%	-321%
NE Northern shrimp	Shrimp	3.9	24%	59%	-7%	43%	-41%

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
NE Summer flounder, scup & black sea bass	Black Sea Bass	3.1	28%	41%	12%	28%	-22%
NE Summer flounder, scup & black sea bass	Scup	9.3	26%	31%	2%	9%	-32%
NE Summer flounder, scup & black sea bass	Summer Flounder	17.2	32%	45%	34%	47%	3%
NW Pacific Coast groundfish	Arrow-tooth Flounder	3.9	-	47%	-	22%	-47%
NW Pacific Coast groundfish	Dover Sole	7.3	-	13%	-	12%	-1%
NW Pacific Coast groundfish	English Sole	1.2	-	32%	-	-80%	-162%
NW Pacific Coast groundfish	Petrale Sole	1.9	-	8%	-	-32%	-44%
NW Pacific Coast groundfish	Other Flatfish	2.1	-	46%	-	29%	-32%
NW Pacific Coast groundfish	Pacific Cod	1.1	-	8%	-	-166%	-189%
NW Pacific Coast groundfish	Pacific Whiting	210	-	23%	-	21%	-4%
NW Pacific Coast groundfish	Sable-fish	7.2	-	59%	-	60%	3%
NW Pacific Coast groundfish	Thorny-head Rockfish	0.9	-	22%	-	-5%	-35%
PI Hawaii based pelagic fisheries	Bigeye Tuna	10.0	9%	25%	7%	23%	-2%
PI Hawaii based pelagic fisheries	Swordfish	0.37	7%	22%	-	-	-
PI Hawaii based pelagic fisheries	Yellowfin Tuna	1.28	8%	24%	-	-	-
PI NWHI bottomfish fishery	Bottomfish	0.27	1%	17%	-67%	-40%	-69%
SE GOM coastal migratory pelagics	King Mackerel (GOM)	1.9	23%	40%	-33%	-4%	-72%
SE GOM coastal migratory pelagics	Spanish Mackerel (GOM)	1.2	5%	10%	-326%	-304%	-349%

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
SE Atl coastal migratory pelagics	King Mackerel (SA)	2.7	18%	55%	-14%	37%	-39%
SE Atl coastal migratory pelagics	Spanish Mackerel (SA)	3.5	10%	53%	1%	49%	-10%
SE GOM Reef Fish	Deep Water Groupers	1.45	1%	2%	18%	19%	17%
SE GOM Reef Fish	Red Grouper (part of SW grouper)	5.9	15%	21%	10%	17%	-6%
SE GOM Reef Fish	Red Snapper	4.6	13%	20%	13%	20%	-1%
SE GOM Reef Fish	Shallow Water Groupers	9.3	14%	20%	4%	11%	-11%
SE GOM Reef Fish	Tilefish	0.63	12%	14%	31%	32%	22%
SE South Atl. snapper-grouper	Golden Tilefish	0.27	20%	28%	-231%	-199%	-314%
SE South Atl. snapper-grouper	Greater Amberjack	0.36	11%	22%	-201%	-164%	-237%
SE South Atl. snapper-grouper	Snowy Grouper	0.17	4%	5%	-133%	-130%	-143%
SW Coastal pelagic species	Jack Mackerel	1,160	-	23%	-	-1950%	-2572%
SW Coastal pelagic species	Market Squid	40,088	-	64%	-	4%	-167%
SW Coastal pelagic species	Northern Anchovy	7,019	-	32%	-	-443%	-698%
SW Coastal pelagic species	Pacific Mackerel	3,708	-	35%	-	-111%	-223%
SW Coastal pelagic species	Pacific Sardine	89,339	-	41%	-	19%	-37%
SW West Coast HMS	Albacore	14,540	-	50%	-	-	-
SW West Coast HMS	Bigeye Thresher Shark	5.3	-	6%	-	-	-
SW West Coast HMS	Bigeye Tuna	22.2	-	0%	-	-	-
SW West Coast HMS	Blue Shark	0.8	-	0%	-	-	-
SW West Coast HMS	Bluefin Tuna	10.1	-	0%	-	-	-
SW West Coast HMS	Common Thresher	116	-	22%	-	-129%	-193%
SW West Coast HMS	Dorado	1.2	-	1%	-	-	-

Fishery	Species Group	Catch	LEC Rate	HEC Rate	LOC Rate	HOC Rate	OH Rate
SW West Coast HMS	Mako Shark	55	-	20%	-	-117%	-171%
SW West Coast HMS	Pelagic Thresher Shark	1.6	-	0%	-	-	-
SW West Coast HMS	Skipjack Tuna	307	-	20%	-	-	-
SW West Coast HMS	Swordfish	1,255	-	10%	-	-	-
SW West Coast HMS	Unspecified Tuna	9.3	-	0%	-	-	-
SW West Coast HMS	Yellowfin Tuna	488	-	25%	-	-	-

1. LEC lower excess capacity.
2. HEC higher excess capacity.
3. LOC lower overcapacity.
4. HOC higher overcapacity.
5. OH overharvest.
6. The assessment for the NW Region Pacific groundfish fishery is for the target species, which accounted for the vast majority of the harvest in 2004, and not for the species that are being rebuilt and can only be taken as incidental catch in this fishery.
7. The Maine mahogany quahog quota is just a very small part of the total ocean quahog quota.
8. The assessment for SE Region Atlantic snapper-grouper fishery is for the three species with explicit commercial quotas (TACs) and, therefore, it includes only about one-third of the total harvest in this fishery.
9. A “-” is used when that measure of excess harvesting capacity could not be generated because either variable input data was not available for that fishery or a commercial quota (or its proxy) was not available for a specific species or species group.
10. Catch is in million pounds live weight with the following exceptions: (a) Atlantic HMS catch is in metric tons dressed weight for sharks and round weight for tunas and swordfish, (b) scallop catch is in meat weight, (c) Alaska and Northwest Region catch is in thousand metric tons, (d) surfclam and ocean quahog catch is in million bushels, and (e) Southwest Region catch is in metric tons. With the exception of the Alaska and Northwest Region groundfish fisheries, catch is in terms of landed catch and not total catch. For those two fisheries, the catch estimates are of total catch including landed and discarded catch. The estimates of discarded catch are provided by at-sea observer programs.

Appendix B

Authors of the Reports

A. Report to Congress:

Matteo Milazzo, NMFS Office of Sustainable Fisheries
Joseph Terry, NMFS Office of Science and Technology
John Walden, NMFS Northeast Fisheries Science Center

B. Editors of the National Assessment:

Joseph Terry, NMFS Office of Science and Technology
John Walden, NMFS Northeast Fisheries Science Center
James Kirkley, Virginia Institute of Marine Science

C. Regional Reports

(1) Northeast Region

John Walden, NMFS Northeast Fisheries Science Center
Steven Edwards, NMFS Northeast Fisheries Science Center
Andrew Kitts, NMFS Northeast Fisheries Science Center
Barbara Rountree, NMFS Northeast Fisheries Science Center

(2) Pacific Islands Region

John Walden, NMFS Northeast Fisheries Science Center
Minling Pan, NMFS Pacific Islands Fisheries Science Center
Joseph Terry, NMFS Office of Science and Technology

(3) Northwest Region

John Walden, NMFS Northeast Fisheries Science Center
Carl Lian, NMFS Northwest Fisheries Science Center
Joseph Terry, NMFS Office of Science and Technology

(4) Caribbean Area

James Kirkley, Virginia Institute of Marine Science
Juan Agar, NMFS Southeast Fisheries Science Center
Graciela Garcia-Moliner, Caribbean Fishery Management Council
Joseph Terry, NMFS Office of Science and Technology

(5) Southeast Region

John Walden, NMFS Northeast Fisheries Science Center
Christopher Liese, NMFS Southeast Fisheries Science Center
Joseph Terry, NMFS Office of Science and Technology

(6) Southwest Region

John Walden, NMFS Northeast Fisheries Science Center
Joseph Terry, NMFS Office of Science and Technology
Sam Herrick, NMFS Southwest Fisheries Science Center

(7) Alaska Region

James Kirkley, Virginia Institute of Marine Science
John Walden, NMFS Northeast Fisheries Science Center
Ron Felthoven, NMFS Alaska Fisheries Science Center
Terry Hiatt, NMFS Alaska Fisheries Science Center
Joseph Terry, NMFS Office of Science and Technology

(8) Atlantic Highly Migratory Species

John Walden, NMFS Northeast Fisheries Science Center
George Silva, NMFS Office of Sustainable Fisheries
Joseph Terry, NMFS Office of Science and Technology

ethanol, expressed as triadimefon, in or on the following food commodities:

Commodity	Parts per million
Pineapple	2.0

(b) *Section 18 emergency exemptions.* [Reserved]

(c) *Tolerances with regional registrations.* [Reserved]

(d) *Indirect or inadvertent residues.* [Reserved]

24. Section 180.450 is revised to read as follows:

§ 180.450 Beta-(4-Chlorophenoxy)-alpha-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol; tolerances for residues.

(a) *General.* Tolerances are established for the combined residues of the fungicide β -(4-chlorophenoxy)- α -(1,1-dimethyl-ethyl)-1H-1,2,4-triazole-1-ethanol (triadimenol) and its butanediol metabolite, 4-(4-chlorophenoxy)-2,2-dimethyl-4-(1 butanediol, calculated as triadimenol, in or on the following commodities:

Commodity	Parts per million
Banana ¹	0.2
Barley, grain	0.05
Barley, straw	0.2
Corn, field, forage	0.05
Corn, field, grain	0.05
Corn, field, stover	0.05
Corn, pop, grain	0.05
Corn, pop, stover	0.05
Corn, sweet, forage	0.05
Corn, sweet, kernel plus cob with husks removed	0.05
Corn, sweet, stover	0.05
Cotton, undelinted seed	0.02
Oat, forage	2.5
Oat, grain	0.05
Oat, straw	0.2
Rye, forage	2.5
Rye, grain	0.05
Rye, straw	0.1
Sorghum, forage, hay	0.05
Sorghum, grain, grain	0.01
Sorghum, grain, stover	0.01
Wheat, forage	2.5
Wheat, grain	0.05
Wheat, straw	0.2

¹ There are no U.S. registrations for banana (whole) as of September 22, 1993.

(b) *Section 18 emergency exemptions.* [Reserved]

(c) *Tolerances with regional registrations.* [Reserved]

(d) *Indirect or inadvertent residues.* [Reserved]

25. Section 180.491 is amended by revising the tables in paragraphs (a)(1) and (a)(2) to read as follows:

§ 180.491 Propylene oxide; tolerances for residues.

(a) * * * (1) * * *

Commodity	Parts per million
Cacao bean, dried bean	200
Cacao bean, cocoa powder	200
Fig	3.0
Garlic, dried	300
Grape, raisin	1.0
Herbs and spices, group 19, dried	300
Nut, tree, group 14	300
Onion, dried	300
Plum, prune, dried	2.0

(2) * * *

Commodity	Parts per million
Basil, dried leaves	6000
Cacao bean, dried bean	20.0
Cacao bean, cocoa powder	20.0
Fig	3.0
Garlic, dried	6000
Grape, raisin	4.0
Herbs and spices, group 19, dried, except basil	1500
Nut, tree, group 14	10.0
Onion, dried	6000
Plum, prune, dried	2.0

* * * * *

26. Section 180.523 is revised to read as follows:

§ 180.523 Metaldehyde; tolerances for residues.

(a) *General.* Tolerances are established for residues of the molluscicide metaldehyde in or on food commodities, as follows:

Commodity	Parts per million
Artichoke, globe	0.07
Berry group 13	0.15
Cactus	0.07
Fruit, citrus, group 10	0.26
Lettuce	1.73
Strawberry	6.25
Tomato	0.24
Vegetable, brassica, leafy, group 5	2.5
Watercress	3.2

(b) *Section 18 emergency exemptions.* [Reserved]

(c) *Tolerances with regional registrations.* [Reserved]

(d) *Indirect or inadvertent residues.* [Reserved]

27. Section 180.540 is revised to read as follows:

§ 180.540 Fenitrothion; tolerances for residues.

(a) *General.* A tolerance is established for residues of the insecticide fenitrothion, *O,O*-dimethyl *O*-(4-nitro-*m*-tolyl) phosphorothioate, from the postharvest application of the insecticide to stored wheat in Australia, in or on the following food commodity:

Commodity	Parts per million
Wheat, gluten ¹	3.0

¹ There are no U.S. registrations on food commodities since 1987.

(b) *Section 18 emergency exemptions.* [Reserved]

(c) *Tolerances with regional registrations.* [Reserved]

(d) *Indirect or inadvertent residues.* [Reserved]

[FR Doc. E8-12374 Filed 6-3-08; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 700

RIN 0648-AV53

Magnuson-Stevens Act Provisions; Proposed Environmental Review Process for Fishery Management Actions; Meeting Announcements

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of public meetings.

SUMMARY: NMFS announces three public meetings to solicit comments on the proposed rule that would revise and update the NMFS procedures for complying with the National Environmental Policy Act (NEPA) in the context of fishery management actions developed pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

DATES: The meetings will be held on June 25 in Washington, D.C. from 1:30 p.m. to 3:30 p.m. Eastern time; on July 15 in St. Petersburg, FL from 6 pm to 8 p.m. Eastern time; and on July 24 in Seattle, WA from 1:30 p.m. to 3:30 p.m., Pacific time.

ADDRESSES: The meetings will be held at the following locations:

Council on Environmental Quality, 722 Jackson Place, NW, Washington, DC 20503; telephone: 202 395 5750.

National Marine Fisheries Service, Southeast Regional Office, 263 13th Avenue South, St. Petersburg, FL 33701; telephone: 727-824-5301.

Hilton Seattle Airport & Conference Center, 17620 International Boulevard, Seattle, WA 98188; telephone: 206-244-4800.

FOR FURTHER INFORMATION CONTACT:

Steve Leathery at (301) 713-2239 or via email at steve.leathery@noaa.gov.

SUPPLEMENTARY INFORMATION: On May 14, 2008, NMFS published a proposed rule in the **Federal Register** (73 FR 27998) that would revise and update the NMFS procedures for complying with the NEPA in the context of fishery management actions developed pursuant to the Magnuson-Stevens Act. These regulations are modeled on the Council of Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA, 40 CFR parts 1500-1508, with specific revisions to the existing NMFS procedures made pursuant to the Magnuson-Stevens Fishery Conservation and Management

Reauthorization Act (MSRA). The procedures are designed to conform to the timelines for review and approval of fishery management plans and plan amendments developed pursuant to the Magnuson-Stevens Act. Further, these procedures are intended to integrate applicable environmental analytical procedures, including the timeframes for public input, with the procedure for the preparation and dissemination of fishery management plans, plan amendments, and other actions taken or approved pursuant to the MSA in order to provide for timely, clear, and concise analysis that is useful to decisionmakers and the public, reduce extraneous paperwork, and effectively involve the public. NMFS is holding these public

meeting to solicit public comments on the proposed rule.

Special Accommodations

These meetings are accessible to people with disabilities. Requests for sign language interpretation or other aids, and requests for special accommodations or needs should be directed to Steve Leathery at (301) 713-2239 at least 5 business days in advance of the meeting date.

Authority: 16 U.S.C. 1854(i)

Dated: May 30, 2008.

Alan D. Risenhoover,

*Director, Office of Sustainable Fisheries,
National Marine Fisheries Service.*

[FR Doc. E8-12505 Filed 6-3-08; 8:45 am]

BILLING CODE 3510-22-S

and commercial information, we solicit comment from the public, other governmental agencies, the scientific community, industry, and any other interested parties. Title 50, CFR 424.16(c)(3) requires the Secretary of Commerce to promptly hold at least one public hearing if any person requests one within 45 days of publication of a proposed regulation to change the listed status of a species under the ESA. Requests for public hearing must be made in writing (see **DATES** and **ADDRESSES**). Such hearings provide the opportunity for interested individuals and parties to give comments, exchange information and opinions, and engage in a constructive dialogue concerning this proposed rule. We encourage the public's involvement in such ESA matters.

Classification

National Environmental Policy Act

The 1982 amendments to the ESA, in section 4(b)(1)(A), restrict the information that may be considered when assessing species for listing to the best scientific and commercial data available. Based on this limitation of criteria for a listing decision and the opinion in *Pacific Legal Foundation v. Andrus*, 657 F 2d 829 (6th Cir.1981), we have concluded that ESA listing actions are not subject to the environmental assessment requirements of the National Environmental Policy Act. (see also NOAA Administrative Order 216 6.)

Executive Order (E.O.) 12866, Regulatory Flexibility Act

As noted in the Conference Report on the 1982 amendments to the ESA, economic impacts cannot be considered when assessing the status of a species. Therefore, the economic analysis requirements of the Regulatory Flexibility Act are not applicable to the listing process. In addition, this rule is exempt from review under E. O. 12866.

Paperwork Reduction Act

This proposed rule does not contain a collection-of-information requirement for the purposes of the Paperwork Reduction Act.

Federalism

E.O. 13132 requires agencies to take into account any federalism impacts of regulations under development. It includes specific consultation directives for situations where a regulation will preempt state law, or impose substantial direct compliance costs on state and local governments (unless required by statute). Neither of these circumstances is applicable to this proposed listing determination. In keeping with the

intent of the Administration and Congress to provide continuing and meaningful dialogue on issues of mutual State and Federal interest, this proposed rule will be given to the relevant state agencies in each state in which the Caribbean monk seal formerly occurred, and each will be invited to comment.

List of Subjects in 50 CFR Part 224

Administrative practice and procedure, Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Dated: June 3, 2008.

Samuel D. Rauch, III,

*Deputy Assistant Administrator for
Regulatory Programs, National Marine
Fisheries Service.*

For the reasons set out in the preamble, we propose to amend 50 CFR part 224 as follows:

PART 224—ENDANGERED MARINE AND ANADROMOUS SPECIES

1. The authority citation for part 224 continues to read as follows:

Authority: 16 U.S.C. 1531 1543 and 16 U.S.C. 1361 *et seq.*

2. Amend § 224.101(b) by removing the term “Caribbean monk seal (*Monachus tropicalis*)”.

[FR Doc. E8–12808 Filed 6–6–08; 8:45 am]

BILLING CODE 3510–22–S

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 600

[Docket No. 070717348–7766–02]

RIN 0648–AV60

Magnuson-Stevens Act Provisions; Annual Catch Limits; National Standard Guidelines

AGENCY: National Marine Fisheries Service (NMFS); National Oceanic and Atmospheric Administration (NOAA); Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes revisions to the guidelines for National Standard 1 (NS1) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). This action is necessary to provide guidance on how to comply with new annual catch limit (ACL) and accountability measure (AM) requirements for ending overfishing of fisheries managed by federal fishery

management plans (FMPs). It also clarifies the relationship between ACLs, maximum sustainable yield (MSY), optimum yield (OY), and other applicable reference points. The intent of this action is to facilitate compliance with requirements of the Magnuson-Stevens Act to end and prevent overfishing, rebuild overfished stocks and achieve OY.

DATES: Comments must be received by September 8, 2008.

ADDRESSES: You may submit comments, identified by 0648-AV60, by any of the following methods:

- **Electronic Submissions:** Submit all electronic public comments via the Federal e-Rulemaking portal: <http://www.regulations.gov>;
- **Fax:** 301–713–1193, Attn: Mark Millikin;
- **Mail:** Mark R. Millikin, National Marine Fisheries Service, NOAA, Office of Sustainable Fisheries, 1315 East-West Highway, Room 13357, Silver Spring, MD 20910 (mark outside of envelope “Comments on Annual Catch Limits proposed rule”);

Instructions: All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

NMFS will accept anonymous comments. Attachments to electronic comments will be accepted in Microsoft Word, Excel, Wordperfect, or Adobe PDF file formats only.

Copies of the Regulatory Impact Review (RIR)/Regulatory Flexibility Act Analysis (RFAA) for this proposed rule are available from Mark R. Millikin at the address listed above. The RIR/RFAA document is also available via the internet at <http://www.nmfs.noaa.gov/msa2007/catchlimits.htm>.

FOR FURTHER INFORMATION CONTACT: Mark R. Millikin, Senior Fishery Management Specialist, 301–713–2341.

SUPPLEMENTARY INFORMATION:

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I. Overview of Proposed Revisions

NMFS fulfills the requirements of section 301(b) of the Magnuson-Stevens Act—"The Secretary shall establish advisory guidelines (which shall not have the force and effect of law), based on national standards, to assist in the development of fishery management plans," with its national standard guidelines that appear at 50 CFR 600.310 through 50 CFR 600.355. NMFS is proposing revisions to the NS1 guidelines to address, among other things, new requirements for fisheries undergoing overfishing, to have ACLs and AMs to end overfishing by 2010, and all fisheries to have ACLs and AMs in place to prevent or end overfishing by 2011, and beyond. A stock or stock complex may not require an ACL and AMs if it qualifies for a statutory exception under the Magnuson-Stevens Act. Other proposed revisions to the NS1 guidelines include: (1) A description of the relationship between MSY, OY, overfishing limits (OFL), acceptable biological catch (ABC), ACLs, and annual catch targets (ACTs); (2) guidance on how to combine the use of ACLs and AMs for a stock to prevent overfishing when possible, and adjust ACTs or ACLs, or both, and AMs, if an ACL is exceeded; (3) allowing for inclusion of ecosystem component (EC) species in FMPs and, in such cases,

guidance for how to classify which stocks are "in the fishery" and which species are ecosystem components; (4) replacing MSY control rules with ABC control rules and replacing OY control rules with ACT control rules; (5) new requirements for scientific and statistical committees (SSC); (6) changing the timeline to prepare new rebuilding plans; (7) revised guidance on how to establish rebuilding time targets; and (8) advice on action to take at the end of a rebuilding period if a stock is not yet rebuilt.

II. Acronyms

ABC—acceptable biological catch
 ACL—annual catch limit
 ACT—annual catch target
 AM—accountability measures
 ANPR—Advance Notice of Proposed Rulemaking
 B_{msy}—MSY stock size
 EC—ecosystem component species
 EEZ—Exclusive Economic Zone
 F_{msy}—MSY fishing mortality rate
 FMP—fishery management plan
 MFMT—maximum fishing mortality threshold
 MSA—Magnuson-Stevens Act
 MSRA—Magnuson-Stevens Fishery Conservation and Management Reauthorization Act
 MSST—minimum stock size threshold
 MSY—maximum sustainable yield
 NOI—Notice of Intent
 NS1—National Standard 1
 OFL—overfishing limit
 OY—optimum yield
 SDC—status determination criteria
 SFA—Sustainable Fisheries Act
 SSC—scientific and statistical committee
 T_{max}—maximum time allowable for rebuilding a stock
 T_{min}—minimum time for rebuilding a stock
 T_{target}—target time for rebuilding a stock

III. Background

The MSA serves as the chief authority for fisheries management in the U.S. Exclusive Economic Zone (EEZ). Section 301(b) of the MSA requires that "The Secretary shall establish advisory guidelines (which shall not have the force and effect of law), based on the national standards, to assist in the development of fishery management plans." Guidelines for the national standards are codified in subpart D of 50 CFR part 600. The guidelines for national standards were last revised through a final rule published in the **Federal Register** on May 1, 1998 (63 FR 24212), by adding revisions to the guidelines for National Standards 1 (optimum yield), 2 (scientific information), 4 (allocations), 5

(efficiency), and 7 (costs and benefits); and adding new guidelines for National Standards 8 (communities), 9 (bycatch), and 10 (safety of life at sea).

The guidelines for NS1 were revised extensively in the final rule published on May 1, 1998, to bring them into conformance with revisions to the MSA, as amended in 1996 by the Sustainable Fisheries Act (SFA). In particular, the 1998 revisions to the NS1 guidelines addressed new requirements for FMPs brought about by SFA amendments to MSA section 304(e) (rebuilding overfished fisheries).

The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006 (MSRA), which President Bush signed into law on January 12, 2007, included new requirements regarding preventing and ending overfishing and rebuilding fisheries. Therefore, NMFS is proposing revisions to the NS1 guidelines at 50 CFR 600.310, to integrate these new requirements with existing provisions related to overfishing, rebuilding overfished stocks, and achieving optimum yield.

IV. NMFS's Proposed Rule for Further Revisions to NS1 Guidelines in 2005

NMFS published an advance notice of proposed rulemaking (ANPR) in 2003 (68 FR 7492, February 14, 2003), and a proposed rule in 2005 (70 FR 36240, June 22, 2005), in the **Federal Register** to propose further revisions to the NS1 guidelines. NMFS sought to improve the utility of the 1998 guidelines in assisting the regional fishery management councils, and the Secretary of Commerce (Secretary) in the case of a Secretarial Amendment or a Secretarial FMP (denoted collectively hereafter as "Councils," as 50 CFR 600.305(c)(11) provides that "Council" includes both the regional fishery management councils and the Secretary when preparing FMPs or amendments), when establishing or revising status determination criteria (SDC) for overfishing and overfished definitions for stocks, and constructing or revising rebuilding plans for overfished stocks.

Although NMFS received many public comments on the ANPR and the 2005 proposed rule, NMFS decided not to pursue publication of a final rule when it learned that Congress was preparing an amendment to the MSA that seemed likely to revise how to manage stocks undergoing overfishing and stocks that need a rebuilding plan. Congress's efforts culminated in passage of the 2006 MSRA.

V. NMFS's Initial Action on MSRA Requirements for ACLs

NMFS published a notice of intent (NOI) to prepare an environmental impact statement (EIS) and commencement of a scoping period for ACLs and AMs in the **Federal Register** on February 14, 2007 (72 FR 7016), with a comment period ending date of April 17, 2007. NMFS held nine scoping sessions, one associated with each of the eight Regional Fishery Management Councils' meetings and one at NMFS Headquarters in Silver Spring, MD. Comments that NMFS received are contained in "Summary of Comments Received on NMFS Proposal to Develop Guidance on ACLs and AMs, July 2007," that is available at the NMFS Web site: <http://www.nmfs.noaa.gov/msa2007/catchlimits.htm>.

The NOI indicated that an environmental assessment or EIS would be prepared for this action. However, NMFS has decided that, for purposes of compliance with the National Environmental Policy Act, a categorical exclusion is appropriate for this action. The proposed action would provide general guidance on ACL and AM and other requirements, but there is considerable diversity in federally-managed fisheries and FMPs. Thus, any analysis of the environmental, economic, and social impacts of the NS1 guidelines would be highly speculative. Potential environmental, economic, and social impacts cannot be meaningfully analyzed until the Councils apply the guidelines to specific fisheries and FMPs. At that time, the Councils would prepare an EIS or EA, as appropriate.

VI. MSRA Ending Overfishing Requirements

Section 104(a)(10) of the MSRA established new requirements to end and prevent overfishing, including ACLs and AMs. Section 303(a)(15) was added to the MSA to read as follows: "establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability." ACLs and AMs are required by fishing year 2010 if overfishing is occurring in a fishery, and they are required for all other fisheries by fishing year 2011.

In practical terms, given the time it takes to prepare and implement an FMP amendment, if the status of one or more stocks in a fishery at the end of 2008 is "subject to overfishing," Councils should submit ACL and AM

mechanisms and actual ACLs for that fishery to be effective in fishing year 2010. If overfishing is determined to be occurring in a fishery in 2009, Councils should submit ACL and AM mechanisms and actual ACLs for that fishery to be effective in fishing year 2010, if possible, or in fishing year 2011, at the latest. All fisheries must have ACL and AM mechanisms and actual ACLs by the fishing year 2011, and beyond. The Secretary should amend Secretarial FMPs, to comply with ACL and AM requirements on the same timetable. Section 305(c) of the MSA, which was unchanged by MSRA, also provides authority to the Secretary to promulgate emergency regulations or interim measures necessary to address an emergency or overfishing for any fishery without regard to whether an FMP exists for such fishery.

NMFS recognizes that the phrase, "at a level such that overfishing does not occur" in section 303(a)(15) of the MSA is subject to different interpretations, as reflected in the varying comments received during scoping. On the one hand, the phrase could be interpreted to mean that overfishing is strictly prohibited at any cost. On the other hand, section 303(a)(15) refers to a "mechanism" for setting ACLs, including AMs, which seems to imply a more dynamic process that allows for adjustment of management measures as a fishery is carried out. The only way to ensure absolutely no overfishing occurs is to stop fishing. As long as fishing occurs, there is a chance for occasional instances of overfishing due to scientific uncertainty of data, influence of non-fishing factors, and management uncertainty. Continued overfishing for a period of years (chronic overfishing), presents the greatest danger to the health of fish stocks, and often leads to stocks becoming overfished. NMFS has noted that overfished stocks with chronic overfishing seem to seldom rebuild, whereas overfished stocks that are rarely subject to overfishing have a better chance of rebuilding.

Taking the above considerations into account, NMFS believes that the ACL requirement should be interpreted to provide for some flexibility given scientific and management uncertainty and other factors, but at the same time, must address overfishing and facilitate rebuilding. Chronic overfishing can be prevented by ensuring that the combination of ACLs and AMs decrease the risk of future overfishing each successive time an ACL is exceeded. NMFS thus proposes a performance standard such that if catch of a stock exceeds its ACL more often than once in the last four years (*i.e.*, more often than

25 percent of the time), then the system of ACLs, ACTs and AMs should be re-evaluated to improve its performance and effectiveness (see § 600.310(g)(3) in this proposed action). NMFS believes that allowing a higher frequency of the ACL being exceeded would not safeguard enough against overfishing. A Council could choose a higher performance standard (e.g., a stock's catch should not exceed its ACL more often than once every five or six years) for a stock that is particularly vulnerable to the effects of overfishing.

VII. Reasons for Overfishing and Expectations for ACLs to Prevent/End Overfishing

The "NMFS Fourth Quarterly Report for 2007 Status of U.S. Fisheries" indicates that 41 stocks managed by federal FMPs were undergoing overfishing as of December 31, 2007. Stocks become listed as "overfishing" or remain in an overfishing status for a variety of reasons, including:

1. The goal of the FMP may be to end overfishing over several years by gradually reducing fishing mortality rates instead of ending overfishing immediately.
 2. Management measures have proven ineffective at ending overfishing (e.g., lack of inseason closure authority for the fishery or management measures are aimed at achieving a target catch that is set too close to the catch amount that results in overfishing, or both).
 3. Management measures to address overfishing have not been implemented yet.
 4. Recent change in scientific advice (*i.e.*, the Council has not had sufficient time to amend the FMP and no automatic measures exist in the FMP to make necessary adjustments to end overfishing in the subsequent fishing year).
 5. Bycatch mortality in other fisheries has not been addressed adequately or is poorly known.
 6. Data sufficient to verify whether or not overfishing is occurring are not available, so the existing overfishing determination is retained.
 7. International fishing pressure is responsible for the large majority of overfishing.
 8. Fishing pressure in state or territorial waters is responsible for the large majority of overfishing, federal action alone is not sufficient to end overfishing, and managers in the various jurisdictions are unable thus far to agree on a concerted approach for preventing overfishing.
- NMFS believes that the ACL and AM requirements will address overfishing that results from reasons 1, 2, 3, and 4

above. Better scientific data, along with adequate ACLs and AMs, should enable Councils to prevent overfishing for reasons 5 and 6. Stocks that are undergoing overfishing for reason 7 would be exempt from the ACL requirement (see §§ 600.310(h)(2)(ii) and 600.310(k) of this proposed action for discussion of international fisheries). There may be circumstances where managers in various jurisdictions are unable to agree on an ACL and AMs that would end or prevent overfishing for a fishery described under reason 8. In such cases, these proposed guidelines would require an ACL for the overall fishery, but AMs would be implemented only for the portion of the fishery under federal management authority.

VIII. Definition, Interpretation, and Application of the Term “Fishery” and Its Relevance to ACLs

The MSA, as amended by MSRA, requires that a Council shall develop ACLs “for each of its managed fisheries” (see MSA section 302(h)(6)) and as noted earlier, that each FMP have a mechanism for specifying ACLs “at a level such that overfishing does not occur in the fishery” (see MSA section 303(a)(15)). Consistent with these sections of the MSA, the proposed NS1 guidelines provide that ACLs and AMs are needed for each “fishery” under federal FMP management, unless covered by a statutory exception.

The MSA defines “fishery” broadly, and this definition did not change with the passage of the MSRA. A “fishery” is “one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational and economic characteristics,” and “any fishing of such stocks” (see MSA section 3(13) and 50 CFR 600.10). The term “fishery” can mean different things in different contexts. For example, when dealing with biological concepts such as determining a status of overfishing or overfished, the NS1 guidelines generally apply at the “stock or stock complex” level (See, e.g., 50 CFR 600.310(c)(1), (d) (defining MSY and “overfish” with regard to “stock or stock complex”) and § 600.305(c)(12) (explaining that “stock or stock complex” is used as a synonym for “fishery” in NS guidelines). In other instances, such as managing a fishery for OY, the term “fishery” is viewed more broadly (see 50 CFR 600.310(f) (referring to OY at the “fishery” and not the “stock or stock complex” level)).

Given the broad definition of “fishery,” the Councils have had, and continue to have, considerable

discretion in defining the “fishery” under FMPs. Some FMPs include only one or a few stocks whereas others include several or hundreds of species. Looking at existing FMPs, the primary reasons why stocks are included in FMPs are because people seek to harvest them for sale or personal use (i.e., the fish are the target of fishing activity), or they are caught incidentally in the pursuit of harvesting one or more other stocks and could experience overfishing or become overfished without conservation and management measures. These reasons are consistent with the stated purposes of the MSA, which includes the preparation and implementation of FMPs “which will achieve and maintain, on a continuing basis, the optimum yield from each fishery” (see MSA section 2(b)(4)). OY is defined with regard to “the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems” (see MSA section 3(33)).

While the focus of FMPs has been stocks managed for OY, in recent years, some FMPs have included other stocks in an effort to incorporate ecosystem approaches to management. Congress acknowledged this increased attention to ecosystem approaches in the “Findings” section of the Act (see MSA section 2(a)(11) (acknowledging that a number of Councils have demonstrated significant progress in integrating ecosystem considerations under existing authorities of the MSA)). In addition, MSRA added a new section 303(b)(12) that provides that an FMP may “include management measures in the plan to conserve target and non-target species and habitats, considering the variety of ecological factors affecting fishery populations.”

NMFS wants to encourage ecosystem approaches to fishery management and believes that clarification of what constitutes the “fishery” would be helpful. As such, NMFS is proposing guidance pertaining to “stocks in the fishery” and “ecosystem component (EC) species,” which are described in detail below. The intent of this guidance is to articulate approaches taken under existing FMPs and to provide a framework for thinking about future FMPs and FMP amendments. The Councils would have the discretion to determine, on a case-by-case basis, whether changes in their stock classifications under current FMPs are needed.

A. Stocks in the Fishery

As a default, all stocks currently identified in an FMP are considered “stocks in the fishery.” “Stocks in the fishery” would include target stocks (i.e., stocks that fishers seek to catch for sale or personal use, including “economic discards” as defined under MSA section 3(9)), non-target stocks that are retained for sale or personal use, and non-target stocks that are not retained for sale or personal use and that are either determined to be subject to overfishing, approaching overfished, or overfished, or could become so, according to the best scientific information available, without conservation and management measures (see Figure 1 and § 600.310(d)(2) of this proposed action). Stocks and stock complexes in the fishery should have quantitative SDC, MSY, ABC, ACL, and ACT (collectively called “reference points” throughout this section) and AMs (see Table 1 for reference points needed for different types of stocks, and see § 600.310(b)(2)(iv) of this proposed action), although some stocks in the fishery may not require ACLs and AMs if they are covered by a statutory exception (see § 600.310(h)(2) of this proposed action). Hereafter, in these guidelines, “stock” or “stock(s) and stock complex(es)” refer to “stocks in the fishery.”

B. Ecosystem Component Species

Beyond the “stocks in the fishery,” a Council may, but is not required to, include EC species in an FMP. Such species would include non-target fish species that are not considered part of the “fishery” but rather species with which the fishery may occasionally interact (i.e., catch) (see § 600.310(d)(5) of this proposed action). A Council may choose to include EC species for purposes of incorporating ecosystem approaches to fishery management, data collection, etc. Identification of EC species must be done through an FMP amendment process (see § 600.310(d) of this proposed action). Such species are appropriate to consider when addressing specification of OY and conservation and management measures for the fishery (see MSA sections 3(33) (referring to taking into account the marine ecosystems in OY definition), and 3(5) (referring to avoiding irreversible or long-term effects on fishery resources and the marine environment and ensuring multiplicity of options)). Because EC species are not considered to be “in the fishery,” specification of reference points, ACLs, and AMs are not required (see Table 1). However, a Council should consider

measures for the fishery to minimize bycatch and bycatch mortality of EC species consistent with National Standard 9, and to protect their associated role in the ecosystem. NMFS is especially interested in the public's comments on the appropriate criteria for classification of EC species.

C. Stocks Identified in More Than One FMP

If a stock is identified as part of more than one "fishery," Councils should choose which FMP will be the "primary FMP" in which management objectives, SDC, and other reference points for the

stock are established. In most cases, the primary FMP for a stock will be the one in which the stock is identified as a target stock. Other FMPs in which the stock is identified as part of a fishery should contain management measures consistent with the primary FMP for the stock.

Figure 1. Proposed Classification of stocks in an FMP

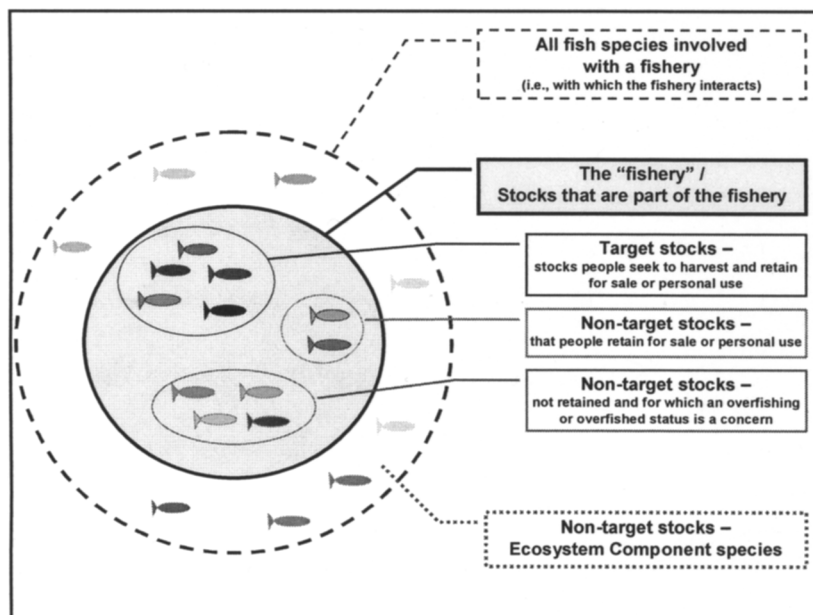


TABLE 1.—REFERENCE POINTS, ACCOUNTABILITY MEASURES, AND CONTROL RULES THAT WOULD BE REQUIRED OR RECOMMENDED

Reference points, accountability measures, and control rules	Stocks and stock complexes in a fishery (excluding those with an approximate 1 year life cycle and those managed under international fishery agreements)	Stocks and stock complexes in a fishery that have a life cycle of approximately 1 year	Stocks and stock complexes in a fishery managed under an international fishery agreement ³	Ecosystem component species ⁴
MSY ¹	✓	✓	✓	N/A
SDC ¹ (e.g. MFMT ² , MSST ²)	✓	✓	✓	N/A
OY ¹	At the stock, stock complex, or fishery level.	At the stock, stock complex, or fishery level.	R	N/A
OFL ²	R	R	R	N/A
ABC ¹	✓	✓	R	N/A
ACL ¹	✓	Only if "subject to overfishing"	R	N/A
AMs ¹	✓	Only if "subject to overfishing"	R	N/A
ACT ²	✓	Only if "subject to overfishing"	R	N/A
ABC control rule ²	✓	✓	R	N/A
ACT control rule ²	✓	R	R	N/A

¹ MSA requirement.

² For consistency with the NS1 Guidelines.

³ If the stock is in a U.S. FMP and managed under an international fishery agreement to which the U.S. is party.

⁴ Not required by MSA, but an option provided in the NS1 Guidelines.

Legend:

✓ = Yes, this is applicable.

ABC = Acceptable Biological Catch.

ACL = Annual Catch Limit.

AM = Accountability Measures.

MFMT = Maximum Fishing Mortality Threshold.

MSST = Minimum Stock Size Threshold.

MSY = Maximum Sustainable Yield.
 N/A = Not Applicable.
 OFL = Overfishing Limit.
 OY = Optimum Yield.
 R = Recommended.
 SDC = Status Determination Criteria.

D. Stock Complexes

“Stock complex” means a group of stocks in an FMP that are sufficiently similar in geographic distribution, life history, and vulnerability to the fishery that the impacts of management actions on the stocks in the complex is similar (see § 600.310(d)(8) of this proposed action). Stock complexes may be comprised of: (1) One or more indicator stocks, each of which has SDC and ACLs, and several other stocks; (2) several stocks without an indicator stock, with SDC and an ACL for the complex as a whole; or (3) one or more indicator stocks, each of which has SDC and management objectives, with an ACL for the complex as a whole (this situation might be applicable to some salmon species).

For stock complexes, the SDC measured on a stock complex-wide basis or for an indicator stock should satisfy the MSA’s requirements to prevent overfishing and achieve OY for a fishery. Vulnerability of stocks to the fishery should be evaluated when determining if: (1) A particular stock complex should be established or reorganized; (2) a particular stock should be a member of a stock complex; or (3) a stock complex should be reorganized. Indicator stocks are stocks selected as a representative for a stock complex because they have known determinations regarding SDC, and known values for MSY and OY, and can form the basis for an MSY and OY for the combinations of stocks in a complex. Although it is common for the indicator stock for a stock complex to be the most abundant stock, if an indicator stock is less vulnerable than other stocks in the complex, the management measures should be more conservative to protect the more vulnerable stocks from overfishing.

IX. Statutory Exceptions to Requirements for ACLs and AMs and Flexibility in Application of NS1 Guidelines

The MSRA provides two statutory exceptions to the ACL and AM requirements under MSA section 303(a)(15) (see MSRA section 104(b) (adding two exceptions under a MSA section 303 note); see also § 600.310(h)(2) of this proposed action). First, MSA section 303(a)(15) “shall not apply to a fishery for species that have a life cycle of approximately 1 year

unless the Secretary has determined the fishery is subject to overfishing of that species” (see MSRA section 104(b)(2)). NMFS interprets “fishery for species” to be a stock. In addition, NMFS interprets “a life cycle of approximately 1 year” to mean that the average length of time it takes for an individual to produce a reproductively active offspring is approximately 1 year, and that the individual has only one breeding season in its lifetime. While stocks that qualify for the 1-year life cycle exception would not need to have ACLs and AMs, such stocks should still have SDC, MSY, OY, ABC, and an ABC control rule.

Second, MSA section 303(a)(15) shall take effect in 2010 and 2011, as discussed earlier, “unless otherwise provided for under an international agreement in which the United States participates” (see MSRA section 104(b)(1)). It is not clear to what the text “unless otherwise provided for” is referring. NMFS has considered several possible interpretations of this text in light of other provisions in MSRA, including the new international overfishing provisions in MSA section 304(i). Prior to MSRA, fisheries managed under international agreements in which the United States participates (referred to in this action as “international fisheries”) were subject to MSA section 304(e) requirements regarding overfishing and rebuilding. However, in many of these fisheries, the United States could not unilaterally end overfishing or rebuild the stocks. New MSA section 304(i) and other MSRA provisions acknowledge the increasing problem of international overfishing and the challenges of establishing conservation and management measures at the international level. Given Congress’s recognition of the increasing problem of international overfishing and the complexities of international negotiation, NMFS believes that the ACL exception should apply to fisheries that are subject to management under international agreements in which the United States participates. Applying ACLs or AMs only to the U.S. portion of the catch would not effect rebuilding or end overfishing, would potentially disadvantage U.S. fishermen with respect to foreign fishermen, and could weaken U.S. negotiating positions at international fora in which it participates.

Apart from the statutory exceptions, NMFS recognizes that there are limited circumstances that do not fit the standard approaches to specification of reference points and management measures set forth in the proposed revisions to the NS1 guidelines. These include, among other things, conservation and management of ESA-listed species, harvests from aquaculture operations, and stocks with unusual life history characteristics (e.g., Pacific salmon, where the spawning potential for a stock is spread over a multi-year period). For fisheries where ESA-listed species are incidentally caught, the ESA recovery plan would be a significant driver for setting management objectives, including ACLs, for the fishery. For aquaculture, once managers address status of broodstock taken from the wild (i.e., whether overfishing is occurring and/or whether the stock is in need of rebuilding), then the levels of harvests from an aquaculture facility would not necessarily need to focus on ending or preventing overfishing or rebuilding stocks. In these circumstances, Councils may propose alternative approaches for satisfying the NS1 requirements of the Magnuson-Stevens Act other than those set forth in these guidelines. Councils should document their rationale for any alternative approaches for these limited circumstances in an FMP or FMP amendment, which will be reviewed for consistency with the Magnuson-Stevens Act.

For a fishery in a federal FMP that has a large majority of harvest in state or territorial waters, the fishery should have ACL that takes into account the overall status of the stock, whether in state or federal waters or beyond. However, NMFS recognizes that AMs could only be applied to the portion of the fishery under federal jurisdiction. Given the jurisdictional issue, one approach proposed is that the overall ACL could be divided into a federal portion (federal-ACL) and a state portion (state-ACL). AMs would then be triggered when the federal-ACL was reached or projected to be reached (see further explanation in “Accountability Measures” section below).

X. MSRA Requirements for SSCs Related to ACLs

The MSRA added new requirements for SSCs in the MSA. New section

302(g)(1)(B) of the MSA states that an SSC for each Regional Fishery Management Council “shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations for acceptable biological catch, preventing overfishing, maximum sustainable yield, and achieving rebuilding targets, and reports on stock status and health, bycatch, habitat status, social and economic impacts of management measures, and sustainability of fishing practices.” New section 302(g)(1)(E) provides that “The Secretary and each Council may establish a peer review process for that Council for scientific information used to advise the Council about the conservation and management of the fishery.” In addition, new section 302(h)(6) provides that each Regional Fishery Management Council is required to “develop annual catch limits for each of its managed fisheries that may not exceed the fishing level recommendations of its scientific and statistical committee or the peer review process established under subsection (g).”

NMFS recognizes that there is variability in the peer review processes and involvement of SSCs amongst the various Councils. In addition, the above statutory sections could be subject to different interpretations. While MSA section 302(h)(6) refers generally to “fishing level recommendations,” section 302(g)(1)(B) refers to recommendations for ABC and MSY, among other things, and section 302(g)(1)(E) refers generally to “scientific information.” Further, the text provides for advice from the SSC but also refers to peer review processes, leaving open a question about the role and relationship between the two. NMFS believes that clear processes for implementing these provisions are important in order to ensure that Councils get the information needed to establish ACL mechanisms, prevent confusion in the decision making process, and ensure general consistency in approaches taken.

For purposes of setting ACLs, a critical piece of scientific advice that Councils will need will be the ABC. Taking this into account, and considering the new requirements in light of existing SSC, Council, and peer review processes, NMFS proposes that the Councils establish a process that could be included in their Statement of Organization, Practices and Procedures (see § 600.115) which will: Establish an ABC control rule, identify the body that will apply the ABC control rule (i.e., calculates the ABC), identify the review process that will verify the resulting

ABC, and confirm that the SSC recommends the ABC to the Council. For Secretarial FMPs or FMP amendments, agency scientists or a peer review process would provide the scientific advice to establish ABC. For fisheries managed under international agreements in which the United States participates (referred to in this action as “international fisheries”), stock assessments are conducted through international scientific bodies that may include U.S. and non-U.S. scientists. While the United States promotes fishery conservation and management principles as embodied in the MSA (see, e.g., MSA section 102(c)), it cannot guarantee that international actions will be consistent with the Act or NS1 guidelines. Thus, an ABC as defined in these guidelines would not be required for international fisheries.

For stock and stock complexes required to have an ABC, NMFS recommends that each Council should establish an ABC control rule (see § 600.310(f)(4) of this proposed action) based on scientific advice from its SSC. The process of establishing an ABC control rule could also involve science advisors or the peer review process established under MSA section 302(g)(1)(E). Stock assessment scientists, a plan development team, or other designated body would then apply the ABC control rule. If a peer review process is established it should investigate the technical merits of stock assessments and other scientific information used by the SSC. For example, a peer review process (e.g., Stock Assessment Review Panel) could validate the ABC calculation and then pass their results to the SSC. Ultimately, the SSC should make the formal ABC recommendation to the Council. For Council-managed fisheries, the peer review process is not a substitute for the SSC, and should work in conjunction with the SSC.

XI. MSY, OY, and SDC: A Review

MSY, OY, and SDC are concepts described in the current NS1 guidelines, and MSRA did not effect changes to the MSA that would require changes to these concepts. The following sections provide a review of MSY, OY, and SDC and an explanation of the relationship between them and the proposed guidance on ACLs and other requirements.

MSY is the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological and environmental conditions and fishery technological characteristics. Any estimate of MSY depends on the population dynamics of

the stock and the characteristics of the fisheries (e.g. gear selectivity). MSY stock size (B_{msy}) is the long-term average size of the stock or stock complex, measured in terms of spawning biomass, or other appropriate measure of the stock's reproductive potential, that would be achieved by fishing at F_{msy} . OY is the amount of fish that will provide the greatest overall benefit to the Nation, while preventing overfishing, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems. OY is prescribed on the basis of the MSY from the fishery, as reduced by relevant economic, social or ecological factors. In the case of an overfished fishery, OY provides for rebuilding to a level consistent with producing MSY in such a fishery. In NS1, use of the phrase, “achieving, on a continuing basis, the optimum yield from each fishery” means producing, from each stock, stock complex or fishery a long-term series of catches such that the average catch is equal to OY, overfishing is prevented, the long term average biomass is near or above B_{msy} , and overfished stocks are rebuilt in as short a time as possible as specified in MSA section 304(e)(4). OY might be established at the stock or stock complex level, or for a fishery comprised of stocks, many of which have their own ACL and ACT (e.g., groundfish of the Gulf of Alaska and groundfish of the Bering Sea and Aleutian Islands).

Section 3(34) of the MSA states that “overfishing” and “overfished” mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis. To reduce confusion and conform to usage of those terms in other fisheries worldwide, in the current NS1 guidelines, NMFS interpreted these terms so that “overfished” pertains to the biomass of the stock or stock complex, and “overfishing” pertains to a rate or level of removal of fish from the stock or stock complex. The current NS1 guidelines also provide for SDC, which are quantifiable factors for determining whether a stock or stock complex is overfished or if overfishing is occurring. An overfished definition consists of a measure of stock abundance called the minimum stock size threshold (MSST), below which a stock's or stock complex's capacity to produce MSY on a continuing basis is jeopardized. Overfishing of a stock or stock complex occurs whenever a stock or stock complex is subjected to a rate or level of fishing mortality, called the

maximum fishing mortality threshold (MFMT), above which the stock's or stock complex's capacity to produce MSY on a continuing basis is jeopardized or annual catch exceeds a stock's or stock complex's OFL. MSRA made no changes to the MSA that would necessitate different interpretations of these terms or different approaches to these concepts.

XII. Description of the Relationship of OFL to MSY and ACT to OY

National Standard 1 establishes the relationship between conservation and management measures, preventing overfishing, and achieving OY from each stock, stock complex or fishery. The following sections describe in detail NMFS' proposed guidance on ACLs and other new requirements. Among other things, the proposed guidance introduces new terms—overfishing limit (OFL) and annual catch target (ACT)—which are not set forth in the MSA but which NMFS believes would be helpful to implement the statutory requirements. As an overview, OFL is an annual amount of catch that corresponds to the estimate of MFMT applied to a stock or complex's abundance; MSY is the long-term average of such catches. The current NS1 guidelines define overfishing with regard to MFMT, which is a rate of fishing. The use of OFL would provide another method for measuring overfishing by allowing the comparison of a stock or stock complexes' annual catch to its OFL; if catch exceeds OFL, overfishing is occurring. It is recommended that ABC would be set below OFL to take into account the scientific uncertainty in the estimate of OFL.

ACL would be the limit that triggers AMs, and ACT would be the management target for the fishery. Management measures for a fishery should, on an annual basis, achieve the ACT and prevent the ACL from being exceeded. The long-term objective is to achieve OY through annual achievement of ACT.

XIII. Definition Framework for OFL, ABC, ACL, and ACT

The MSRA does not define ACLs, AMs, and ABC, and there are many different ways in which these terms can be defined. The voluminous comments that NMFS received during scoping reflects the wide range of possible interpretations and approaches. For example, some commenters felt that ACL should be considered a target catch level and others felt it should be a limit that should not be approached or reached. Many commenters suggested,

in general, that a buffer be implemented between management targets and limits in order to prevent overfishing and account for uncertainty. Over the past year, NMFS spent considerable time reviewing different interpretations of the ACL requirement in light of MSA sections 303(a)(15), 302(h)(6), and 302(g) and other sections of the MSA, and taking into consideration the current NS1 guidelines, previously proposed changes to those guidelines, existing FMPs and FMP amendments, scientific and management roles in the decision making process, and public comment. Based on this review, NMFS proposes the following definitions for ACL, AM, and ABC, and also for ACT and OFL:

1. Overfishing limit (OFL) means “the annual amount of catch that corresponds to the estimate of MFMT applied to a stock or stock complex's abundance and is expressed in terms of numbers or weight of fish.” See § 600.310(e)(2)(i)(D) of this proposed action.

2. Acceptable biological catch (ABC) means “a level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and should be specified based on the ABC control rule.” See § 600.310(f)(2)(ii) of this proposed action.

3. Annual catch limit (ACL) means “the level of annual catch of a stock or stock complex that serves as the basis for invoking accountability measures.” See § 600.310(f)(2)(iv) of this proposed action.

4. Annual catch target (ACT) means “an amount of annual catch of a stock or stock complex that is the management target of the fishery. A stock or stock complex's ACT should usually be less than its ACL and results from the application of the ACT control rule. If sector-ACLs have been established, each one should have a corresponding sector-ACT.” See §§ 600.310(f)(2)(v) and (f)(6) of this proposed action.

5. Accountability measures (AMs) means “management controls that prevent ACLs or sector-ACLs from being exceeded (inseason AMs), where possible, and correct or mitigate overages if they occur.” See § 600.310(g) of this proposed action.

As proposed in this action, the relationship between the above terms would be $OFL \geq ABC \geq ACL \geq ACT$ (see Figure 2). Because a primary goal of the MSA, and management responsibility of NMFS and the Councils, is to end and prevent overfishing, rather than account for it after it occurs, NMFS believes that a good approach to management is to

have $OFL > ABC$ and $ACL > ACT$. The ABC is lower than the OFL to address scientific uncertainty in the estimate of OFL, and ACT is lower than the ACL to address uncertainty in the accounting for catch and in the degree to which management measures can control catch to the target level.

OFL is an annual amount of catch that corresponds to the estimate of MFMT applied to a stock or complex's abundance, and MSY is the long-term average of such catches. NMFS proposes that OFL be the upper bound of ABC, but that ABC should usually be reduced from the OFL to account for scientific uncertainty in the estimate of OFL. For overfished stocks, ABC must also be set to reflect the annual catch that is consistent with the rebuilding plan for that stock. Therefore, if a stock is being managed under a rebuilding program, its ABC should be lower during some or all stages of rebuilding than when the stock is rebuilt. The ABC will be set on the basis of the ABC control rule.

The proposed guidelines would have the Councils set the ACL as a level of catch specified for a stock or stock complex each year that cannot exceed its ABC. If a stock or stock complex's catch exceeds its ACL, AMs will be invoked as specified in the FMP. The ACL may typically be equal to the ABC and setting the ACL provides an opportunity to divide the total ACL into sector-specific ACLs. As noted above, the purpose of the ACT is to address management uncertainty. The ACT would be the target catch of a stock or stock complex that a fishery is managed to attain and should generally be less than the stock or stock complex's ACL. “Catch” includes fish that are retained for any purpose, as well as mortality of fish that are discarded (see § 600.310(f)(2)(i) of this proposed action). Therefore, for fisheries where bycatch estimates are not available in a timely enough manner to manage annual catch, targets may be specified for landings, so long as an estimate of bycatch is accounted for such that total of landings and bycatch will not exceed the stock's or stock complex's ACL. For a stock with sufficient inseason data monitoring, the fishery for that stock would be closed in time to prevent the ACL from being exceeded.

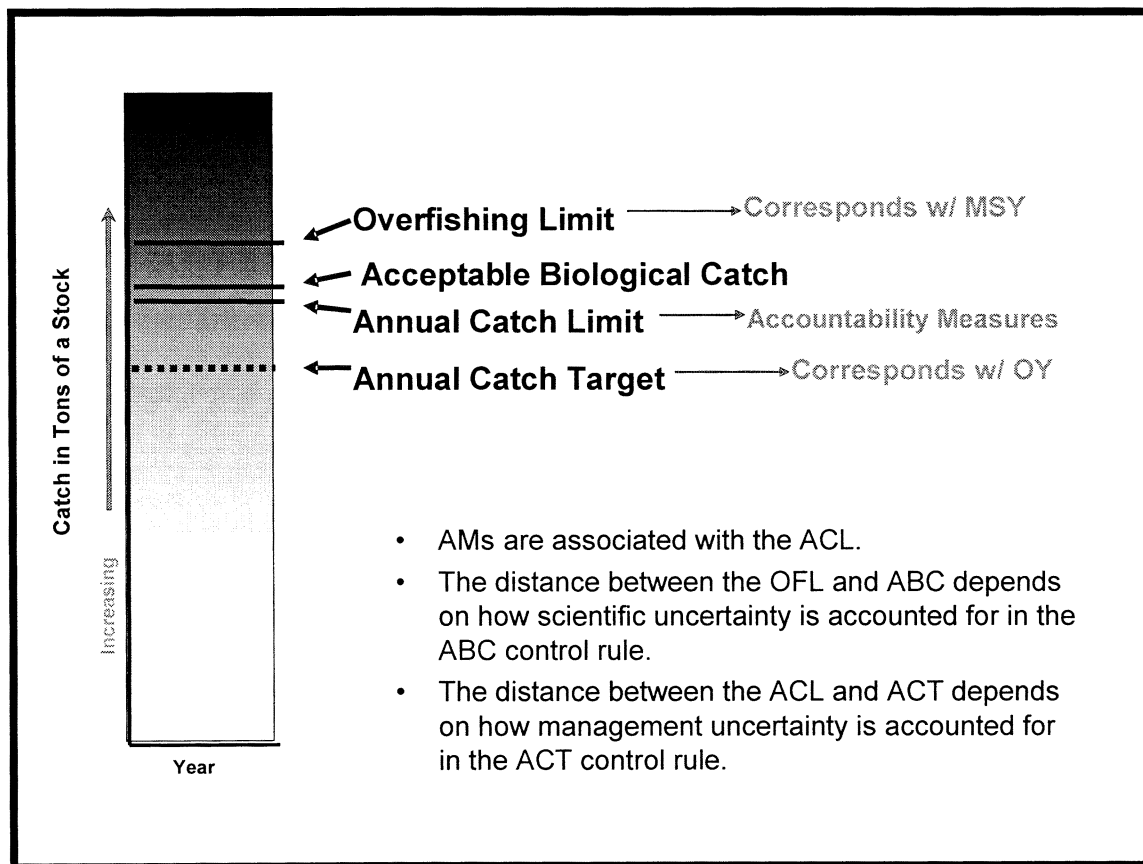
NMFS notes that when it published an initial notice about ACLs, ACT was not a parameter used when exploring the concept of how to make ACLs and AMs operational. At that time, NMFS suggested an initial approach of $OFL > ABC \geq ACL$ with ACL as the target catch that management measures should try to attain. Under that approach, if catch of a stock reached the OFL, its

fishery would be closed. During the scoping period, NMFS received some public comments expressing concern about the use of an ACL as a management target as opposed to a

“limit.” Also, the framework contained in this proposed rule provides for better separation between scientific uncertainty in estimating OFL (i.e., a recommendation that ABC be lower

than OFL), and management uncertainty and OY factors indicating that an ACT be lower than the ACL.

Figure 2: Relationship between OFL, ABC, ACL and ACT (see discussion of the ABC and ACT control rules below).



XIV. Control Rules

Control rules are harvest strategies that specify how a stock's or stock complex's catch will be modified in response to one or more factors, particularly estimated stock size. The current NS1 guidelines include MSY control rules which are “limit” control rules and OY control rules which are “target” control rules. For any stock, the limit control rule results in a higher amount than the target control rule for a given stock abundance. Because of the new MSA requirement for annual catch limits to end and prevent overfishing for stocks in a fishery, NMFS proposes that MSY control rules be replaced by ABC control rules and become the new limit control rule, and OY control rules be

replaced by ACT control rules and become the new target control rule. This would align the control rules more directly with the new requirement to specify an ABC and an ACL for stocks in the fishery (see earlier discussion in the preamble for the relationship between OFL and MSY, and between ACT and OY).

ABC and ACT control rules should be developed for each stock when possible. For stock complexes, ABC and ACT control rules should be developed for each indicator stock or for the stock complex as a whole. ACTs should be set with the intention that they typically will be achieved. A stock's or stock complex's ACT control rule should result in lower target catches than the

ABC control rule would, for all levels of a stock's or stock complex's abundance.

In the proposed revisions to NS1 guidelines, an ABC control rule is a specified approach to setting the ABC for a stock or stock complex as a function of the scientific uncertainty in the estimate of OFL. An ACT control rule is an approach to setting the ACT for each stock and stock complex such that the risk of exceeding ACL due to management uncertainty (ability to control catch and variability in catch data) is an acceptably low level. Both control rules are designed to reduce the risk that overfishing will occur.

For rebuilding stocks, the ABC, ACL, and ACT should be set at lower levels than for rebuilt stocks because two

objectives are combined. First, overfishing should not occur; and second, rebuilding at a rate commensurate with the stock's rebuilding plan should occur. This means that, for a rebuilding stock, a lower target fishing mortality rate may be needed to accomplish rebuilding, in addition to avoiding overfishing (i.e., ACL and ACT are lower than they would be if the stock was rebuilt).

XV. Sector ACLs, ACTs, and AMs

A Council may decide, but is not required, to divide the ACL into sector-ACLs. "Sector" for purposes of the NS1 guidelines means a distinct user group to which separate management strategies and catch quotas apply. Examples of sectors could include the commercial sector, recreational sector, or various gear groups within a fishery. It is up to each Council to decide how to designate sectors, if any. If sector-ACLs are established, sector-AMs and sector-ACTs must be developed for each sector-ACL. In cases where states cooperatively manage a stock, it is possible that a sector ACL could be further subdivided in order to establish "subsector" ACLs and ACTs for various states to align with current management of catch limits or quotas in the state fisheries. The system of ACLs and AMs must be effective and equitable and protect the stock as a whole from overfishing. The sum of a stock's sector-ACLs must not exceed the stock's ACL. If sector-ACLs and sector-AMs are established, additional AMs at the stock level would also be appropriate. A sector must be closed inseason if timely catch data indicates its ACL has been reached. If a sector does not have timely inseason fisheries data, or has a history of annual overages, then a Council should establish a large enough difference between a sector's ACT and ACL to improve the probability that the sector-ACL and the stock's ACL are not exceeded.

XVI. Accountability Measures

AMs are management controls implemented for stocks such that exceeding the ACL or sector-ACL is prevented, where possible, and corrected or mitigated if it occurs (see § 600.310(g) of this proposed action). AMs include: (1) Those that are applied inseason and designed to prevent the ACL from being reached; (2) measures applied after the fishing year that are designed to address the operational issue that caused the ACL overage, ensuring it does not happen in subsequent fishing years, and, as necessary, address any biological harm to the stock; and (3) those based on

multi-year average data which are still reviewed and applied annually (see discussion below). AMs should address and minimize both the frequency of overages and the magnitude of an overage. AMs should be designed so that if an ACL is exceeded, specific adjustments are effective in the next fishing year, or as soon as possible, with explanation of why more timely adjustment is not possible.

If timely inseason fishery catch data are available for a stock, Councils should ensure their FMPs contain inseason closure authority as an AM to prevent a stock's ACL from being exceeded. Where fishery catch data are not timely enough to implement inseason AMs, the ACT should be adjusted downward from the ACL to account for the increased management uncertainty and the delayed ability to implement AMs.

A "multiyear plan" as referenced in section 303(a)(15) of the MSA is a plan that establishes harvest specifications or harvest guidelines for each year of a time period greater than one year. Because "multiyear plans" establish ACLs and ACTs for more than one year at a time, they should include AMs that provide if an ACL is exceeded in one year, then a subsequent year's harvest specification (including ACLs and ACTs) could be revised (see § 600.310(f)(5)(i) of this proposed action).

Some fisheries have highly variable annual catches and lack reliable inseason or annual data on which to base AMs. If there are insufficient data upon which to compare catch to ACL, either inseason or on an annual basis, a Council could base AMs on comparison of average catch to average ACL over a three-year moving average period or, if supported by analysis, some other appropriate multi-year period (see § 600.310(g)(4) of this proposed action). As a performance standard, if the average catch exceeds the average ACL more than once in the last four years, then the ACL, ACT and AM system should be re-evaluated to improve its performance. The initial ACL and management measures should incorporate information from previous years so that AMs based on average ACLs can be applied from the first year.

If a stock is in a rebuilding plan and its ACL is exceeded, the AMs should include overage adjustments that reduce the ACL in the next fishing year by the full amount of the overage, unless the best scientific information available shows that a reduced overage adjustment is sufficient, or no adjustment is needed to mitigate the effects of the overage. This AM is

important to increase the likelihood that the stock will continue to rebuild.

As discussed earlier, stocks and stock complexes in federal FMPs that have a large majority of harvest in state or territorial waters should have an ACL that takes into consideration the overall status of the stock. However, federal management would be limited to that portion of the fishery under federal jurisdiction. Options for AMs that a Council could consider for stocks or stock complexes caught mostly in state or territorial waters would include, but are not limited to: (1) Close the EEZ when the federal portion of the ACL is reached, or (2) close the EEZ when the overall stock or stock complex's ACL is reached. The AMs should ensure that federal managers are doing as much as possible to end and prevent overfishing. When stocks are co-managed by federal, state, tribal, and/or territorial fishery managers, the goal should be to develop collaborative conservation and management strategies, and scientific capacity to support such strategies, to prevent overfishing of shared stocks and ensure their sustainability.

XVII. Summary of Items To Include in FMPs

This section provides a summary of items that Councils should include in their FMPs and FMP amendments in order to address ACL, AM, and other aspects of the proposed NS1 guidelines. Some items are specific to new MSRA provisions. Others were required prior to MSRA, but are included here so as to be comprehensive. Councils may review their FMPs to decide if all stocks are "in the fishery" or whether some fit the category of "ecosystem component species" and amend their FMP as appropriate. If they do not establish EC species through an FMP amendment, then all stocks in an FMP are presumed to be "in the fishery." For all stocks and stock complexes that are in the fishery, the Councils should evaluate and describe the following items in their FMPs and amend the FMPs, if necessary, to align their management objectives to end or prevent overfishing (see § 600.310(c) of this proposed action): (1) MSY and SDC, (2) OY at the stock, stock complex or fishery level, (3) ABC control rule, (4) ACLs and mechanisms for setting ACLs and possible sector-specific ACLs in relationship to the ABC, (5) ACT control rule, (6) AMs and AM mechanisms, and (7) stocks and stock complexes that have statutory exceptions from ACLs or fall under limited circumstances which require different approaches to meet the ACL requirements (e.g., ESA-listed

stocks and harvests from aquaculture facilities).

The Councils should evaluate the extent to which their FMPs comply with requirements to define MSY and OY for stocks in the fishery, and the reasons that OY is reduced from MSY (see § 600.310(e)(3)(iv) of this proposed action). An overall objective of management of federal fisheries under the MSA is to conserve fishery resources so as to prevent overfishing and achieve OY (see sections 2(a)(6) and 2(b)(4) of the MSA). OY is based on MSY for a fishery, as reduced for economic, social, or ecological reasons (see section 3(33)(B) of the MSA). Therefore, it is important that all FMPs have MSY and OY prescribed correctly.

FMPs should contain a description of fisheries data for the stocks, stock complexes, and ecosystem component species. The sources of fishing mortality, such as commercial catch (both landed and discarded), recreational catch, and bycatch in other fisheries should be listed in the FMP for each fishery, along with a description of the data collection and estimation methods used to quantify total catch mortality in each fishery. The description of the data collection methods used to monitor the fishery should include information on the frequency that those data are collected and updated and the scope of sampling coverage for the fishery. In addition, the FMP should describe how those data are used to determine the relationship between total catch at a given point in time and the ACL for a stock or stock complex.

FMPs should explain issues related to shared jurisdiction of stocks (if any), and the degree to which ACLs and AMs established by the Councils will ensure that overfishing does not occur on the stock as a whole.

NMFS is aware that existing FMPs may use terms that are similar to, associated with, or may be equivalent to ABC, ACL, ACT, and AM in many fisheries for which annual specifications are set for different stocks or stock complexes. NMFS' preference is that, as Councils revise their FMPs, they use the same terms as set forth in the NS1 guidelines as finalized. However, given the longstanding use of terms under certain FMPs, if changing terminology could cause confusion, Councils could opt to retain existing terminology and explain in a proposed rule how the terminology and approaches in the FMPs are consistent with those set forth in the NS1 guidelines.

Councils should amend their FMPs to provide explicit narrative of how the FMP objectives and annual management

measures will work with ACLs and AMs. All stocks and stock complexes should have an annual or multiyear specification process for stocks managed in a fishery. An annual or multiyear specification process for setting or adjusting ACLs provides a timely, consistent method that the public and stakeholders can understand, and that provides an opportunity for public comment. Such a process could also provide a method for assigning an ACL, ACT, and AM to a "stock having a life cycle of approximately one year" that is undergoing overfishing.

XVIII. Change in Timetable When Establishing a Rebuilding Plan

The MSA provides that the Secretary shall annually identify stocks and stock complexes that are overfished or approaching a condition of being overfished; notify the appropriate Council at any time when a stock or stock complex is determined to be overfished; and notify the appropriate Council when adequate progress is not being made under existing FMPs, FMP amendments, or regulations (see MSA sections 304(e)(1), (2), and (7)). MSRA did not change these identification and notification provisions but revised the timing of Council actions. Currently, the Councils have 1 year to prepare an FMP, an FMP amendment, or proposed regulations (see MSA sections 304(e)(3) and 304 note (Effective Date for Subsection (c))). Beginning July 12, 2009, the Councils have 2 years from the date of an identification or notification to prepare and implement an FMP, an FMP amendment, or proposed regulations "to end overfishing immediately in the fishery and to rebuild affected stocks * * * or to prevent overfishing from occurring in the fishery whenever such fishery is identified as approaching an overfished condition" (see MSA section 304(e)(3), as revised by MSRA section 104(c)). To facilitate timely implementation of actions under revised section 304(e)(3), the Councils should submit an FMP, an FMP amendment, or proposed regulations within 15 months of an identification or notification under this section. This will provide the Secretary with 9 months to implement the measures, if approved (see § 600.310(j)(2)(ii) of this proposed action).

While MSA section 304(e)(3) provides for two years for a Council to prepare and implement an FMP, FMP amendment, or proposed regulations, as discussed earlier, MSA section 303(a)(15) has a separate requirement for FMPs and ACLs that is effective in fishing year 2010 for fisheries

determined to be subject to overfishing and in fishing year 2011 for all other fisheries. Thus, as of 2010 and beyond, for a stock and stock complex determined to be overfished and experiencing overfishing, a Council needs to take measures consistent with MSA section 303(a)(15) that address overfishing while the rebuilding plan is under development.

XIX. Establishing the Length of Time for a Rebuilding Plan

NMFS proposes clarifying guidance for calculating the target time to rebuild (T_{target}) in rebuilding plans for stocks (see § 600.310(j)(3)(i)(E) of this proposed action), based on experiences with FMPs since the last NS1 guideline revisions. The purpose of this clarification is to emphasize that the rebuilding time must be "as short as possible," taking several factors into account (see MSA section 304(e)(4)(A)(i)). Establishing the T_{target} should be based on the minimum time for rebuilding a stock (T_{min}), and factors described in § 600.310(j)(3) of this proposed action with priority given to rebuilding in as short a time as possible. T_{target} shall not exceed the maximum time allowable for rebuilding (T_{max}) and should generally be less than T_{max} .

XX. Action When a Stock's Rebuilding Plan Ends and the Stock Is Not Rebuilt

Many rebuilding plans for overfished stocks under section 304(e) of the MSA were initiated in 1998, or later, and some of those plans are reaching the end of their rebuilding periods such that a stock is no longer overfished, but not rebuilt. NMFS does not have explicit guidance in the NS1 guidelines to describe what a Council should do under such circumstances. Therefore, NMFS proposes that if a stock reaches the end of its rebuilding plan period and it is not yet determined to be rebuilt, then the rebuilding F should not be increased until the stock has been demonstrated to be rebuilt (see § 600.310(j)(3)(ii) of this proposed action). If the rebuilding plan was based on a T_{target} that was less than T_{max} , and the stock is not rebuilt by T_{target} , rebuilding measures should be revised if necessary, such that the stock will be rebuilt by T_{max} . If the stock has not rebuilt by T_{max} , and the rebuilding F is greater than 75 percent of MFMT, then the rebuilding F should be reduced to no more than 75 percent of MFMT until the stock has been demonstrated to be rebuilt.

XXI. Changes to the Definitions of Some Components of MSY

NMFS is proposing changes to the definitions of some components of MSY. The purposes of these changes are to improve some portions of the MSY related definitions and to further clarify how MSY is estimated. The definition of MSY in the NS1 guidelines would remain the same for the most part but the phrase “and fishery technological characteristics (e.g., gear selectivity) and the distribution of catch among fleets” would be added to the end of the definition (see § 600.310(e)(1)(i)(A) of this proposed action). The purpose of this change is to acknowledge that MSY also depends upon gear selectivity (age at entry) and the catch performance of the fishery, which can depend on the relative proportion of catch between different fleets with differing fishing characteristics. The definition of MSY stock size would be changed in two places. Currently, the guidelines state that “MSY stock size means the long-term average size of the stock or stock complex, measured in terms of spawning biomass or other appropriate units that would be achieved under a MSY control rule in which the fishing mortality rate is constant.” In the proposed guidelines (see § 600.310(e)(1)(i)(C) of the proposed action), NMFS clarifies that “other appropriate units” means an “appropriate measure of the stock’s reproductive potential.” NMFS also replaces the statement that “the fishing mortality rate is constant” with “Fmsy.” NMFS also added a definition for MSY fishing mortality rate (Fmsy) (see § 600.310(e)(1)(i)(B) of the proposed action), which was lacking in the current guidelines. MSY fishing mortality “is the fishing mortality rate that, if applied over the long term, would result in MSY.”

XXII. Social, Economic and Ecological Factors as They Relate to OY

NMFS proposes additional guidance to better describe social and ecological factors, and minor revisions to the economic factors as they relate to setting OY for a stock (see § 600.310(e)(3)(iv) of this proposed action). The revisions to the social factors describe fishery-related indicators and non-fishery related indicators that should be considered when OY needs to be reduced for a stock or stock complex.

XXIII. Scope of This Proposed Action

NMFS received voluminous comments during its scoping comment period for ACLs and AMs, including proposals to strengthen guidance on

ecosystem considerations when setting ACLs and AMs. While NMFS has carefully considered all comments received, it will not be able to include all proposed NS1 revisions in this action. These proposed revisions to the NS1 guidelines will address primarily the need to have ACL and AM mechanisms and ACLs and AMs in place such that ACLs end overfishing in 2010, for stocks undergoing overfishing, and prevent overfishing for all other stocks beginning in 2011.

NMFS intends to withdraw most of the proposed revisions to the NS1 guidelines that were published in 2005 in a separate withdrawal of a proposed rule action. A few of the topics from the 2005 rule are considered in this action, such as: (1) Establishing the length of time for a rebuilding plan; (2) action to take when a stock is not determined to be rebuilt at the end of its rebuilding plan; and (3) the definition of several components of MSY. Other proposed revisions considered in the 2005 proposed NS1 guidelines and suggested during the comment period for this action will be considered by NMFS for possible inclusion in subsequent revisions to the NS1 guidelines.

XXIV. Republishing Codified Text in Its Entirety

For clarity and convenience of the reader, this proposed rule would revise § 600.310 in its entirety. The following describes the changes to § 600.310 that are being proposed.

In the proposed revisions to § 600.310, paragraph (b)—*General*, would be revised to contain a general outline of information provided by the NS1 guidelines. Current paragraph (b) only contains a brief summary of the relationship between MSY and OY.

Current paragraph (c)—MSY is revised and redesignated paragraph (e)(1).

Current paragraph (d)(1)—*Definitions*, is revised and redesignated paragraph (e)(2)(i).

Current paragraph (d)(2)—*Specification of status determination criteria*, is revised and redesignated paragraph (e)(2)(ii).

Current paragraph (d)(3)—*Relationship of status determination criteria to other national standards* is revised, redesignated paragraph (l) and renamed, “*Relationship of National Standard 1 to other national standards*.”

Current paragraph (d)(6)—*Exceptions*, is revised, redesignated paragraph (m), and renamed, “*Exceptions to requirements to prevent overfishing*.”

Current paragraph (e)—*Ending overfishing and rebuilding overfished*

stocks, is revised and redesignated paragraph (j)—*Council actions to address overfishing and rebuilding for stocks and stock complexes in the fishery*.

Current paragraph (f)—*OY* is redesignated paragraph (e)(3).

Revised paragraphs with much different content include: Paragraph (c)—*Summary of Items to Include in FMPs Related to NS1*, paragraph (d)—*Classifying stocks in an FMP*, and paragraph (f)—*Acceptable Biological Catch, Annual Catch Limits, and Annual Catch Targets*.

New paragraphs that contain new content not covered in the current NS1 guidelines include: (g) *Accountability measures*, (h) *Establishing ACL and AM mechanisms in FMPs*, (i) *Fisheries data*, and (k) *International overfishing*.

XXV. Classification

Pursuant to the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that this proposed rule is consistent with the Magnuson-Stevens Act, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be significant for purposes of Executive Order 12866. NOAA has prepared a regulatory impact review of this rulemaking, which is available at: <http://www.nmfs.noaa.gov/msa2007/catchlimits.htm>. This analysis discusses various policy options that NOAA considered in preparation of this proposed rule, given NOAA’s interpretation of the statutory terms in the MSRA, such as the appropriate meaning of the word “limit” in “Annual Catch Limit,” and NOAA’s belief that it has become necessary for Councils to consider separately the uncertainties in fishery management and the scientific uncertainties in stock evaluation in order to effectively set fishery management policies and ensure fulfillment of the goals to end overfishing and rebuild overfished stocks.

NOAA invites the public to comment on this proposal, the supporting analysis, and its underlying interpretation of the analytical requirements of the MSRA. In particular, NOAA seeks comment on: The appropriate interplay of the OFL, ABC, ACL and ACT; whether the Council’s experience with MSY and OY would readily translate into these new concepts; whether the ACT and ACT control rules, as proposed, would be effective tools in managing fisheries at risk; the degree to which Councils should have the flexibility to specify stringent AMs to prevent the ACL from

being exceeded in lieu of setting an ACT and ACT control rules; and the expected burden of these analytical requirements, both in terms of time and resources.

The Chief Counsel for Regulation of the Department of Commerce certified to the Chief Counsel for Advocacy of the Small Business Administration that these proposed revisions to the NS1 guidelines, if adopted, would not have any significant economic impact on a substantial number of small entities, as follows:

I certify that the attached proposed action issued under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) will not have any significant economic impacts on a substantial number of small entities, as defined under the Regulatory Flexibility Act. The proposed action would revise the National Standard 1 (NS1) guidelines at 50 CFR 600.310.

The proposed revisions to the NS1 guidelines provide guidance on how to address new overfishing and rebuilding and related requirements under MSA sections 303(a)(15), 304(e), and other sections. Pursuant to section 301(b) of the Act, the NS1 guidelines do not have the force and effect of law. Regional Fishery Management Councils (Councils) and the Secretary of Commerce would use the NS1 guidelines when developing or amending FMPs to implement annual catch limits (ACLs) and accountability measures (AMs) and to take necessary actions to rebuild overfished fisheries. ACL and AM requirements under section 303(a)(15) of the Magnuson-Stevens Act are effective in fishing year 2010, for stocks undergoing overfishing and in fishing year 2011, for all other fisheries. NMFS believes that revisions to the NS1 guidelines will assist the Councils and the Secretary in addressing new MSA requirements, ensure greater consistency in approaches to ending overfishing and rebuilding stocks, increase efficiency in reviewing actions and tracking annual management performance, and improve communication between NMFS and the Councils.

Because the NS1 guidelines are general guidance and there is considerable diversity in the different federally-managed fisheries, potential economic impacts of the guidelines are highly speculative. As the Councils and/or the Secretary apply these guidelines to specific fisheries, they will develop FMPs, FMP amendments, or other regulatory actions that will be accompanied by environmental, economic, and social analyses prepared pursuant to the Regulatory Flexibility Act, National Environmental Policy Act, and other statutes.

NMFS has identified a total of 59,823 commercial vessel permit holders and 18,486 headboat and charter boat vessel permits. A total of 26,074 recreational permits exist for Atlantic highly migratory species (HMS). Operator permits are estimated at 6,636 and dealer permits were estimated at 7,550. However, it is important to note that in most cases each vessel possesses permits for several fisheries (multiple vessel permits). As such, the total number of vessel permits

(commercial, headboat and charter boat, and HMS recreational) grossly overestimate the actual number of vessels that are operating in these fisheries. All vessels included in the total vessel permits for each fishery are considered to be small entities for the purposes of the Regulatory Flexibility Act analysis. As a result, NMFS does not believe that these proposed revisions to the NS1 guidelines would place a substantial number of small entities at a disadvantage as compared to large entities or that it would reduce profit significantly. The NS1 guidelines would provide general guidance on ending and preventing overfishing and rebuilding fisheries, leaving considerable discretion to the Councils and the Secretary to consider alternative ways to accomplish these goals consistent with the NS, other provisions of the Magnuson-Stevens Act, and other applicable law. Therefore, an IRFA has not been prepared for this action.

These proposed revisions to the NS1 guidelines do not contain any new recordkeeping or reporting requirements subject to the Paperwork Reduction Act. When the Councils and the Secretary develop FMPs, FMP amendments, or other regulatory actions per the Magnuson-Stevens Act and NS1 guidelines, such actions may include new proposed collection-of-information requirements. In the event that new collection-of-information requirements are proposed, a specific analysis regarding the public's reporting burden would accompany such action. NMFS is not aware of any other relevant federal rules that may duplicate, overlap or conflict with the proposed rule.

List of Subjects in 50 CFR Part 600

Fisheries, Fishing, Reporting and recordkeeping requirements.

Dated: June 3, 2008.

Samuel D. Rauch, III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For the reasons stated in the preamble, 50 CFR part 600 is proposed to be amended as follows:

PART 600—MAGNUSON-STEVENSON ACT PROVISIONS

1. The authority citation for part 600 continues to read as follows:

Authority: 16 U.S.C. 1801 *et seq.*

2. Section 600.310 is revised to read as follows:

§ 600.310 National Standard 1—Optimum Yield.

(a) *Standard 1.* Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield (OY) from each fishery for the U.S. fishing industry.

(b) *General.* (1) The guidelines set forth in this section describe fishery management approaches to meet the objectives of National Standard 1 (NS1), and include guidance on:

(i) Specifying maximum sustainable yield (MSY) and OY;

(ii) Specifying status determination criteria (SDC) so that overfishing and overfished determinations can be made for stocks and stock complexes that are part of a fishery;

(iii) Preventing overfishing and achieving OY using a system of limits and targets, incorporation of scientific and management uncertainty in control rules, and adaptive management using annual catch limits (ACL) and measures to ensure accountability (AM); and

(iv) Rebuilding stocks and stock complexes.

(2) *Overview of Magnuson-Stevens Act concepts and provisions related to NS1—(i) MSY.* The Magnuson-Stevens Act establishes MSY as the basis for fishery management and requires that: The fishing mortality rate does not jeopardize the capacity of a stock or stock complex to produce MSY; the abundance of an overfished stock or stock complex be rebuilt to a level that is capable of producing MSY; and OY not exceed MSY.

(ii) *OY.* The determination of OY is a decisional mechanism for resolving the Magnuson-Stevens Act's conservation and management objectives, achieving a fishery management plan's (FMP) objectives, and balancing the various interests that comprise the greatest overall benefits to the Nation. OY is based on MSY as reduced under paragraphs (e)(3)(iii) and (iv) of this section. The most important limitation on the specification of OY is that the choice of OY and the conservation and management measures proposed to achieve it must prevent overfishing.

(iii) *ACLs and AMs.* Any FMP which is prepared by any Council shall establish a mechanism for specifying ACLs in the FMP (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability (Magnuson-Stevens Act section 303(a)(15)). Subject to certain exceptions and circumstances described in paragraph (h) of this section, this requirement takes effect in fishing year 2010, for fisheries determined subject to overfishing, and in fishing year 2011 for all other fisheries (Magnuson-Stevens Act section 303 note). "Council" includes the Regional Fishery Management Councils and the Secretary of Commerce, as appropriate (see § 600.305(c)(11)).

(iv) *Reference points.* SDC, MSY, acceptable biological catch (ABC), ACL, and annual catch target (ACT), which are described further in paragraphs (e)

and (f) of this section, are collectively referred to as “reference points.”

(v) *Scientific advice.* The Magnuson-Stevens Act has requirements regarding scientific and statistical committees (SSC) of the Regional Fishery Management Councils, including but not limited to, the following provisions:

(A) Each Regional Fishery Management Council shall establish an SSC as described in section 302(g)(1)(A) of the Magnuson-Stevens Act.

(B) Each SSC shall provide its Regional Fishery Management Council recommendations for ABC as well as other scientific advice, as described in Magnuson-Stevens Act section 302(g)(1)(B). The SSC may specify the type of information that should be included in the Stock Assessment and Fishery Evaluation (SAFE) report (see § 600.315).

(C) The Secretary and each Regional Fishery Management Council may establish a peer review process for that Regional Fishery Management Council for scientific information used to advise the Regional Fishery Management Council about the conservation and management of the fishery (see Magnuson-Stevens Act section 302(g)(1)(E)). If a peer review process is established, it should investigate the technical merits of stock assessments and other scientific information used by the SSC. The peer review process is not a substitute for the SSC and should work in conjunction with the SSC.

(D) Each Regional Fishery Management Council shall develop ACLs for each of its managed fisheries that may not exceed the fishing level recommendations of its SSC or peer review process (Magnuson-Stevens Act section 302(h)(6)).

(3) *Approach for setting limits and targets for consistency with NS1.* In general, when specifying limits and targets intended to avoid overfishing and achieve sustainable fisheries, Councils should take an approach that considers uncertainty in scientific information and management control of the fishery. These guidelines identify limit and target reference points which should be set lower as uncertainty increases such that there is a low risk that limits are exceeded as described in paragraphs (f)(4) and (f)(6) of this section.

(c) *Summary of items to include in FMPs related to NS1.* This section provides a summary of items that Councils should include in their FMPs and FMP amendments in order to address ACL, AM, and other aspects of the NS1 guidelines. As described in further detail in paragraphs (c)(1) through (7) of this section, Councils may

review their FMPs to decide if all stocks are “in the fishery” or whether some fit the category of “ecosystem component species” and amend their FMPs as appropriate. If they do not establish ecosystem component species through an FMP amendment, then all stocks in an FMP are presumed to be “in the fishery.” Councils should also describe fisheries data for the stocks, stock complexes, and ecosystem component species in their FMPs. For all stocks and stock complexes that are “in the fishery,” the Councils should evaluate and describe the following items in their FMPs and amend the FMPs, if necessary, to align their management objectives to end or prevent overfishing:

(1) MSY and SDC (see paragraphs (e)(1) and (2) of this section).

(2) OY at the stock, stock complex, or fishery level and provide the OY specification analysis (see paragraph (e)(3) of this section).

(3) ABC control rule (see paragraph (f)(6) of this section).

(4) ACLs and mechanisms for setting ACLs and possible sector-specific ACLs in relationship to the ABC (see paragraphs (f)(5) and (h) of this section).

(5) ACT control rule (see paragraph (f)(6) of this section).

(6) AMs and AM mechanisms (see paragraphs (g) and (h)(1) of this section).

(7) Stocks and stock complexes that have statutory exceptions from ACLs (see paragraph (h)(2) of this section) or which fall under limited circumstances which require different approaches to meet the ACL requirements (see paragraph (h)(3) of this section).

(d) *Classifying stocks in an FMP—(1) Introduction.* Magnuson-Stevens Act section 303(a)(2) requires that an FMP contain, among other things, a description of the species of fish involved in the fishery. FMPs include target stocks and may also include non-target species or stocks. All stocks listed in an FMP or FMP amendment are considered to be “in the fishery” unless they are identified as ecosystem component (EC) species through an FMP amendment process.

(2) *Stocks in a fishery.* Stocks in a fishery include: Target stocks; non-target stocks that are retained for sale or personal use; and non-target stocks that are not retained for sale or personal use and that are either determined to be subject to overfishing, approaching overfished, or overfished, or could become so, according to the best available information, without conservation and management measures. Stocks in a fishery may be grouped into stock complexes, as appropriate. Requirements for reference points and management measures for

these stocks are described throughout these guidelines.

(3) “Target stocks” are stocks that fishers seek to catch for sale or personal use, including “economic discards” as defined under Magnuson-Stevens Act section 3(9).

(4) “Non-target species” and “non-target stocks” are fish caught incidentally during the pursuit of target stocks in a fishery, including “regulatory discards” as defined under Magnuson-Stevens Act section 3(38). They may or may not be retained for sale or personal use. Non-target species may be included in a fishery and, if so, they should be identified at the stock level. Some non-target species may be identified in an FMP as ecosystem component (EC) species or stocks.

(5) “Ecosystem component (EC) species” are generally not retained for any purpose, although *de minimis* amounts might occasionally be retained. EC species may be identified at the species or stock level, and may be grouped into complexes. EC species may be included in an FMP or FMP amendment for any of the following reasons: For data collection purposes; for ecosystem considerations related to specification of OY for the associated fishery; as considerations in the development of conservation and management measures for the associated fishery; and/or to address other ecosystem issues. While EC species are not considered to be “in the fishery,” a Council should consider measures for the fishery to minimize bycatch and bycatch mortality of EC species consistent with National Standard 9, and to protect their associated role in the ecosystem. EC species do not require specification of reference points but should be monitored on a regular basis, to the extent practicable, to determine changes in their status or their vulnerability to the fishery. If necessary, they should be reclassified as “in the fishery.”

(6) *Reclassification.* A Council should monitor the catch resulting from a fishery on a regular basis to determine if the stocks and species are appropriately classified in the FMP. If the criteria previously used to classify a stock or species is no longer valid, the Council should reclassify it through an FMP amendment, which documents rationale for the decision.

(7) *Stocks or species identified in more than one FMP.* If a stock is identified in more than one fishery, Councils should choose which FMP will be the primary FMP in which management objectives, SDC, and other reference points for the stock are established. In most cases, the primary

FMP for a stock will be the one in which the stock is identified as a target stock. Other FMPs in which the stock is identified as part of a fishery should be consistent with the primary FMP.

(8) *Stock complex*. “Stock complex” means a group of stocks that are sufficiently similar in geographic distribution, life history, and vulnerabilities to the fishery such that the impact of management actions on the stocks is similar. Stocks may be grouped into complexes for various reasons, including where stocks in a multispecies fishery cannot be targeted independent of one another; where there is insufficient data to measure their status relative to SDC; or when it is not feasible for fishermen to distinguish individual stocks among their catch. The vulnerability of stocks to the fishery should be evaluated when determining if a particular stock complex should be established or reorganized, or if a particular stock should be included in a complex. Stock complexes may be comprised of: One or more indicator stocks, each of which has SDC and ACLs, and several other stocks; several stocks without an indicator stock, with SDC and an ACL for the complex as a whole; or one of more indicator stocks, each of which has SDC and management objectives, with an ACL for the complex as a whole (this situation might be applicable to some salmon species).

(9) *Indicator stocks*. An indicator stock is a stock that is used to help manage and evaluate stocks that are in a stock complex and do not have their own SDC. If an indicator stock is used to evaluate the status of a complex, it should be representative of the typical status of each stock within the complex, due to similarity in vulnerability. If the stocks within a stock complex have a wide range of vulnerability, they should be reorganized into different stock complexes that have similar vulnerabilities; otherwise the indicator stock should be chosen to represent the more vulnerable stocks within the complex. In instances where an indicator stock is less vulnerable than other members of the complex, management measures need to be more conservative so that the more vulnerable members of the complex are not at risk from the fishery. More than one indicator stock can be selected to provide more information about the status of the complex. Although the indicator stock(s) are used to evaluate the status of the complex, individual stocks within complexes should be examined periodically using available quantitative or qualitative information to evaluate whether a stock has become

overfished or may be subject to overfishing.

(e) *Features of MSY, SDC, and OY that should be identified in FMPs for all stocks and stock complexes in the fishery*—(1) *MSY*. Each FMP should include an estimate of MSY for the stocks and stock complexes in the fishery, as described in paragraph (d)(2) of this section).

(i) *Definitions*. (A) *MSY* is the largest long-term average catch or yield that can be taken from a stock or stock complex under prevailing ecological, environmental conditions and fishery technological characteristics (e.g., gear selectivity), and the distribution of catch among fleets.

(B) *MSY fishing mortality rate* (F_{msy}) is the fishing mortality rate that, if applied over the long term, would result in MSY.

(C) *MSY stock size* (B_{msy}) means the long-term average size of the stock or stock complex, measured in terms of spawning biomass or other appropriate measure of the stock's reproductive potential that would be achieved by fishing at F_{msy} .

(ii) *MSY for stocks*. MSY should be estimated for each stock based on the best scientific information available (see § 600.315).

(iii) *MSY for stock complexes*. MSY should be estimated on a stock-by-stock basis whenever possible. However, where MSY cannot be estimated for each stock in a stock complex, then MSY may be estimated for one or more indicator stocks for the complex or for the complex as a whole. When indicator stocks are used, the stock complex's MSY could be listed as “unknown,” while noting that the complex is managed on the basis of one or more indicator stocks that do have known, stock-specific MSYs or suitable proxies as described in paragraph (e)(1)(iv) of this section. When indicator stocks are not used, MSY or a suitable proxy should be calculated for the stock complex as a whole.

(iv) *Specifying MSY*. Because MSY is a long-term average, it need not be estimated annually, but it must be based on the best scientific information available (see § 600.315), and should be re-estimated as required by changes in long-term environmental or ecological conditions, fishery technological characteristics, or new scientific information. When data are insufficient to estimate MSY directly, Councils should adopt other measures of reproductive potential, based on the best scientific information available, that can serve as reasonable proxies for MSY, F_{msy} , and B_{msy} , to the extent possible. As MSY values are estimates

and will have some level of uncertainty associated with them, the degree of uncertainty in the estimates should be identified, when possible, through the stock assessment process and peer review (see § 600.335).

(2) *Status determination criteria*—(i) *Definitions*—(A) *Status determination criteria* (SDC) mean the quantifiable factors, MFMT, OFL, and MSST, or their proxies, that are used to determine if overfishing has occurred, or if the stock or stock complex is overfished. Magnuson-Stevens Act (section 3(34)) defines both “overfishing” and “overfished” to mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the MSY on a continuing basis. To avoid confusion, this section clarifies that “overfished” relates to biomass of a stock or stock complex, and “overfishing” pertains to a rate or level of removal of fish from a stock or stock complex.

(B) *Overfishing* (to overfish) occurs whenever a stock or stock complex is subjected to a level of fishing mortality or annual total catch that jeopardizes the capacity of a stock or stock complex to produce MSY on a continuing basis.

(C) *Maximum fishing mortality threshold* (MFMT) means the level of fishing mortality (F), on an annual basis, above which overfishing is occurring.

(D) *Overfishing limit* (OFL) means the annual amount of catch that corresponds to the estimate of MFMT applied to a stock or stock complex's abundance and is expressed in terms of numbers or weight of fish. MSY is the long-term average of such catches.

(E) *Overfished*. A stock or stock complex is considered “overfished” when its biomass has declined below a level that jeopardizes the capacity of the stock or stock complex to produce MSY on a continuing basis.

(F) *Minimum stock size threshold* (MSST) means the level of biomass below which the stock or stock complex is considered to be overfished.

(G) *Approaching an overfished condition*. A stock or stock complex is approaching an overfished condition when it is projected that there is more than a 50 percent chance that the biomass of the stock or stock complex will decline below the MSST within two years.

(ii) *Specification of SDC and overfishing and overfished determinations*. SDC must be expressed in a way that enables the Council to monitor each stock or stock complex in the FMP and determine annually, if possible, whether overfishing is occurring and whether the stock or stock complex is overfished. In

specifying SDC, a Council should provide an analysis of how the SDC were chosen and how they relate to reproductive potential. Each FMP must specify, to the extent possible, objective and measurable SDC as follows (see paragraphs (e)(2)(ii)(A) and (B) of this section):

(A) *SDC to determine overfishing status.* Each FMP should describe which of the following two methods will be used for each stock or stock complex to determine an overfishing status.

(1) *Fishing mortality rate exceeds MFMT.* Exceeding the MFMT for a period of 1 year or more constitutes overfishing. The MFMT or reasonable proxy may be expressed either as a single number (a fishing mortality rate or F value), or as a function of spawning biomass or other measure of reproductive potential. The MFMT must not exceed F_{msy} .

(2) *Catch exceeds the OFL.* Should the annual catch exceed the annual OFL for 1 year or more, the stock or stock complex is considered subject to overfishing.

(B) *SDC to determine overfished status.* The MSST or reasonable proxy should be expressed in terms of spawning biomass or other measure of reproductive potential. To the extent possible, the MSST should equal whichever of the following is greater: One-half the MSY stock size, or the minimum stock size at which rebuilding to the MSY level would be expected to occur within 10 years if the stock or stock complex were exploited at the MFMT specified under paragraph (e)(2)(ii)(A)(1) of this section. Should the estimated size of the stock or stock complex in a given year fall below this threshold, the stock or stock complex is considered overfished.

(iii) *Relationship of SDC to environmental change.* Some short-term environmental changes can alter the size of a stock or stock complex without affecting its long-term reproductive potential. Long-term environmental changes affect both the short-term size of the stock or stock complex and the long-term reproductive potential of the stock or stock complex.

(A) If environmental changes cause a stock or stock complex to fall below its MSST without affecting its long-term reproductive potential, fishing mortality must be constrained sufficiently to allow rebuilding within an acceptable time frame (also see paragraph (j)(3)(ii) of this section). SDC should not be respecified.

(B) If environmental changes affect the long-term reproductive potential of the stock or stock complex, one or more components of the SDC must be

respecified. Once SDC have been respecified, fishing mortality may or may not have to be reduced, depending on the status of the stock or stock complex with respect to the new criteria.

(C) If manmade environmental changes are partially responsible for a stock or stock complex being in an overfished condition, in addition to controlling fishing mortality, Councils should recommend restoration of habitat and other ameliorative programs, to the extent possible (see also the guidelines issued pursuant to section 305(b) of the Magnuson-Stevens Act for Council actions concerning essential fish habitat).

(iv) *Secretarial approval of SDC.* Secretarial approval or disapproval of proposed SDC will be based on consideration of whether the proposal:

(A) Has sufficient scientific merit;

(B) Contains the elements described in paragraph (e)(2)(ii) of this section;

(C) Provides a basis for objective measurement of the status of the stock or stock complex against the criteria; and

(D) Is operationally feasible.

(3) *Optimum yield*—(i) *Definitions*—(A) *Optimum yield (OY).* Magnuson-Stevens Act section 3(33) defines “optimum,” with respect to the yield from a fishery, as the amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities and taking into account the protection of marine ecosystems; that is prescribed on the basis of the MSY from the fishery, as reduced by any relevant economic, social, or ecological factor; and, in the case of an overfished fishery, that provides for rebuilding to a level consistent with producing the MSY in such fishery. OY may be established at the stock or stock complex level, or at the fishery level.

(B) In NS1, use of the phrase “achieving, on a continuing basis, the optimum yield from each fishery” means producing, from each stock, stock complex, or fishery: A long-term series of catches such that the average catch is equal to the OY, overfishing is prevented, the long term average biomass is near or above B_{msy} , and overfished stocks and stock complexes are rebuilt consistent with timing and other requirements of section 304(e)(4) of the Magnuson-Stevens Act and paragraph (j) of this section.

(ii) *General.* OY is a long-term average amount of desired yield from a stock, stock complex, or fishery. The long-term objective is to achieve OY through annual achievement of ACT, which is described in paragraph (f) of this

section. An FMP must contain conservation and management measures to achieve OY, and provisions for information collection that are designed to determine the degree to which OY is achieved on a continuing basis—that is, to result in a long-term average catch equal to the long-term average OY, through an effective system of ACLs, ACTs, and AMs. These measures should allow for practical and effective implementation and enforcement of the management regime. The Secretary has an obligation to implement and enforce the FMP. If management measures prove unenforceable—or too restrictive, or not rigorous enough to prevent overfishing while achieving OY—they should be modified; an alternative is to reexamine the adequacy of the OY specification. Exceeding OY does not necessarily constitute overfishing. However, even if no overfishing resulted from exceeding OY, continual harvest at a level above OY would violate NS1, because OY was not achieved on a continuing basis. An FMP must contain an assessment and specification of OY, including a summary of information utilized in making such specification, consistent with requirements of section 303(a)(3) of the Magnuson-Stevens Act. A Council must identify those economic, social, and ecological factors relevant to management of a particular stock, stock complex, or fishery, then evaluate them to determine the OY. The choice of a particular OY must be carefully documented to show that the OY selected will produce the greatest benefit to the Nation and prevent overfishing.

(iii) *Determining the greatest benefit to the Nation.* In determining the greatest benefit to the Nation, the values that should be weighed and receive serious attention when considering the economic, social, or ecological factors used in reducing MSY to obtain OY are:

(A) The benefits of food production are derived from providing seafood to consumers; maintaining an economically viable fishery together with its attendant contributions to the national, regional, and local economies; and utilizing the capacity of the Nation's fishery resources to meet nutritional needs.

(B) The benefits of recreational opportunities reflect the quality of both the recreational fishing experience and non-consumptive fishery uses such as ecotourism, fish watching, and recreational diving. Benefits also include the contribution of recreational fishing to the national, regional, and local economies and food supplies.

(C) The benefits of protection afforded to marine ecosystems are those resulting

from maintaining viable populations (including those of unexploited species), maintaining adequate forage for all components of the ecosystem, maintaining evolutionary and ecological processes (e.g., disturbance regimes, hydrological processes, nutrient cycles), maintaining the evolutionary potential of species and ecosystems, and accommodating human use.

(iv) *Factors to consider in OY specification.* Because fisheries have limited capacities, any attempt to maximize the measures of benefits described in paragraph (e)(3)(iii) of this section will inevitably encounter practical constraints. OY cannot exceed MSY in any circumstance and must take into account the need to prevent overfishing and rebuild overfished stocks and stock complexes. OY can be reduced to a value less than MSY based on social, economic, and ecological factors. To the extent possible, the relevant social, economic, and ecological factors used to establish OY for a stock, stock complex, or fishery should be quantified and reviewed in historical, short-term, and long-term contexts. Even where quantification of these factors is not possible, the FMP still must address these factors in its OY specification.

(A) *Social factors.* Examples are enjoyment gained from recreational fishing, avoidance of gear conflicts and resulting disputes, preservation of a way of life for fishermen and their families, and dependence of local communities on a fishery (e.g., involvement in fisheries and ability to adapt to change). Consideration may be given to fishery-related indicators (e.g., number of fishery permits, number of commercial fishing vessels, number of party and charter trips, landings, ex-vessel revenues etc.) and non-fishery related indicators (e.g., unemployment rates, percent of population below the poverty level, population density, etc.). Other factors that may be considered include the effects that past harvest levels have had on fishing communities, the cultural place of subsistence fishing, obligations under Indian treaties, proportions of affected minority and low-income groups, and worldwide nutritional needs.

(B) *Economic factors.* Examples are prudent consideration of the risk of overharvesting when a stock's size or reproductive potential is uncertain (see § 600.335(c)(2)(i)), satisfaction of consumer and recreational needs, and encouragement of domestic and export markets for U.S. harvested fish. Other factors that may be considered include the value of fisheries, the level of capitalization, the decrease in cost per

unit of catch afforded by an increase in stock size, the attendant increase in catch per unit of effort, alternate employment opportunities, and economic contribution to fishing communities, coastal areas, affected states, and the nation.

(C) *Ecological factors.* Examples include impacts on ecosystem component species, forage fish stocks, other fisheries, predator-prey or competitive interactions, marine mammals, threatened or endangered species, and birds. Species interactions that have not been explicitly taken into account when calculating MSY should be considered as relevant factors for setting OY below MSY. In addition, consideration should be given to managing forage stocks for higher biomass than B_{msy} to enhance and protect the marine ecosystem. Also important are ecological or environmental conditions that stress marine organisms, such as natural and manmade changes in wetlands or nursery grounds, and effects of pollutants on habitat and stocks.

(v) *Specification of OY.* The specification of OY must be consistent with preventing overfishing and should be reduced from MSY to account for scientific uncertainty in calculating MSY, and economic, social, and ecological factors such as those described in paragraph (e)(3)(iv) of this section. If the estimates of MFMT and current biomass are known with a high level of certainty and management controls can accurately limit catch to the ACT then OY could be set very close to MSY. To the degree that such MSY estimates and management controls are lacking or unavailable, OY should be set farther from MSY. In order to achieve OY in the long term, catch targets (i.e., ACT) should be set below catch limits (i.e., ACLs) based on the degree of management control so that average catch (or average ACT) approximates OY (see paragraph (f)(6) of this section). If management measures cannot adequately control fishing mortality so that the specified OY can be achieved without overfishing, the Council should reevaluate the management measures and specification of OY so that the dual requirements of NS1 (preventing overfishing while achieving, on a continuing basis, OY) are met.

(A) The amount of fish that constitutes the OY should be expressed in terms of numbers or weight of fish. As a long-term average, OY cannot exceed MSY.

(B) Either a range or a single value may be specified for OY. Specification of a numerical, fixed-value OY does not preclude use of ACTs that vary with

stock size or management precision. For example, an ACT control rule (described in paragraph (f)(6) of this section) might prescribe a smaller ACT if there is less management precision.

(C) All catch must be counted against OY, including that resulting from bycatch, scientific research, and all fishing activities.

(D) The OY specification should be translatable into an annual numerical estimate for the purposes of establishing any total allowable level of foreign fishing (TALFF) and analyzing impacts of the management regime.

(E) The determination of OY is based on MSY, directly or through proxy. However, even where sufficient scientific data as to the biological characteristics of the stock do not exist, or where the period of exploitation or investigation has not been long enough for adequate understanding of stock dynamics, or where frequent large-scale fluctuations in stock size diminish the meaningfulness of the MSY concept, OY must still be established based on the best scientific information available.

(F) An OY established at a fishery level may not exceed the sum of the MSY values for each of the stocks or stock complexes within the fishery. If OY is specified at a fishery level, the sum of the ACTs for the stocks and stock complexes in the fishery should approximate OY.

(G) There should be a mechanism in the FMP for periodic reassessment of the OY specification, so that it is responsive to changing circumstances in the fishery.

(H) Part of the OY may be held as a reserve to allow for factors such as uncertainties in estimates of stock size and domestic annual harvest (DAH). If an OY reserve is established, an adequate mechanism should be included in the FMP to permit timely release of the reserve to domestic or foreign fishermen, if necessary.

(vi) *OY and foreign fishing.* Section 201(d) of the Magnuson-Stevens Act provides that fishing by foreign nations is limited to that portion of the OY that will not be harvested by vessels of the United States. The FMP must include an assessment to address the following, as required by section 303(a)(4) of the Magnuson-Stevens Act:

(A) *DAH.* Councils and/or the Secretary must consider the capacity of, and the extent to which, U.S. vessels will harvest the OY on an annual basis. Estimating the amount that U.S. fishing vessels will actually harvest is required to determine the surplus.

(B) *Domestic annual processing (DAP).* Each FMP must assess the capacity of U.S. processors. It must also

assess the amount of DAP, which is the sum of two estimates: The estimated amount of U.S. harvest that domestic processors will process, which may be based on historical performance or on surveys of the expressed intention of manufacturers to process, supported by evidence of contracts, plant expansion, or other relevant information; and the estimated amount of fish that will be harvested by domestic vessels, but not processed (e.g., marketed as fresh whole fish, used for private consumption, or used for bait).

(C) *Joint venture processing (JVP)*. When DAH exceeds DAP, the surplus is available for JVP.

(f) *Acceptable biological catch, annual catch limits, and annual catch targets*. The following features (see paragraphs (f)(1) through (f)(7) of this section) of acceptable biological catch, annual catch limits, and annual catch targets apply to stocks and stock complexes in the fishery (see paragraph (d)(2) of this section).

(1) *Introduction*. A control rule is a policy for establishing a limit or target fishing level that is based on the best available scientific information and is established by fishery managers in consultation with fisheries scientists. Control rules should be designed so that management actions become more conservative as biomass estimates, or other proxies, for a stock or stock complex decline and as science and management uncertainty increases. Paragraph (f) of this section describes a three-step approach for setting limits and targets so as to ensure a low risk of overfishing while achieving, on a continuing basis, OY: First, ABC is set below the OFL to account for scientific uncertainty in calculating the OFL; second, ACL is set at an amount not to exceed the ABC; and third, ACT is set at an amount not to exceed the ACL to account for management uncertainty in controlling a fishery's actual catch.

(2) *Definitions*. (i) *Catch* is the total quantity of fish, measured in weight or numbers of fish, taken in commercial, recreational, subsistence, tribal, and other fisheries. Catch includes fish that are retained for any purpose, as well as mortality of fish that are discarded.

(ii) *Acceptable biological catch (ABC)* is a level of a stock or stock complex's annual catch that accounts for the scientific uncertainty in the estimate of OFL and should be specified based on the ABC control rule.

(iii) *ABC control rule* means a specified approach to setting the ABC for a stock or stock complex as a function of the scientific uncertainty in the estimate of OFL.

(iv) *Annual catch limit (ACL)* is the level of annual catch of a stock or stock complex that serves as the basis for invoking AMs. ACL cannot exceed the ABC, but may be divided into sector-ACLs (see paragraph (f)(5) of this section).

(v) *Annual catch target (ACT)* is an amount of annual catch of a stock or stock complex that is the management target of the fishery. A stock or stock complex's ACT should usually be less than its ACL and results from the application of the ACT control rule. If sector-ACLs have been established, each one should have a sector-ABC.

(vi) *ACT control rule* means a specified approach to setting the ACT for each stock or stock complex such that the risk of exceeding the ACL due to management uncertainty is at an acceptably low level.

(3) *Specification of ABC*. ABC may not exceed OFL (see paragraph (e)(2)(i)(D) of this section) and is recommended to be reduced from OFL to account for scientific uncertainty in the estimate of OFL. Councils should develop a process for receiving scientific information and advice used to establish ABC. This process should: Establish an ABC control rule, identify the body that will apply the ABC control rule (i.e., calculates the ABC), identify the review process that will verify the resulting ABC, and confirm that the SSC recommends the ABC to the Council. For Secretarial FMPs or FMP amendments, agency scientists or a peer review process would provide the scientific advice to establish ABC. For internationally-assessed stocks, an ABC as defined in these guidelines is not required.

(i) *Expression of ABC*. ABC should be expressed in terms of catch, but may be expressed in terms of landings as long as estimates of bycatch and any other fishing mortality not accounted for in the landings are incorporated into the determination of ABC.

(ii) *ABC for overfished stocks*. For overfished stocks and stock complexes, a rebuilding ABC must be set to reflect the annual catch that is consistent with the target fishing mortality rates in the rebuilding plan.

(4) *ABC control rule*. For stocks and stock complexes required to have an ABC, each Council should establish an ABC control rule based on scientific advice from its SSC. The process of establishing an ABC control rule could also involve science advisors or the peer review process established under Magnuson-Stevens Act section 302(g)(1)(E). The ABC control rule should clearly articulate how far below the OFL, or OFL proxy, the ABC will be

set based on the level of scientific knowledge about the stock or stock complex and the scientific uncertainty in the estimate of OFL. The ABC control rule should take into account uncertainty in factors such as stock assessment results, time lags in updating assessments, the degree of retrospective revision of assessment results, and projections. The control rule may be used in a tiered approach to address different levels of scientific uncertainty.

(5) *Setting the annual catch limit*—(i) *General*. ACL cannot exceed the ABC and may be set annually or on a multiyear plan basis. A “multiyear plan” as referenced in section 303(a)(15) of the Magnuson-Stevens Act is a plan that establishes harvest specifications or harvest guidelines for each year of a time period greater than 1 year. A multiyear plan should include ACLs and ACTs for each year with appropriate AMs to prevent overfishing and maintain an appropriate rate of rebuilding if the stock or stock complex is in a rebuilding plan. The AMs specified for a multiyear plan should provide that, if an ACL is exceeded for a year, then a subsequent year's harvest specification (including ACLs and ACTs) could be revised.

(ii) *Sector ACLs*. A Council may, but is not required to, divide an ACL into sector-ACLs. “Sector,” for purposes of this section, means a distinct user group to which separate management strategies and separate catch quotas apply. Examples of sectors include the commercial sector, recreational sector, or various gear groups within a fishery. Sector-AMs must be developed for each sector-ACL, and the sum of sector ACLs must not exceed the stock or stock complex level ACL. The system of ACLs and AMs designed must be effective and equitable and protect the stock or stock complex as a whole. If sector-ACLs and AMs are established, additional AMs at the stock or stock complex level would also be appropriate.

(iii) *ACLs for State-Federal Fisheries*. For stocks or stock complexes that have a large majority of harvest in state or territorial waters, FMPs and FMP amendments should include an ACL for the overall stock that may be further divided. For example, the overall ACL could be divided into a federal-ACL and state-ACL. However, NMFS recognizes that federal management would be limited to the portion of the fishery under federal authority (see paragraph (g)(5) of this section). When stocks are co-managed by federal, state, tribal, and/or territorial fishery managers, the goal should be to develop collaborative conservation and management

strategies, and scientific capacity to support such strategies, to prevent overfishing of shared stocks and ensure their sustainability.

(6) *ACT control rule.* For stocks and stock complexes required to have an ACL, each Council should establish ACT control rules for setting the ACTs. The ACT control rule should clearly articulate how far below the ACL the target will be established based on the amount of management uncertainty associated with harvest of a stock or stock complex. For example, the ACT may need to be set further below the ACL in fisheries where inseason monitoring of catch data is unavailable or infeasible, or where AMs are established using a multi-year averaging approach (see paragraph (g)(4) of this section).

(i) *Determining management uncertainty.* Two sources of management uncertainty should be accounted for in establishing the ACT control rule: Uncertainty in the ability of managers to constrain catch to the ACT and uncertainty in quantifying the true catch amounts (i.e., estimation errors). To determine the level of management uncertainty in controlling catch, analyses should consider past management performance in the fishery and factors such as time lags in reported catch. Such analyses should be based on the best available scientific information from an SSC, agency scientists, or peer review process as appropriate.

(ii) *Establishing tiers and corresponding ACT control rules.* Tiers can be established based on levels of management uncertainty associated with the fishery, frequency and accuracy of catch monitoring data available, and risks of exceeding the limit. An ACT control rule could be established for each tier and have, as appropriate, different formulas and standards used to establish the ACT.

(7) *Relationships of OFL to MSY and ACT to OY.* The following (see paragraphs (f)(7)(i) and (ii) of this section) describes the relationships between terms used in ending and preventing overfishing and rebuilding overfished stocks and stock complexes.

(i) *Relationship of OFL to MSY.* OFL is the amount of catch for a particular year that corresponds to the estimate of MFMT applied to a stock or stock complex's abundance, and MSY is the long-term average of such catches. ABC is recommended to be set below OFL to take into account the scientific uncertainty in the estimate of OFL.

(ii) *Relationship of ACT to OY.* Paragraphs (a) and (e)(3) of this section define and describe OY and the goal of preventing overfishing, while achieving

on a continuing basis the OY from each stock, stock complex, or fishery. Management measures for a fishery should, on an annual basis, achieve the ACTs and prevent the ACLs from being exceeded. The long-term objective is to achieve OY through annual achievement of ACT.

(g) *Accountability measures.* The following features (see paragraphs (g)(1) through (5) of this section) of accountability measures apply to those stocks and stock complexes in the fishery.

(1) *Introduction.* AMs are management controls that prevent ACLs or sector-ACLs from being exceeded (inseason AMs), where possible, and correct or mitigate overages if they occur. AMs should address and minimize both the frequency and magnitude of overages and correct the problems that caused the overage in as short a time as possible.

(2) *Inseason AMs.* Whenever possible, FMPs should include inseason monitoring and management measures to prevent catch from exceeding ACLs. Inseason AMs could include, but are not limited to, closure of a fishery; closure of specific areas; changes in gear; changes in trip size or bag limits; reductions in effort; or other appropriate management controls for the fishery. If final data or data components of catch are delayed, Councils should make appropriate use of preliminary data, such as landed catch, in implementing inseason AMs. Where timely catch data are available for a stock, FMPs should include inseason closure authority to close the fishery on or before the date when the ACL for a stock or stock complex is projected to be reached.

(3) *AMs for when the ACL is exceeded.* On an annual basis, the Council should determine as soon as possible after the fishing year if an ACL was exceeded. If an ACL was exceeded, AMs should be triggered and implemented as soon as possible to correct the operational issue that caused the ACL overage, as well as any biological consequences to the stock or stock complex resulting from the overage when it is known. These AMs could include, among other things, modifications of inseason AMs or overage adjustments. For stocks and stock complexes in rebuilding plans, the AMs should include overage adjustments that reduce the ACLs in the next fishing year by the full amount of the overages, unless the best scientific information available shows that a reduced overage adjustment, or no adjustment is needed to mitigate the effects of the overages. If catch exceeds the ACL more than once in the last four

years, the system of ACLs, ACTs and AMs should be re-evaluated to improve its performance and effectiveness.

(4) *AMs based on multi-year average data.* Some fisheries have highly variable annual catches and lack reliable inseason or annual data on which to base AMs. If there are insufficient data upon which to compare catch to ACL, either inseason or on an annual basis, AMs could be based on comparisons of average catch to average ACL over a three-year moving average period or, if supported by analysis, some other appropriate multi-year period.

Evaluation of the moving average catch to the average ACL must be conducted annually. If the average catch exceeds the average ACL more than once in the last four years, then the ACL, ACT and AM system should be re-evaluated. The initial ACL and management measures should incorporate information from previous years so that AMs based on average ACLs can be applied from the first year.

(5) *AMs for State-Federal Fisheries.* For stocks or stock complexes that have a large majority of harvest in state or territorial waters, AMs should be developed for the portion of the fishery under federal authority and could include closing the EEZ when the federal portion of the ACL is reached, or the overall stock's ACL is reached, or other measures.

(h) *Establishing ACL and AM mechanisms in FMPs.* FMPs or FMP amendments should establish ACL and AM mechanisms for all stocks and stock complexes in the fishery, unless paragraph (h)(2) of this section is applicable. If a complex has multiple indicator stocks, each indicator stock must have its own ACL; an additional ACL for the stock complex as a whole is optional. In cases where fisheries harvest multiple indicator stocks of a single species that cannot be distinguished at the time of capture, separate ACLs for the indicator stocks are not required and the ACL can be established for the complex as a whole.

(1) In establishing ACL and AM mechanisms, FMPs should describe:

(i) Timeframes for setting ACLs (e.g., annually or multi-year periods);

(ii) Sector-ACLs, if any (including set-asides for research or bycatch);

(iii) AMs and their relationship to ABC and ACT control rules, including how AMs are triggered and what sources of data will be used (e.g., inseason data, annual catch compared to the ACL, or multi-year averaging approach);

(iv) Sector-AMs, if there are sector-ACLs; and

(v) Fisheries data described in paragraph (i) of this section.

(2) *Exceptions from ACL and AM requirements*—(i) *Life cycle*. Section 303(a)(15) of the Magnuson-Stevens Act “shall not apply to a fishery for species that has a life cycle of approximately 1 year unless the Secretary has determined the fishery is subject to overfishing of that species” (as described in Magnuson-Stevens Act section 303 note). This exception applies to a stock for which the average length of time it takes for an individual to produce a reproductively active offspring is approximately 1 year and that the individual has only one breeding season in its life time. While exempt from the ACL and AM requirements, FMPs or FMP amendments for these stocks should have SDC, MSY, OY, ABC, and an ABC control rule.

(ii) *International fishery agreements*. Section 303(a)(15) of the Magnuson-Stevens Act applies “unless otherwise provided for under an international agreement in which the United States participates” (Magnuson-Stevens Act section 303 note). This exception applies to stocks or stock complexes subject to management under an international agreement, which is defined as “any bilateral or multilateral treaty, convention, or agreement which relates to fishing and to which the United States is a party” (see Magnuson-Stevens Act section 3(24)). These stocks would still need to have SDC and MSY.

(3) *Flexibility in application of NS1 guidelines*. There are limited circumstances that may not fit the standard approaches to specification of reference points and management measures set forth in these guidelines. These include, among other things, conservation and management of ESA-listed species, harvests from aquaculture operations, and stocks with unusual life history characteristics (e.g., Pacific salmon, where the spawning potential for a stock is spread over a multi-year period). In these circumstances, Councils may propose alternative approaches for satisfying the NS1 requirements of the Magnuson-Stevens Act than those set forth in these guidelines. Councils should document their rationale for any alternative approaches for these limited circumstances in an FMP or FMP amendment, which will be reviewed for consistency with the Magnuson-Stevens Act.

(i) *Fisheries data*. In their FMPs, Councils should describe general data collection methods, as well as any specific data collection methods used for all stocks, stock complexes, and

ecosystem component species. FMPs should:

(1) List sources of fishing mortality (both landed and discarded), including commercial and recreational catch and bycatch in other fisheries;

(2) Describe the data collection and estimation methods used to quantify total catch mortality in each fishery, including information on the management tools used (i.e., logbooks, vessel monitoring systems, observer programs, landings reports, fish tickets, processor reports, dealer reports, recreational angler surveys, or other methods); the frequency with which data are collected and updated; and the scope of sampling coverage for each fishery; and

(3) Describe the methods used to compile catch data from various catch data collection methods and how those data are used to determine the relationship between total catch at a given point in time and the ACL for stocks and stock complexes that are part of a fishery.

(j) *Council actions to address overfishing and rebuilding for stocks and stock complexes in the fishery*—(1) *Notification*. The Secretary will immediately notify a Council whenever it is determined that:

(i) Overfishing is occurring;

(ii) A stock or stock complex is overfished;

(iii) A stock or stock complex is approaching an overfished condition; or

(iv) Existing remedial action taken for the purpose of ending previously identified overfishing or rebuilding a previously identified overfished stock or stock complex has not resulted in adequate progress.

(2) *Timing of actions*—(i) *If a stock or stock complex is undergoing overfishing*. FMPs or FMP amendments should establish ACL and AM mechanisms in 2010, for stocks and stock complexes determined to be subject to overfishing, and in 2011, for all other stocks and stock complexes (see paragraph (b)(2)(iii) of this section). To address practical implementation aspects of the FMP and FMP amendment process, paragraphs (j)(2)(i)(A) through (C) of this section clarifies the expected timing of actions.

(A) In addition to establishing ACL and AM mechanisms, the ACLs and AMs themselves should be specified in FMPs, FMP amendments, implementing regulations, or annual specifications beginning in 2010 or 2011, as appropriate.

(B) For stocks and stock complexes still determined to be subject to overfishing at the end of 2008, ACL and AM mechanisms and the ACLs and AMs

themselves should be effective in fishing year 2010.

(C) For stocks and stock complexes determined to be subject to overfishing during 2009, ACL and AM mechanisms and ACLs and AMs themselves should be effective in fishing year 2010, if possible, or in fishing year 2011, at the latest.

(ii) *If a stock or stock complex is overfished or approaching an overfished condition*. (A) For notifications that a stock or stock complex is overfished or approaching an overfished condition made before July 12, 2009, a Council must prepare an FMP, FMP amendment, or proposed regulations within one year of notification. If the stock or stock complex is overfished, the purpose of the action is to specify a time period for ending overfishing and rebuilding the stock or stock complex that will be as short as possible as described under section 304(e) of the Magnuson-Stevens Act. If the stock or stock complex is approaching an overfished condition, the purpose of the action is to prevent the biomass from declining below the MSST.

(B) For notifications that a stock or stock complex is overfished made after July 12, 2009, a Council must prepare an FMP, FMP amendment, or proposed regulations within two years of notification. Council actions should be submitted for Secretarial review within 15 months of notification to ensure sufficient time for the Secretary to implement the measures, if approved. If the stock or stock complex is overfished and overfishing is occurring, the rebuilding plan must end overfishing immediately and be consistent with ACL and AM requirements of the Magnuson-Stevens Act.

(C) For notifications that a stock or stock complex is approaching an overfished condition made after July 12, 2009, a Council should take immediate action to reduce the likelihood that the stock or stock complex will become overfished. Otherwise, the stock or stock complex would likely be overfished by the time the two-year timeline to implement management measures expired.

(3) *Overfished fishery*. (i) Where a stock or stock complex is overfished, a Council must specify a time period for rebuilding the stock or stock complex based on factors specified in Magnuson-Stevens Act section 304(e)(4). This target time for rebuilding (T_{target}) shall be as short as possible, taking into account: The status and biology of any overfished stock, the needs of fishing communities, recommendations by international organizations in which the U.S. participates, and interaction of the

stock within the marine ecosystem. In addition, the time period shall not exceed 10 years, except where biology of the stock, other environmental conditions, or management measures under an international agreement to which the U.S. participates dictate otherwise. SSCs (or agency scientists or peer review processes in the case of Secretarial actions) shall provide recommendations for achieving rebuilding targets (see Magnuson-Stevens Act section 302(g)(1)(B)). The above factors enter into the specification of T_{target} as follows:

(A) The “minimum time for rebuilding a stock” (T_{min}) means the amount of time the stock or stock complex is expected to take to rebuild to its MSY biomass level in the absence of any fishing mortality. In this context, the term “expected” means to have at least a 50-percent probability of attaining the B_{msy} .

(B) For scenarios under paragraph (j)(2)(ii)(A) of this section, the starting year for the T_{min} calculation is the first year that a rebuilding plan is implemented. For scenarios under paragraph (j)(2)(ii)(B) of this section, the starting year for the T_{min} calculation is 2 years after notification that a stock or stock complex is overfished or the first year that a rebuilding plan is implemented, whichever is sooner.

(C) If T_{min} for the stock or stock complex is 10 years or less, then the maximum time allowable for rebuilding (T_{max}) that stock to its B_{msy} is 10 years.

(D) If T_{min} for the stock or stock complex exceeds 10 years, then the maximum time allowable for rebuilding a stock or stock complex to its B_{msy} is T_{min} plus the length of time associated with one generation time for that stock or stock complex. “Generation time” is the average length of time between when an individual is born and the birth of its offspring.

(E) T_{target} shall not exceed T_{max} , should generally be less than T_{max} , and should be calculated based on the factors described in this paragraph (j)(3) with a priority given to rebuilding in as short a time as possible.

(ii) If a stock or stock complex reached the end of its rebuilding plan period and has not yet been determined to be rebuilt, then the rebuilding F should not be increased until the stock or stock complex has been demonstrated to be rebuilt. If the rebuilding plan was based on a T_{target} that was less than T_{max} , and the stock or stock complex is not rebuilt by T_{target} , rebuilding measures should be revised, if necessary, such that the stock or stock complex will be rebuilt by T_{max} . If the stock or stock complex has not rebuilt by T_{max} , and the

rebuilding F is greater than 75 percent of MFMT, then the rebuilding F should be reduced to no more than 75 percent of MFMT until the stock or stock complex has been demonstrated to be rebuilt.

(iii) Council action addressing an overfished fishery must allocate both overfishing restrictions and recovery benefits fairly and equitably among sectors of the fishery.

(iv) For fisheries managed under an international agreement, Council action addressing an overfished fishery must reflect traditional participation in the fishery, relative to other nations, by fishermen of the United States.

(4) *Emergency actions and interim measures.* The Secretary, on his/her own initiative or in response to a Council request, may implement interim measures to reduce overfishing or promulgate regulations to address an emergency (Magnuson-Stevens Act section 304(e)(6) or 305(c)). In considering a Council request for action, the Secretary would consider, among other things, the need for and urgency of the action and public interest considerations, such as benefits to the stock or stock complex and impacts on participants in the fishery.

(i) These measures may remain in effect for not more than 180 days, but may be extended for an additional 186 days if the public has had an opportunity to comment on the measures and, in the case of Council-recommended measures, the Council is actively preparing an FMP, FMP amendment, or proposed regulations to address the emergency or overfishing on a permanent basis.

(ii) Often, these measures need to be implemented without prior notice and an opportunity for public comment, as it would be impracticable to provide for such processes given the need to act quickly and also contrary to the public interest to delay action. However, emergency regulations and interim measures that do not qualify for waivers or exceptions under the Administrative Procedure Act would need to follow proposed notice and comment rulemaking procedures.

(k) *International overfishing.* If the Secretary determines that a fishery is overfished or approaching a condition of being overfished due to excessive international fishing pressure, and for which there are no management measures (or no effective measures) to end overfishing under an international agreement to which the United States is a party, then the Secretary and/or the appropriate Council shall take certain actions as provided under Magnuson-Stevens Act section 304(i). The

Secretary, in cooperation with the Secretary of State, should immediately take appropriate action at the international level to end the overfishing. In addition, within one year after the determination, the Secretary and/or appropriate Council shall:

(1) Develop recommendations for domestic regulations to address the relative impact of the U.S. fishing vessels on the stock. Council recommendations should be submitted to the Secretary.

(2) Develop and submit recommendations to the Secretary of State, and to the Congress, for international actions that will end overfishing in the fishery and rebuild the affected stocks, taking into account the relative impact of vessels of other nations and vessels of the United States on the relevant stock. Councils should, in consultation with the Secretary, develop recommendations that take into consideration relevant provisions of the Magnuson-Stevens Act and NS1 guidelines, including section 304(e) of the Magnuson-Stevens Act and paragraph (j)(3)(iv) of this section, and other applicable laws. For highly migratory species in the Pacific, recommendations from the Western Pacific, North Pacific, or Pacific Councils must be developed and submitted consistent with Magnuson-Stevens Reauthorization Act section 503(f), as appropriate.

(3) *Considerations for assessing “relative impact.”* “Relative impact” under paragraphs (k)(1) and (2) of this section may include consideration of factors that include, but are not limited to: Domestic and international management measures already in place, management history of a given nation, estimates of a nation’s landings or catch (including bycatch) in a given fishery, and estimates of a nation’s mortality contributions in a given fishery. Information used to determine relative impact should be based upon the best available scientific information.

(l) *Relationship of National Standard 1 to other national standards—(1) National Standard 2 (see § 600.315).* Management measures and reference points to implement NS1 must be based on the best scientific information available. When data are insufficient to estimate reference points directly, Councils should develop reasonable proxies to the extent possible (also see paragraph (e)(1)(iv) of this section). In cases where scientific data are severely limited, effort should also be directed to identifying and gathering the needed data. SSCs should advise their Councils regarding the best scientific information

available for fishery management decisions.

(2) *National Standard 3* (see § 600.320). Reference points should generally be specified in terms of the level of stock aggregation for which the best scientific information is available (also see paragraph (e)(1)(iii) of this section). Also, scientific assessments should be based on the best information about the total range of the stock and potential biological structuring of the stock into biological sub-units, which may differ from the geographic units on which management is feasible.

(3) *National Standard 6* (see § 600.335). Councils must build into the reference points and control rules appropriate consideration of risk, taking into account uncertainties in estimating harvest, stock conditions, life history parameters, or the effects of environmental factors.

(4) *National Standard 8* (see § 600.345). Councils must take into account the importance of fishery resources to fishing communities when specifying OY and an ACT control rule. Also, see paragraph (e)(3)(iv)(A) of this

section for more information on how factors that relate to fishing communities should be considered when reducing OY from MSY.

(5) *National Standard 9* (see § 600.350). Evaluation of stock status with respect to reference points must take into account mortality caused by bycatch. In addition, the estimation of catch should include the mortality of fish that are discarded.

(m) *Exceptions to requirements to prevent overfishing*. Exceptions to the requirement to prevent overfishing could apply under certain limited circumstances. Harvesting one stock at its optimum level may result in overfishing of another stock when the two stocks tend to be caught together (This can occur when the two stocks are part of the same fishery or if one is bycatch in the other's fishery). Before a Council may decide to allow this type of overfishing, an analysis must be performed and the analysis must contain a justification in terms of overall benefits, including a comparison of benefits under alternative management

measures, and an analysis of the risk of any stock or stock complex falling below its MSST. The Council may decide to allow this type of overfishing if the analysis demonstrates that all of the following conditions are satisfied:

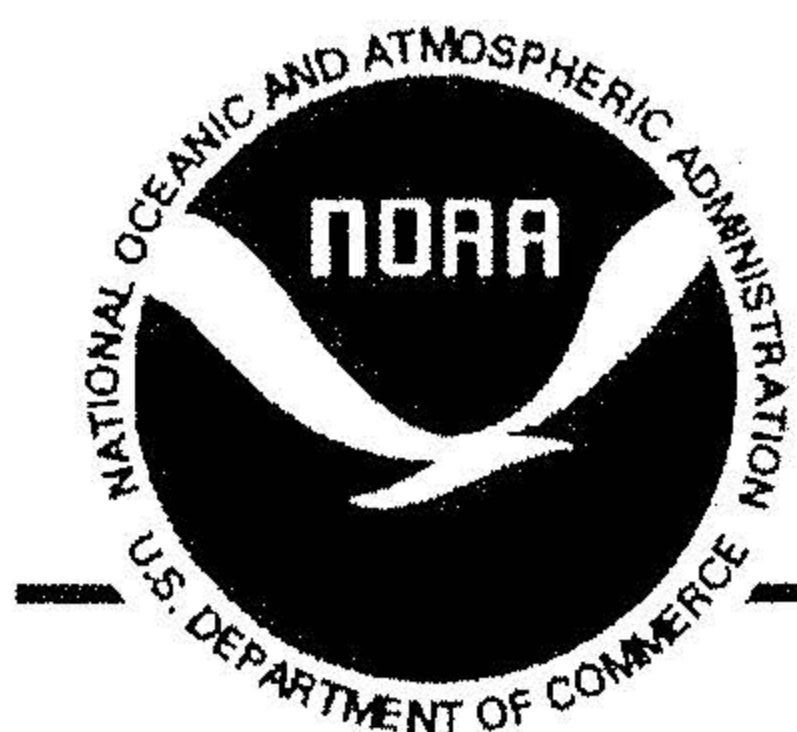
(1) Such action will result in long-term net benefits to the Nation;

(2) Mitigating measures have been considered and it has been demonstrated that a similar level of long-term net benefits cannot be achieved by modifying fleet behavior, gear selection/configuration, or other technical characteristic in a manner such that no overfishing would occur; and

(3) The resulting rate of fishing mortality will not cause any stock or stock complex to fall below its MSST more than 50 percent of the time in the long term, although it is recognized that persistent overfishing is expected to cause the affected stock to fall below its Bmsy more than 50 percent of the time in the long term.

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NEWS FROM NOAA

NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION • US DEPARTMENT OF COMMERCE

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FOR IMMEDIATE RELEASE

June 5, 2008

NOAA Outlines Annual Catch Limits to End Overfishing

NOAA's Fisheries Service today outlined a plan to establish annual catch limits designed to help restore federally managed marine fish stocks.

Annual catch limits are the amount of each type of fish allowed to be caught in a year and are required by the 2007 amendments to the Magnuson-Stevens Fishery Conservation and Management Act. Additionally, the act calls for measures to ensure these limits are followed and that the limits do not exceed the scientific recommendations made by the regional fishery management councils' scientific committees.

"Annual catch limits for fish stocks will help the nation meet the call by the president and Congress to end overfishing," said Jim Balsiger, acting assistant administrator for NOAA's Fisheries Service. "They will help sustain and recover stocks that provide the nation with valuable seafood and recreational opportunities, as well as benefits to the ocean environment."

NOAA's Fisheries Service, the regional fishery management councils, and fishing communities have taken significant steps toward ending overfishing and rebuilding stocks in recent years. In 2007, seven fish stocks were removed from the overfishing list. However, 41 fish stocks in U.S. ocean waters continue to be fished at unsustainable levels.

The guidelines published in the Federal Register today propose to set up a system of catch limits and targets for each stock to prevent overfishing. The system would account for scientific uncertainty in estimating catch limits for a stock, and include accountability measures to prevent annual catch limits from being exceeded, and to address such a situation quickly if it does occur.

Annual catch limits will be required for all U.S. commercial and recreational fisheries subject to overfishing by 2010, and all other stocks by 2011. NOAA hopes to issue final guidelines on annual catch limits by the end of 2008.

"Ending overfishing on these stocks and preventing overfishing from occurring on others is critical to maintaining and rebuilding our valuable fisheries resources," said Balsiger. "The economic, recreational and ecological stakes are high."

U.S. fisheries contribute more than \$35 billion annually to the economy and an estimated \$20 billion is spent on recreational fishing activities each year.

The proposed guidelines may be viewed online at <http://www.nmfs.noaa.gov/msa2007/>. Public comments on the proposed revisions will be accepted through Sept. 8, 2008.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and information service delivery for transportation, and by providing environmental stewardship of our nation's coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with its federal partners, more than 70 countries and the European

Commission to develop a global monitoring network that is as integrated as the planet it observes, predicts and protects.

Proposed Rule to Streamline the NEPA Process

Steve Leathery, NMFS NEPA
Coordinator

Marian Macpherson, Office of
Sustainable Fisheries



Goals

- Comply with NEPA and MSA
- Adhere to the principles of public involvement and agency accountability in the CEQ regulations
- Integrate NEPA into MSA public processes
- Build on recommendations in the CCC Strawman
- Clarify the responsibilities of FMCs and NMFS, and align public participation appropriately
- Allow rapid response, while providing meaningful public input into policy decisions.





Approach

- Started with CEQ regulations as a basis and proposed changes only where necessary to address problems; reorganized for clarity
- Works within parameters of CEQ regulations allowing flexibility; establishes limits on flexibility
- The need for additional internal guidance will be assessed in light of the final regulatory changes if any





Key Changes

- **Content:** Retains basic content requirements for analyses with modifications to address fisheries issues
- **Documentation:** Retains EA/FONSI and CEs; new forms of documentation to maximize flexibility and encourage tiering, frameworking, and integration of analyses
- **Public Involvement:** Adapts comment and response requirements to align with FMC and NMFS policy development
- **Timelines:** Allows modification of timelines to fit within MSA processes





Content Requirements

Applies content requirements for EISs set forth at 40 CFR 1502 with certain clarifications

- Alternatives
- Incomplete/Unavailable Information
- Cumulative Impacts Analysis





Alternatives: What is Reasonable?

Retains requirement to consider "all" reasonable alternatives

- Defines "reasonable" as derived from statement of purpose and need
- Not reasonable if
 - Inconsistent with MSA and N.S.
 - Impractical or ineffective
 - Fails to achieve stated goals





Alternatives: "No Action"

- Does not mean the literal "no action" (i.e., does not mean open access or closures due to sunsets)
- Does mean "continued management of the fishery as it is being managed" with reasonable assumptions
- Key is to provide a baseline for comparison





Incomplete/Unavailable Information

- Retains CEQ requirement to identify this info and obtain it if not "exorbitant"
- Adds relationship to NS 2 and MSA 303(a)(8)
- Preamble sets forth factors to consider in determining "exorbitance"
 - Availability of appropriated funds
 - Research priorities of the SSCs
 - The cost of delay
 - The inherent uncertainties in fishery management
- If previously analyzed, may cite prior analyses





Cumulative Impacts

Adds a specific requirement for IFEMS to include a cumulative impacts analysis

This requirement is not set forth in current CEQ regulations, but is acknowledged by caselaw for EISs.





Forms of Documentation

- IFEMS
- EA/FONSI
- Memorandum of Framework Compliance
- DCE





Framework Implementation Procedures (FIPs)

- NMFS or FMCs may establish an FIP within an FMP
- FIP: A formal mechanism to allow actions to be undertaken pursuant to a previously planned and constructed management regime without requiring additional NEPA analysis





Framework Implementation Procedures (FIPs) cont'd

- Based on early broad-based analysis of management approaches and impacts that provide a foundation that specified subsequent actions, or categories of actions, may rely on.
- If subsequent management actions and their effects fall within the scope of a prior analysis, no additional action-specific analysis would be necessary.
- The individual FMP would specify what criteria would require supplementation and how the fishery would be managed during the supplementation process.





Opportunities for Public Involvement

Two Opportunities to comment:

- At FMC level on DIFEMS
- At NMFS level on FIFEMS
- Comments on scope, and alternatives must be raised at FMC level





Timelines

- Retains EPA time periods as defaults
- Allows for limited reductions based on specified considerations:
 - need to address overfishing; potential harm to the resource, the marine environment, or fishing communities; the ability of the FMC to consider public comments in advance; public need and consequences of delay; external time limits; degree to which affected communities had prior notice; complexity; degree of exigency; and the degree to which the science upon which the action is based is uncertain or missing.
- Allows completion of IFEMS within 2 council meeting cycle





Timelines: FMC Level

Minimum Timelines for Two-Meeting Cycle with IFEMS: FMC Level

1. Publish NEPA Scoping Notice with Meeting Agenda
↓ 14 days (minimum prior to Meeting 1)
2. FMC Meeting 1 – FMC reviews comments, selects alternatives, directs staff to prepare DIFEMS
↓ No minimum time/FMC/staff discretion
3. Publish NOA of Draft IFEMS/ Initiate Comment Period 1
↓ 45 day comment period (may be reduced to
↓ 14 if justified)
4. FMC Meeting 2: FMC reviews public comment. May take final vote to recommend action.
↓ No minimum timelines
5. FIFEMS is prepared as part of transmittal package by FMC or NMFS. (*consult proposed rule for guidance on when supplementation is necessary and options for supplementing on clock).
↓ No minimum timelines
6. Transmittal: NMFS accepts package as complete for review





Timelines: NMFS Level

<u>FMPs/Amendments</u>	<u>Regulations</u>
↓ 5 days	↓ 15 days
7. Comment Period: NMFS publish NOA on FIFEMS with NOA on FMP or amendment for ↓ 60 day comment on FIEMS and FMP/Am Includes NEPA 30-day cooling off period	NMFS publish NOA on FIFEMS with pro. rule ↓ 15 – 60 day comment period on FIFEMS and proposed rule runs concurrently
8. Cooling Off Period: 30 day NEPA Cooling off period runs concurrently with 60 day comment period above 0 additional days	30-day NEPA cooling off period runs with comment period except where comment period is 15 days, and there is a need to make a final decision sooner than a 30 day cooling off period would allow. Cooling off could be reduced by 15 days. ↓ 0 – 15 additional days
9. Decision Day: Day 90 after NOA, deadline for final MSA decision and NEPA ROD	↓ 0- 30 additional days : Day 30 after close of public comment on proposed rule is deadline for publication of final rule and ROD.
10. Effective Date	↓ 30 days: APA delay in Effectiveness Effective 30 days after publication





Supplementation

- Hybrid alternatives or new alternatives within the range of the analysis do not require new analysis
- If FMC votes for alternative outside the range analyzed, supplementation is required to analyze new alternative
- Options for Circulating Supplemental Analysis for Public Review
 - Public Comment may occur at FMC level; additional vote at FMC's discretion
 - Public Comment may occur at Secretarial level after transmittal to Secretary; no additional FMC vote





Supplementation on MSA Clock: FMPs

- SIFEMS submitted with transmittal package
- For FMP/AM, SIFEMS has 45 day comment period (FMP - 60 days)
- Publish FIFEMS by Day 60
- 30 -day cooling off period complete on Day 90





Supplementation on Clock: Regs

- Final rule must publish within 30 days cpe for the Proposed rule: Comment period on IFEMS must be short enough to allow for conversion to Final and minimum 15 day Cooling Off prior to MSA publication deadline
- This may require comment period on SIFEMS to be shorter than comment on proposed Rule.





Next Steps

- May 14 - Aug 12 Comment Period
- June - Aug - FMC Meetings
- Public Meetings
 - St. Petersburg, FL
 - Seattle, WA
 - Washington, DC





Quick Reference Guide

- Alternatives: 700.212
- Cumulative Impacts: 700.214(b)
- Incomplete/Unavailable Info: 700.220
- Forms of Documentation (including IFEMSs and FIPs) 700.102-.105
- Scoping: 700.108
- Timing, Flow, and Supplementing: 700.203(b)(5), 700.207(c)
- Comment and Response: 700.302-.305
- Minimum time periods: 700.604





Conclusion

New tools for streamlining

Allows process to move forward from FMC to NMFS
for final decision

Directs public participation to appropriate points in the
process

Utilizes flexibility while defining minimum procedural
parameters and retaining core requirements

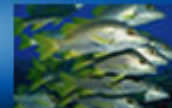
Link: <http://www.nmfs.noaa.gov/msa2007/>





Proposed Revisions to the National Standard 1 Guidelines:

Adding Guidance on Annual Catch Limits and Other Requirements



**Presentation to the
Regional Fishery Management Councils
June 2008**

**NOAA Fisheries Service
Office of Sustainable Fisheries
Silver Spring, MD**



Statutory Requirements





National Standard (NS) 1

- “Conservation and management measures shall **prevent overfishing** while achieving, on a continuing basis, the **optimum yield** from each fishery for the United States fishing industry.”
 - MSA Section 301(a)(1)





2007 MSA Amendments

- The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (*MSRA*) amended the Magnuson-Stevens Fishery Conservation and Management Act (*MSA*) on January 12, 2007.
- New requirements to end and prevent overfishing through the use of:
 - “annual catch limits” (ACLs), and
 - “measures to ensure accountability” (accountability measures or AMs).





Annual Catch Limits (ACLs)

- Fishery management plans shall “establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.”

MSA Section 303(a)(15)





ACLs (cont.)

- Required for all managed fisheries except*:
 - Species with annual life cycles, unless subject to overfishing
 - Stocks managed under an international agreement to which the U.S. is party
- Implementation in fishing year*:
 - 2010 for fisheries subject to overfishing
 - 2011 for all other fisheries
- May not exceed a Council's Scientific and Statistical Committee's (SSC) fishing level recommendation**

*MSA sec. 303 note, MSRA sec. 104(b)

**MSA sec. 302(h)(6)





New SSC requirements

- “Each scientific and statistical committee shall provide its Council ongoing scientific advice for fishery management decisions, including recommendations for
 - acceptable biological catch,
 - preventing overfishing,
 - maximum sustainable yield, and
 - achieving rebuilding targets, and
 - reports on stock status and health,
 - bycatch
 - habitat status
 - social and economic impacts of management measures, and
 - sustainability of fishing practices.”

MSA Section 302(g)(1)(B)





For “overfished” stocks

- Effective July 12, 2009*, within **2** years of an “overfished” or “approaching overfished” stock status notification, Councils (or Secretary for Atlantic HMS) must “prepare **and implement**” management measures to:
 - **Immediately** end overfishing
 - Rebuild affected stocks
 - “as quickly as possible”
 - “not to exceed 10 years”, unless biological or environmental circumstances, or management under an international agreement dictates otherwise

MSA Sec. 304(e)

*MSA sec. 303 note, MSRA sec. 104(b)





NMFS Objectives in Revising the NS 1 Guidelines





Strong, Yet Flexible, Guidelines

- Ensure that the MSA mandate for ACLs and AMs to end and prevent overfishing is met and account for U.S. fisheries diversity:
 - Biological and ecological
 - Management approaches
 - Scientific knowledge
 - Monitoring capacity
 - Overlap in management jurisdiction
 - Resource users





Incorporate New Terms

- Provide guidance on new requirements for ACLs, AMs, and acceptable biological catch (ABC)
- Explain their relationship to existing requirements
 - Maximum sustainable yield (MSY)
 - Optimum yield (OY)
 - Status determination criteria (SDC) for defining “overfishing” and “overfished”





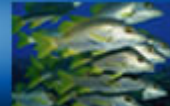
Consider Public Input

- Themes from comments received (Feb-Apr 2007)
 - Improve fisheries data
 - Develop guidelines for Optimum Yield - incorporate ecosystem considerations
 - Provide guidance on SSC role
 - Allow Councils flexibility in developing ACLs and AMs
 - AMs should provide short cycle-time; prefer inseason adjustments to corrective ones
 - ACLs for rebuilding stocks must ensure rebuilding
 - Protect sectors (e.g. commercial/recreational) from each other
 - Ensure ongoing review of management effectiveness
 - How ACLs will work for stocks shared with states





Key Proposals





Themes of Proposals

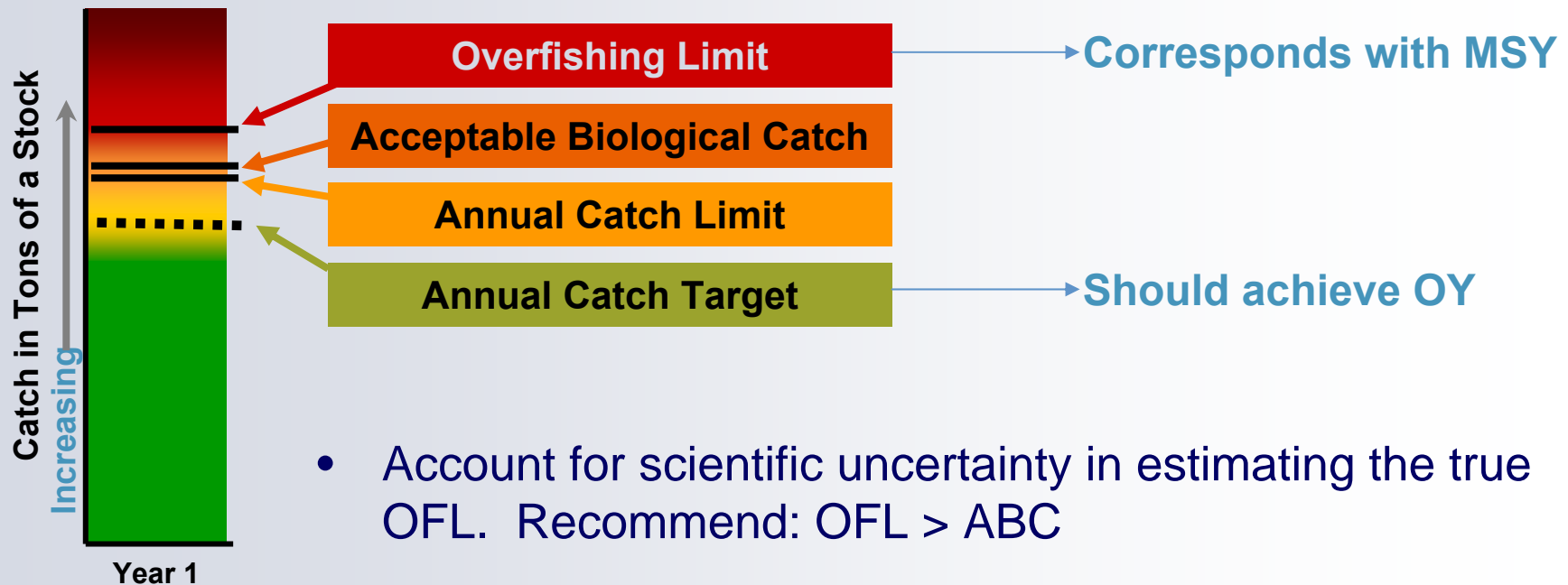
- Revised system of limits and targets
- Incorporating both scientific and management uncertainty to reduce the risk of overfishing
- Accountability





Reference Points

$$\text{OFL} \geq \text{ABC} \geq \text{ACL} \geq \text{ACT}$$



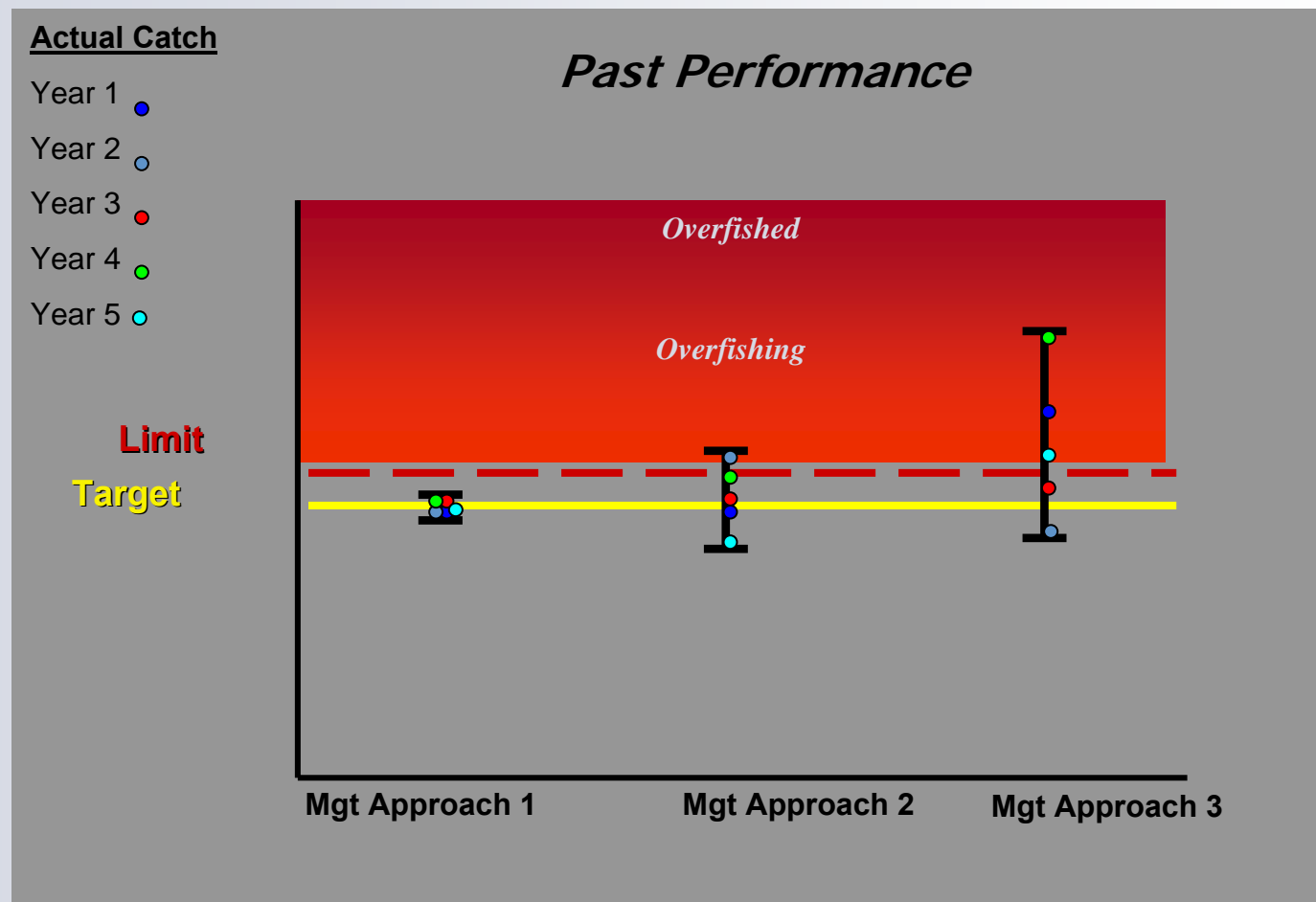
- Account for scientific uncertainty in estimating the true OFL. Recommend: $\text{OFL} > \text{ABC}$
- The ACL may not exceed the ABC.
 - ABC is one of the “fishing level recommendations” under MSA § 302(h)(6).
- Account for management uncertainty in controlling the actual catch to the target. Recommend: $\text{ACL} > \text{ACT}$





Management Uncertainty

Example, could assess past performance of achieving the target catch.





Applying ACLs for each “managed fishery”

- MSA section 302(h)(6) requires Councils develop ACLs for “each of its managed fisheries”
- FMPs vary in their inclusiveness of stocks:
 - Only target stocks of the fishery, vs.
 - Both target and non-target stocks for greater ecosystem considerations
- Propose a distinction between “the fishery” and stocks included for ecosystem considerations.





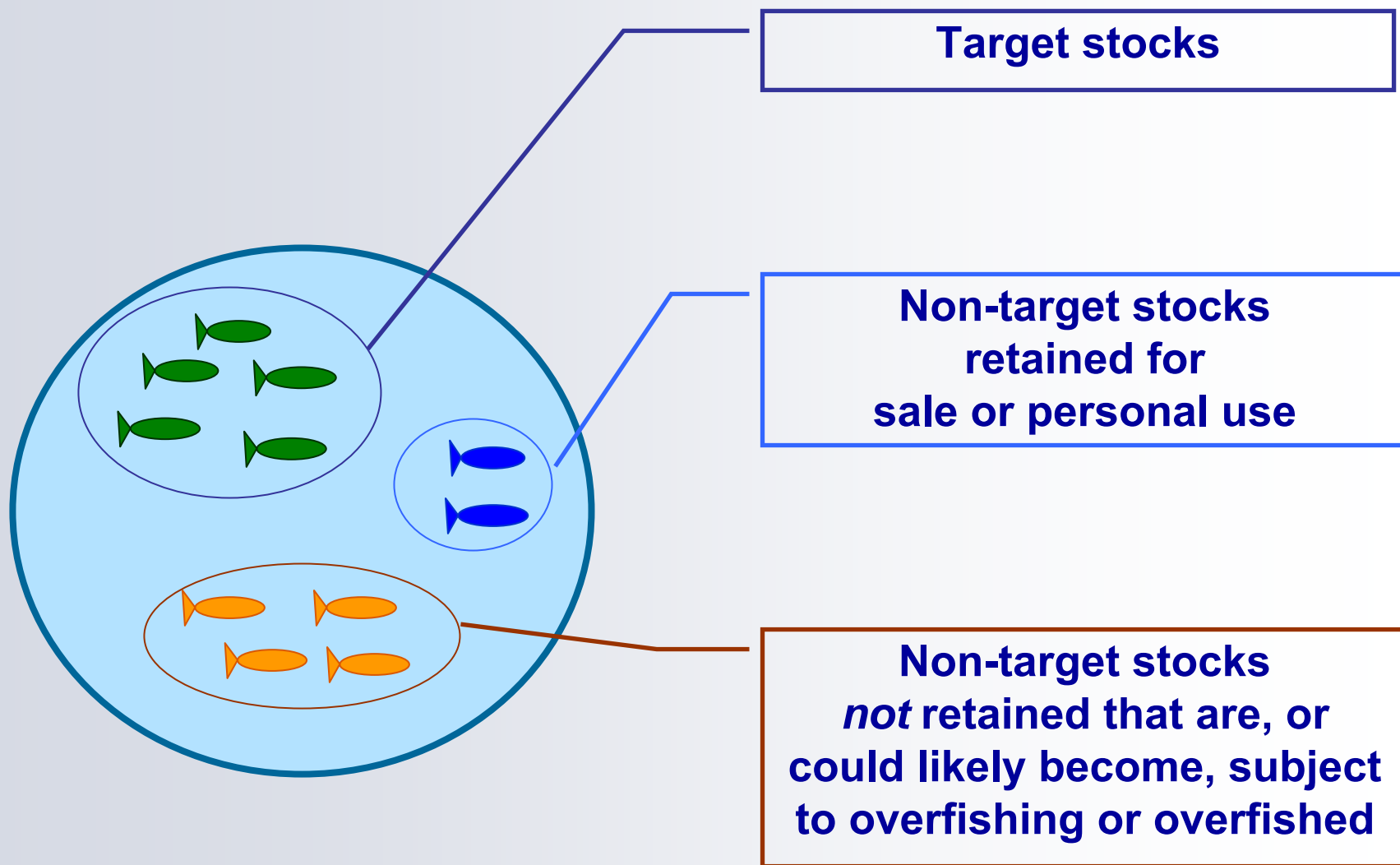
Proposed stock classification in FMPs

- **Stocks “in the fishery”:**
 - Target and non-target stocks retained for sale or personal use.
 - Other non-target stocks not retained but determined by a Council to need management as part of a fishery (e.g., concerns of overfishing, etc.).
- **“Ecosystem component” species:**
 - Non-target species/stocks included in the FMP to account for protection of the marine ecosystem and ecosystem approaches to management, consistent with MSA Sections 2(a)(11), 3(5), and 3(33).
 - Management would be applied to “the fishery” to protect these stocks with which the fishery interacts.
- All stocks in the FMP will be considered “in the fishery” unless otherwise specified through rulemaking.



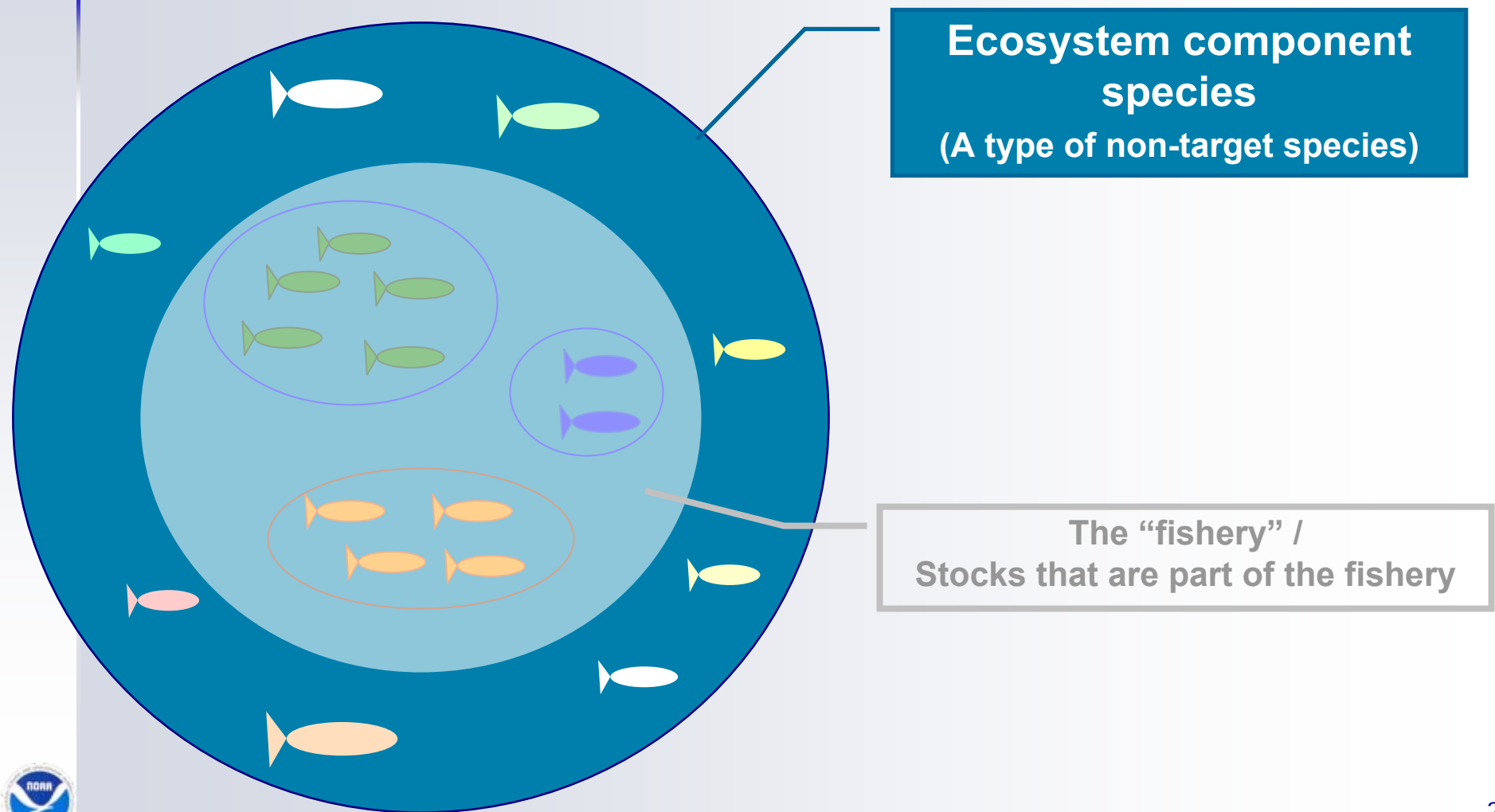


Stocks “in the Fishery”





"Ecosystem Component" Species





ACLs Apply to Stocks “in the Fishery”

- In practice, overfishing is determined at the stock level. Therefore, NMFS proposes that ACLs also be applied at the stock level.
- ACLs would apply only to stocks “in a fishery.”
- ACLs would not apply to “ecosystem component species.”





Acceptably low risk of overfishing

- Managers establish a policy, in consultation with the SSC, to use in specification of ABC and ACT such that there is an acceptably low risk that overfishing will occur.
- ABC control rule
 - A specified approach to setting the ABC for a stock as a function of the scientific uncertainty in the estimate of OFL.
- ACT control rule
 - A specified approach to setting the ACT for each stock such that the risk of exceeding the ACL due to management uncertainty is at an acceptably low level.

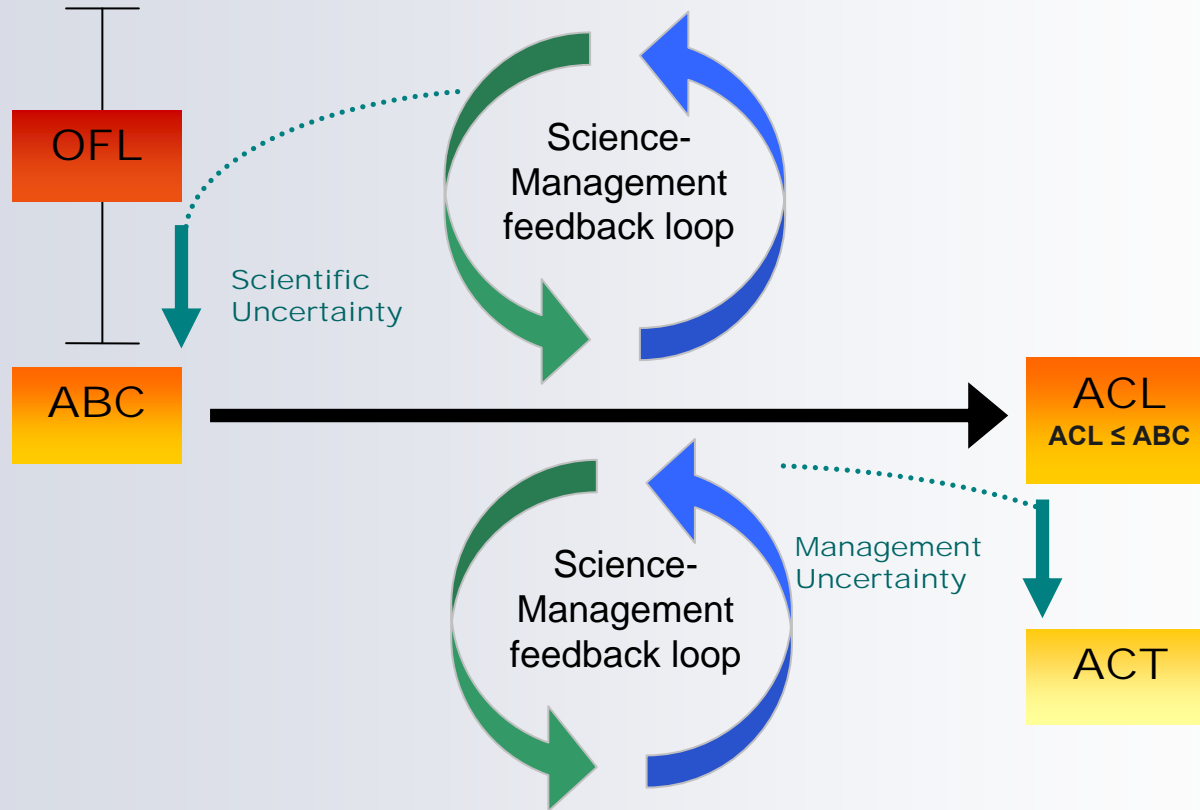




Roles in Setting ACLs

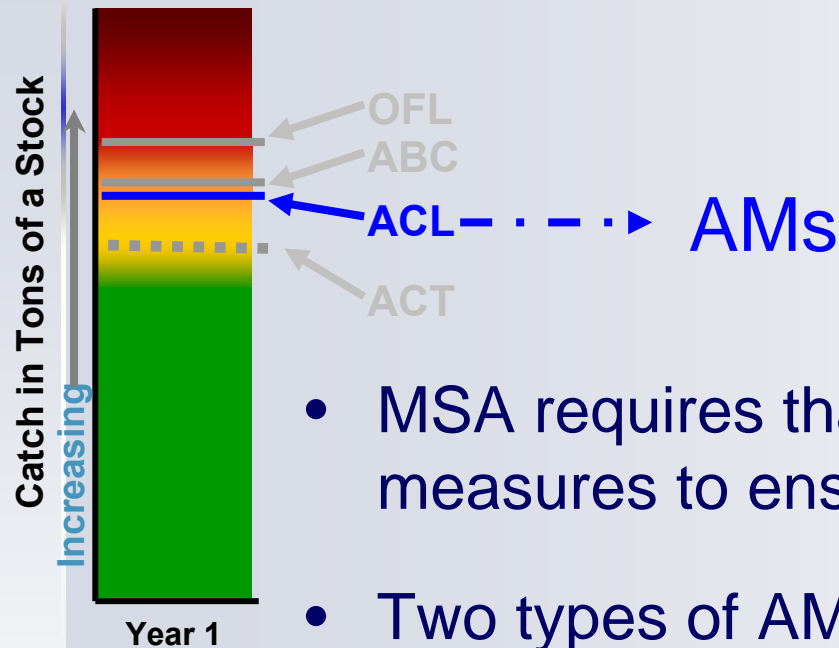
SSC Role

Council Role





Accountability Measures (AMs)



- MSA requires that FMPs establish ACLs, “including measures to ensure accountability”
- Two types of AMs:
 - Inseason measures to prevent reaching the ACL
 - AMs to address an overage of the ACL
 - Operational factors leading to an overage
 - Mitigate biological harm to the stock, if any





Performance Standards

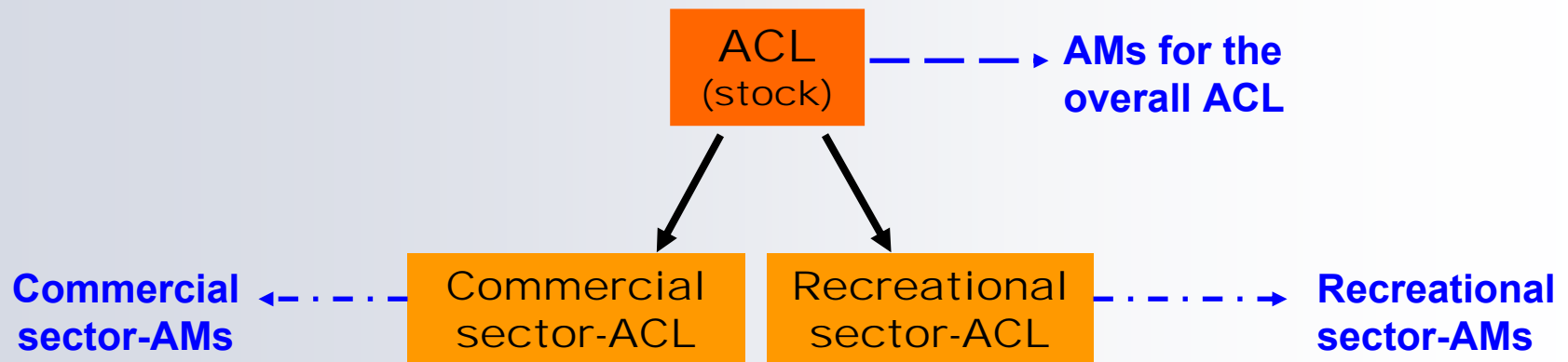
- Because of uncertainty, there is always a chance that overfishing could occur.
- To prevent chronic overfishing:
 - The system of ACLs and AMs should be re-evaluated and modified if the ACL is exceeded more than 1 in 4 years.
 - A higher performance standard could be used if a stock is particularly vulnerable to the effects of overfishing.





ACLs & AMs for a Fishery Sector

- **Optional** to sub-divide a stock's ACL into “sector-ACLs”.
- The sum of sector-ACLs should not exceed the overall ACL.
- AMs required for the overall ACL to protect the stock as a whole.
- For each sector-ACL, “sector-ACTs” and “sector-AMs” should be established.
- Sector-AMs should be fair and equitable.





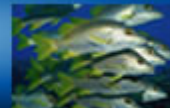
State-Federal Fisheries

- Could be a challenge to establish ACLs and AMs for stocks with most catch occurring in state waters.
- State-Federal collaboration to establish ACLs and AMs.
- Where agreement cannot be reached:
 - The ACL should be specified for the entire stock,
 - Identify a Federal portion of the ACL, and
 - Apply AMs to catch in Federal waters.
 - Similar approach as “sector-ACLs”.





Summary





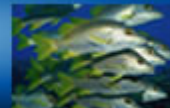
Summary

- MSA requires:
 - ACLs and AMs to prevent overfishing,
 - ACLs not exceed fishing level recommendations of SSCs, and
 - ACLs and AMs in all managed fisheries, with 2 exceptions.
- NMFS proposes:
 - ACLs and AMs for all stocks and stock complexes in a fishery, unless the 2 MSA exceptions apply.
 - Clearly account for both scientific and management uncertainty in the ACL specification process.
 - AMs should prevent ACL overages, where possible, and always address overages, if they occur.
 - An optional “ecosystem component” category could allow flexibility in FMPs for greater ecosystem considerations.





Questions



SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON
MAGNUSON-STEVENSON ACT REAUTHORIZATION IMPLEMENTATION

The Scientific and Statistical Committee (SSC) discussed the proposed Integrated Fishery and Environmental Management Statements (IFEMS) and the procedures proposed for “framework” type fishery actions such as annual specifications. The SSC supports the framework process as it has the potential to improve the current groundfish annual specification process used by the Pacific Fishery Management Council. Specifically, the framework process could potentially shorten the time between when assessments are finished and when assessment results are used in the fishery management process. However, the final rule should provide more details on how frameworks could be developed that streamline the annual specification process.

PFMC
06/08/08

UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Pacific Fishery Management Council (Council) continually identifies research and data needs across its fishery management plans (FMPs) through a variety of processes, including stock assessment and fishery management cycles. Council Operating Procedure 12 outlines the Council's process for documenting research and data needs and the schedule for completing and communicating these needs to organizations which may be able to support additional research. Council staff and advisory bodies have been revising the current Draft Research and Data Needs document (Agenda Item C.3.a, Attachment 1) throughout the winter and spring of 2008. At the June Council meeting, the Council is scheduled to adopt a draft document to be published for public review in advance of Council final adoption at its September 2008 meeting in Boise, Idaho.

In January 2007, the *Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006* reauthorized the Magnuson-Stevens Act (MSA) through fiscal year 2013. Specific to research, data collection, and reporting, the amended MSA added several new provisions and programs, including: 1) a study on the state of science for the integration of ecosystem consideration in fishery management, 2) a Bycatch Reduction Engineering Program, 3) a Cooperative Research and Management Program, 4) a Deep Sea Coral Research and Technology Program, and 5) a requirement under Regional Fishery Management Council Functions, that states the Council shall:

“develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall establish priorities for 5-year periods; be updated as necessary; and be submitted to the Secretary and the regional science centers of the National Marine Fisheries Service for their consideration in developing research priorities and budgets for the region of the Council.”

The Research and Data Needs document, when adopted in its final form by the Council in September 2008, is intended to record and communicate the Council's research and data needs through 2014 to ensure continued well-informed Council decision-making into the future and to fulfill the Council's responsibilities under the reauthorized MSA.

Council Action:

Adopt a Research and Data Needs Document for Public Review.

Reference Materials:

1. Agenda Item C.3.a, Attachment 1: Draft Research and Data Needs, 2008.
2. Agenda Item C.3.b, CPSAS Report.
3. Agenda Item C.3.c, Public Comment.

Agenda Order:

- a. Agenda Item Overview
 - b. Reports and Comments of Advisory Bodies
 - c. Public Comment
 - d. **Council Action:** Adopt a Research and Data Needs Document for Public Review
- Mike Burner

PFMC
05/27/08

RESEARCH AND DATA NEEDS

2008

**PRELIMINARY DRAFT
DO NOT CITE**

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JUNE 2008



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ACRONYMS AND DEFINITIONS

Acronym	Definition
ABC	Acceptable biological catch. See below.
acceptable biological catch	The ABC is a scientific calculation of the sustainable harvest level of a fishery and is used to set the upper limit of the annual total allowable catch. It is calculated by applying the estimated (or proxy) harvest rate that produces maximum sustainable yield to the estimated exploitable stock biomass (the portion of the fish population that can be harvested).
ASAP	Age-structured Assessment Program
ATCA	Atlantic Tunas Convention Act
AUV	Autonomous Underwater Vehicle
barotrauma	Physical trauma or injury to a fish due to pressure change. When a fish is rapidly brought from deep water to the surface, the drop in pressure can cause a variety of physical problems, such as severe expansion of the swim bladder and gas bubbles in the blood.
CalCOFI	California Cooperative Oceanic Fisheries Investigations
catch per unit of effort	The quantity of fish caught (in number or weight) with one standard unit of fishing effort. For example, the number of fish taken per 1,000 hooks per day, or the weight of fish, in tons, taken per hour of trawling. CPUE is often considered an index of fish biomass (or abundance). Sometimes referred to as catch rate. CPUE may be used as a measure of economic efficiency of fishing as well as an index of fish abundance.
CCS	California Current System
CDFG	California Department of Fish and Game
coastal pelagic species	Coastal pelagic species are schooling fish, not associated with the ocean bottom, that migrate in coastal waters. They usually eat plankton and are the main food source for higher level predators such as tuna, salmon, most groundfish, and humans. Examples are herring, squid, anchovy, sardine, and mackerel.
coded-wire tag	Coded-wire tags are small pieces of stainless steel wire that are injected into the snouts of juvenile salmon and steelhead. Each tag is etched with a binary code that identifies its release group.
cohort	In a stock, a group of fish born during the same time period.

Acronym	Definition
COP	Council Operating Procedures
Council	Pacific Fishery Management Council
CPFV	Commercial passenger fishing vessel (charter boat)
CPS	Coastal pelagic species. See above.
CPSAS	Coastal Pelagic Species Advisory Subpanel
CPSMT	Coastal Pelagic Species Management Team
CPUE	Catch per unit of effort. See above.
CUFES	Continuous Underwater Fish Egg Sampler
CWT	Coded-wire tag. See above.
DEPM	Daily egg production method
EBFM	Ecosystem-Based Fishery Management
EEZ	Exclusive Economic Zone. See below.
EFH	Essential fish habitat. See below.
EIS	Environmental impact statement. See below.
El Niño Southern Oscillation	Abnormally warm ocean climate conditions, which in some years affect the eastern coast of Latin America (centered on Peru) often around Christmas time. The anomaly is accompanied by dramatic changes in species abundance and distribution, higher local rainfall and flooding, and massive deaths of fish and their predators. Many other climactic anomalies around the world are attributed to consequences of <i>El Niño</i> .
Endangered Species Act	An act of federal law that provides for the conservation of endangered and threatened species of fish, wildlife, and plants. When preparing fishery management plans, councils are required to consult with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to determine whether the fishing under a fishery management plan is likely to jeopardize the continued existence of an ESA-listed species or to result in harm to its critical habitat.

Acronym	Definition
Environmental impact statement	As part of the National Environmental Policy Act (NEPA) process, an EIS is an analysis of the expected impacts resulting from the implementation of a fisheries management or development plan (or some other proposed action) on the environment. EISs are required for all fishery management plans as well as significant amendments to existing plans. The purpose of an EIS is to ensure the fishery management plan gives appropriate consideration to environmental values in order to prevent harm to the environment.
ESA	Endangered Species Act. See above.
essential fish habitat	Those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.
Exclusive Economic Zone	A zone under national jurisdiction (up to 200 nautical miles wide) declared in line with the provisions of the 1982 United Nations Convention of the Law of the Sea, within which the coastal State has the right to explore and exploit, and the responsibility to conserve and manage, the living and non-living resources.
exempted fishing permit	A permit issued by National Marine Fisheries Service that allows exemptions from some regulations in order to study the effectiveness, bycatch rate, or other aspects of an experimental fishing gear. Previously known as an “experimental fishing permit.”
Fathom	Used chiefly in measuring marine depth. A fathom equals six feet.
FEIS	Final Environmental Impact Statement (see EIS, NEPA).
Fm	Fathom (6 feet)
FMP	Fishery management plan. See above.
FRAM	Fishery Regulation Assessment Model. Typically used for salmon.
FWS	U.S. Fish and Wildlife Service
GIS	Geographic Information System
GSI	Genetic stock identification
Habitat areas of particular concern	Subsets of essential fish habitat (see EFH) containing particularly sensitive or vulnerable habitats that serve an important ecological function, are particularly sensitive to human-induced environmental degradation, are particularly stressed by human development activities, or comprise a rare habitat type.

Acronym	Definition
HAPC	Habitat areas of particular concern. See above.
Harvest guideline(s)	A numerical harvest level that is a general objective, but not a quota. Attainment of a harvest guideline does not require a management response, but it does prompt review of the fishery.
Highly migratory species	In the Council context, highly migratory species in the Pacific Ocean include species managed under the HMS Fishery Management Plan: tunas, sharks, billfish/swordfish, and dorado or dolphinfish.
HMS	Highly migratory species. See above.
HMS FMP	Highly Migratory Species Fishery Management Plan. This is the fishery management plan (and its subsequent revisions) for the Washington, Oregon, and California Highly Migratory Species Fisheries developed by the PFMF and approved by the Secretary of Commerce.
IATTC	Inter-American Tropical Tuna Commission
IFQ	Individual fishing quota. See below.
IMECOCAL	A program in Baja California concerning small pelagics and climate change.
Incidental catch or incidental species	Species caught when fishing for the primary purpose of catching a different species.
Incidental take	The “take” of protected species (such as listed salmon, marine mammals, sea turtles, or sea birds) during fishing. “Take” is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.
Individual transferable (or tradeable) quota	A type of quota (a part of a total allowable catch) allocated to individual fishermen or vessel owners and which can be transferred (sold, leased) to others.
ISC	International Scientific Committee
ITQ	Individual Transferable (or Tradable) Quota. See above.
KOHM	Klamath Ocean Harvest Model (for salmon)
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act. See below.

Acronym	Definition
Magnuson-Stevens Fishery Conservation and Management Act	The MSFCMA, sometimes known as the “Magnuson-Stevens Act,” established the 200-mile fishery conservation zone, the regional fishery management council system, and other provisions of U.S. marine fishery law.
Marine Mammal Protection Act	The MMPA prohibits the harvest or harassment of marine mammals, although permits for incidental take of marine mammals while commercial fishing may be issued subject to regulation. (See “incidental take” for a definition of “take”).
Maximum sustainable yield	An estimate of the largest average annual catch or yield that can be continuously taken over a long period from a stock under prevailing ecological and environmental conditions. Since MSY is a long-term average, it need not be specified annually, but may be reassessed periodically based on the best scientific information available.
MMPA	Marine Mammal Protection Act. See above.
MPA	Marine protected areas
MSA	Magnuson-Stevens Fishery Conservation and Management Act. See above.
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act. See above.
MSY	Maximum sustained yield. See above.
National Marine Fisheries Service	A division of the U.S. Department of Commerce, National Ocean and Atmospheric Administration (NOAA). NMFS is responsible for conservation and management of offshore fisheries (and inland salmon). The NMFS Regional Director is a voting member of the Council.
NGO	Nongovernmental organization
NMFS	National Marine Fisheries Service. See above.
NMFS NWFSC	National Marine Fisheries Service Northwest Fisheries Science Center
NMFS NWR	National Marine Fisheries Service Northwest Region
NMFS SWFSC	National Marine Fisheries Service Southwest Fisheries Science Center
NMFS SWR	National Marine Fisheries Service Southwest Region
NMSA	National Marine Sanctuaries Act

Acronym	Definition
NMSP	National Marine Sanctuaries Program
NOAA	National Oceanic & Atmospheric Administration. The parent agency of National Marine Fisheries Service.
ODFW	Oregon Department of Fish and Wildlife
Optimum yield	The amount of fish that will provide the greatest overall benefit to the Nation, particularly with respect to food production and recreational opportunities, and taking into account the protection of marine ecosystems. The OY is developed on the basis of the Maximum Sustained Yield from the fishery, taking into account relevant economic, social, and ecological factors. In the case of overfished fisheries, the OY provides for rebuilding to a level that is consistent with producing the Maximum Sustained Yield for the fishery.
OY	Optimum yield. See above.
Pacific States Marine Fisheries Commission	The PSMFC is a non-regulatory agency that serves Alaska, California, Idaho, Oregon and Washington. PSMFC (headquartered in Portland) provides a communication exchange between the Pacific Fishery Management Council and the North Pacific Fishery Management Council, and a mechanism for federal funding of regional fishery projects. The PSMFC provides information in the form of data services for various fisheries.
PaCOOS	Pacific Coast Ocean Observing Program
PFMC	Pacific Fishery Management Council
PNW	Pacific Northwest
PSMFC	Pacific States Marine Fisheries Commission. See above.
Quota	A specified numerical harvest objective, the attainment (or expected attainment) of which causes closure of the fishery for that species or species group.
RCA	Rockfish Conservation Area (Depends on how it is used)
RFMO	Regional Fishery Management Organization

Acronym	Definition
RMP	Resource management plan. Covers impacts to listed species from activities of state and local governments, under section 4(d) of the Endangered Species Act.
SAFE	Stock assessment and fishery evaluation. See below.
SEM	Scanning Electron Microscopy
Scientific and Statistical Committee	An advisory committee of the PFMC made up of scientists and economists. The Magnuson-Stevens Act requires that each council maintain an SSC to assist in gathering and analyzing statistical, biological, ecological, economic, social, and other scientific information that is relevant to the management of Council fisheries.
SS2	Stock Synthesis 2 – Population assessment program.
SSC	Scientific and Statistical Committee. See above.
STAR	Stock assessment review
STAR Panel	Stock Assessment Review Panel. A panel set up to review stock assessments for particular fisheries. In the past there have been STAR panels for sablefish, rockfish, squid, and other species.
Stock Assessment and Fishery Evaluation	A SAFE document is a document prepared by the Council that provides a summary of the most recent biological condition of species in the fishery management unit, and the social and economic condition of the recreational and commercial fishing industries, including the fish processing sector. It summarizes, on a periodic basis, the best available information concerning the past, present, and possible future condition of the stocks and fisheries managed in the FMP.
TIQ	Trawl Individual Quota
Vessel Monitoring System	A satellite communications system used to monitor fishing activities—for example, to ensure that vessels stay out of prohibited areas. The system is based on electronic devices (transceivers), which are installed on board vessels. These devices automatically send data to shore-based “satellite” monitoring system.
WCGOP	West Coast Groundfish Observer Program
WCPFC	Western and Central Pacific Fisheries Commission
WDFW	Washington Department of Fish and Wildlife

WG	Working Group
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1.0 INTRODUCTION

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) includes directives to 1) prevent overfishing, 2) rebuild depressed fish stocks to levels of abundance that produce maximum sustainable yield (MSY), 3) develop standardized reporting methodologies to assess the amount and type of bycatch, 4) adopt measures that minimize bycatch and bycatch mortality, to the extent practicable, 5) describe and identify essential fish habitat (EFH), and 6) assess the impact of human activities, including fishing impacts, on habitat. The MSA also encourages the participation of the fishing industry in fishery research. Additionally, Standard 8 mandates consideration of the effects of fishery management measures on communities. These directives require substantial data collection and research efforts to support Council management of west coast fisheries.

In January 2007, the *Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006* reauthorized the MSA through fiscal year 2013. The MSA, as amended, retains key feature of the *Sustainable Fisheries Act of 1996* while strengthening the Regional Fishery Management Councils, improving fishery management decision making through improved processes and an increased role of science, and increasing U.S. leadership in international fishery management and conservation issues.

Specific to research, data collection, and reporting, the amended MSA added several new provisions and programs, including:

- A study on the state of science for the integration of ecosystem consideration in fishery management, MSA Section 406.
- Bycatch Reduction Engineering Program, MSA Section 316.
- Cooperative Research and Management Program, MSA Section 318.
- Deep Sea Coral Research and Technology Program, MSA Section 408.
- A requirement under Regional Fishery Management Council Functions, MSA Section 302(h)(7), that the Council shall,

“(7) develop, in conjunction with the scientific and statistical committee, multi-year research priorities for fisheries, fisheries interactions, habitats, and other areas of research that are necessary for management purposes, that shall—

(A) establish priorities for 5-year periods;

(B) be updated as necessary; and

(C) be submitted to the Secretary and the regional science centers of the National Marine Fisheries Service for their consideration in developing research priorities and budgets for the region of the Council.”

This document, when adopted in its final form by the Council in the fall of 2008, is intended to document and communicate the Council’s research and data needs through 2014 thereby fulfilling the Council’s responsibilities under MSA Section 302(h)(7).

1.1 Schedule of Document Development and Review

The Council proposes to follow the schedule outlined in the recently approved Council Operating Procedure 12 (see excerpt below). Council staff provided a preliminary draft in March 2008 to allow additional time for advisory bodies and the Council to review the document during this busy time of year and provide written comments to the Scientific and Statistical Committee (SSC) and Council staff.

EXCERPT FROM COUNCIL OPERATING PROCEDURE 12

PROCEDURE

Contingent upon its overall workload priorities, the Council will strive to develop and maintain relevant documents which display and communicate the Council's research and data needs for 5-year periods using the following schedule of tasks as a standard guide.

Continuous

Year-Round Council staff keeps track of research and data needs as they arise in various forms throughout the year and, as appropriate, advocates for efforts to address Council (such advocacy shall not include the lobbying of Congress).

Five-Year-Update Cycle

<i>April</i>	<i>Council staff presents updated research and data document to the SSC and other advisory bodies for review at the April Council meeting. Advisory bodies provide written comments to the SSC. (Item is not on Council agenda).</i>
<i>June</i>	<i>The SSC presents recommended revisions to the Council. Other advisory bodies provide comment to the Council. The Council approves draft documents for public review.</i>
<i>September</i>	<i>After reviewing comments from the public and Council advisory entities, the Council adopts its research and data needs. The document is submitted to National Marine Fisheries Service (NMFS) west coast regions and centers and the states. The final document is also transmitted to west coast and National Sea Grant institutions and posted on the Council web page.</i>
<i>Early December</i>	<i>Council Chair and staff meet with representatives from NMFS west coast regions and centers and Pacific States Marine Fisheries Commission (PSMFC) to develop a consensus on high priority initiatives needed to respond to Council needs. Council Chair writes a letter to NMFS to transmit the conclusions from the meeting.</i>

Out-of-Cycle Modifications to the Needs List

If a situation arises that would benefit from an out-of-cycle modification to the documents, the Council may announce its intent to modify the research and data needs document outside the 5-year process and make such a modification at its next meeting.

1.2 Document Organization

This document represents a summary of research and data needed by the Council to implement its responsibilities as defined by the MSA, the Regulatory Flexibility Act, and other pertinent legislation. The document is largely organized according to the Council's four FMPs with additional sections for economic and social science components and ecosystem-based fishery management and marine protected area issues. Because each FMP or management component has a unique Council history and its own issues and data needs, each section is organized in a style best suited for its particular research and data needs. Where appropriate, these sections address continuing issues and identify important emerging issues.

The bulleted list below represents the set of general criteria used to identify the highest priority needs. These criteria were first identified in 2000 and were applied in this most recent exercise as guiding principles rather than explicitly defined rules for developing research and data needs.

- Projects address long-term fundamental needs of west coast fisheries.
- Projects improve the quality of information, models, and analytical tools used for biological assessment and management.
- Projects increase the long-run market competitiveness and economic profitability of the industry.
- Projects contribute to the understanding by decision makers of social and economic implications in meeting biological and conservation objectives.
- Projects provide data and/or information to meet the requirements of the MSA, the Regulatory Flexibility Act, and other applicable laws.

2.0 GROUND FISH FISHERY MANAGEMENT PLAN

2.1 Introduction

The focus of this section is on research and data needs to support quantitative stock assessments of groundfish stocks in the fisheries management plan. There is an emphasis on 1) continuation of on-going data collection programs that support assessments of stocks that have been already been assessed, 2) improving the quality and representativeness of these data collection programs, 3) new survey and/or sampling techniques to monitor stocks that cannot be surveyed effectively using current methods, and 4) refining stock assessment methods. Consideration is also given to the objective of expanding the number of species being assessed, either by focused research on life history characteristics of unassessed species, expanded data collection, or the development of assessment methods with lower data requirements.

Achieving strategic objectives will require further planning and coordination with longer time horizons. A plan is needed for the development of research and data collection projects rather than a simple list of research and data needs. The plan should include an evaluation of the availability of assessment data for each species in the FMP, and the adequacy of existing surveys to monitor stock abundance trends. The plan should include specific projects as well as mechanisms for coordination and development of an ongoing interagency program for addressing west coast groundfish research and data needs.

2.2 Data Issues

2.2.1 Fisheries Monitoring, Data Collection, and Availability of Data

Develop and implement a coastwide multi-state system for electronic recording of fishticket information and fishery logbooks in consistent form.

An integrated electronic recording system for fishticket and logbook information for the Pacific coast is not yet in place. There has been some progress towards this goal. A pilot project was developed by NMFS Northwest Fisheries Science Center (NWFSC) and tested by the California Department of Fish and Game (CDFG) and one processor in 2004, but this project received no additional funding. Funds for development of an electronic fishticket system for the west coast have been allocated to the Northwest Regional Office for distribution to PSMFC as part of a nationwide NMFS initiative to promote electronic data recording.

This item remains a priority. The present need for real-time estimates of landings and discards is acute, particularly given the increased emphasis on accountability for in-season management measures in the revised MSA. The Groundfish Management Team and NMFS track groundfish catches inseason and attempt to produce close to real-time estimates of landings and discards. An electronic fishticket system would provide real-time landings data that are more precise with all the requisite information captured.

Logbooks are used with fishtickets and West Coast Groundfish Observer Program (WCGOP) data to reconcile the total catch by area and determine bycatch rates in association with target species. Logbook data availability can lag by as much as a year, which delays input data to bycatch models and the total catch reconciliation process. Electronic logbooks, like electronic

fishtickets, can increase accuracy of critical data needed for good management decision-making. Logbook programs should be developed for other commercial sectors beyond the limited entry trawl fishery.

Develop methods, programs, or analytical tools to quantify amount of groundfish discarded by the various fishing sectors.

WCGOP was established in 2001 to improve estimates of total catch and discard in west coast fisheries. The program deploys over 40 observers, and collects at-sea data from limited-entry trawl and fixed gear fleets as well as from open access, nearshore, prawn, and shrimp fleets. Currently, the coverage objective is to maintain, at minimum, 20% coverage of the limited-entry trawl fleet and fixed gear fleets. WCGOP has made progress in quantifying discard in trawl fisheries and limited entry fixed gear fleets, however, observer coverage of open access fleets is currently being expanded. Improvements are needed in facilitating timely access to the information and data collected by WCGOP. These improvements are necessary to implement Council objectives, and are a high priority. This information would enable analyses to identify areas or fishing strategies in which available target species might be accessed with focused target fishing strategies, or within particular regions, with acceptable impacts on overfished species.

Improve Fishery Monitoring and Data Collection

For reasons already noted, a fully integrated fishery statistics program is a priority for groundfish management. Data required include fishtickets to census the landed catch, logbooks to document areas of capture, shoreside sampling to estimate species composition of aggregated landings and biological traits of target species, and observer program data to document catch discarded at sea.

- Estimating discards in the recreational groundfish fishery is increasingly important, particularly for non-retention species. Additional data are needed on the number and size of recreational discards.
- The bycatch model used to estimate total discards is an empirical model whose performance should be evaluated on an ongoing basis as more data become available. Refinements to the bycatch model may be needed if model predictions need improvement.
- Information on the size composition of discards was identified as data need for the assessment of sablefish, Dover sole, petrale sole, and English sole. Discards of these species can be significant and are unlikely to correspond to the default assumption that discards have the same size composition as retained catch. In some cases, the size composition of discard provides information about the magnitude of recruiting year classes.
- Use of electronic monitoring of bycatch should be further explored.
- Electronic technologies and methods should be explored to improve the pace of data reporting of observer information as well as fish ticket information.

- Protocols and priorities for biological sampling (lengths and ageing structures) should be evaluated to ensure that sufficient data are being collected to support existing stock assessments and proposed new assessments. STAR panels identified significant information gaps in the age and growth information needed for a number of assessments developed in 2007. There is need to optimize the use available resources (i.e., port samplers) in a way that provides maximum benefit to stock assessments.
- The accuracy and precision of recreational catch and effort estimates for minor fishing modes such as beach and bank anglers, private access sites, and night fishing needs to be investigated.
- Recreational fishery impacts could be better estimated with improved understanding of discard mortality rates, particularly in nearshore waters where the ability to survive barotrauma or hooking or trapping injuries, may vary among species. There may also be long-term physiological effects on reproductive output due to capture and release, which could have stock productivity and management implications. Improved estimates are needed of mortality rates of discarded fish in both recreational and commercial fisheries. If alternative release methods are shown to affect survival, it may be necessary to collect information on how commonly these methods are used.
- Development of fishery independent time series of catch rates and associated composition data using fixed sites and volunteer fisherman properly supervised using standard protocols.
- Cooperative research programs are required under the recently reauthorized MSA and are playing an increasing role in West coast fishery science and management and could be utilized to expand data collection as fishing opportunities have decreased and research needs increased. However, it is critical to design programs and implement the necessary data evaluations and analyses to ensure that ongoing and future cooperative research work can be used in fishery management (i.e., fishery models, stock assessments, etc.) on a timely basis.

2.2.2. Historical Fisheries Data

Reconstruct historical catch histories for groundfish.

Historical catch estimates which are consistent with the best available information and also consistent across species are needed. Particularly problematic are a general lack of comprehensive species composition estimates by gear-type and region.

Several of the 2007 assessments have conducted historical commercial and recreational catch reconstructions. An effort needs to be made to develop a consistent approach to reconstructing catch histories. The ideal outcome would be a single document or database outlining the best reconstructed catch histories for each species (c.f. Rogers (2003) that lists foreign catches) with accompanying uncertainty envelopes. Particular attention should be paid to constructing a coastwide catch history for rockfish.

The California landing receipts on microfilm back to 1950 should be incorporated into the landings database.

2.2.3. Survey Data

Continue to conduct annual comprehensive shelf and slope resource surveys.

An annual slope survey conducted by commercial trawlers was initiated by NMFS NWFSC in 1998. In 2003, the slope survey was extended onto the shelf and is now intended to be a comprehensive annual survey of both shelf and slope groundfish resources along the entire west coast from the Mexican to Canadian border. This expanded survey supplants the Alaska Fisheries Science Center's triennial shelf survey, which was conducted for the final time in 2004.

Resource Assessment Surveys

Given the low estimates of potential yield and the long rebuilding trajectories for many rockfish, particularly yelloweye rockfish and canary rockfish, there is a particular need to supplement existing surveys with means of estimating abundance and biomass trends that have a lesser impact on resources, and that survey habitat not traditionally indexed by trawl surveys.

- Evaluate feasibility of and develop as appropriate alternative survey methodologies for measuring abundance and distribution of groundfish. In recent years, feasibility studies or small-scale surveys have been conducted using Autonomous Underwater Vehicles (AUVs), submersibles, acoustics, towed cameras, LIDAR, hook and line gear, and egg and larval sampling. Research should be conducted to evaluate the comparative costs and utility of these alternative survey methods for groundfish assessment.
- Develop a coastwide survey of rockfish populations in untrawlable areas. Fairly low cost non-extractive advanced technologies (i.e., bottom mapping AUV's) are currently available. The use of comprehensive non-extractive methods to assess abundances in areas not well surveyed by the current bottom trawl survey should be developed and evaluated. Continue to explore an acoustical-optical survey as an index of groundfish abundance off southern and central California.
- The continuation and enhancement of the International Pacific Halibut Commission's annual hook-and-line survey as a means to collect yelloweye rockfish data for consideration in the yelloweye rockfish stock assessments is also a high research priority, given the truncation of catch per unit of effort (CPUE) time series from targeted longline and recreational fisheries.
- Maintain CalCOFI surveys and expand processing of collected samples. Improve survey information for canary and widow rockfish.
- Pilot cooperative industry surveys for canary and widow rockfish hold promise, and should continue.
- Additional attention should be given to evaluating hook and line or longline gear for surveying rockfish populations. The gear is inexpensive, can be standardized across survey platforms, is deployable on a variety of bottom types, and is suitable for cooperative research projects with the fishing fleet. Since most rockfish species are not common and have low productivity, sustainable yields are likely to be low even after

overfished species are rebuilt. Only low cost or self-funding survey methods may be viable over the long term given the vagaries of state and Federal funding for fisheries research.

- Tagging programs are a potentially useful source of information on stock trends for nearshore species such as black rockfish. Additional work is needed to develop quantitative priors for tagging catchability when the tagging program is smaller in scale than the stock being assessed. Continuation and/or expansion of tagging programs should consider the scope of project the relative to the area being assessed.
- Accurate bottom substrate maps, including trawlable and untrawlable habitat, are critical to interpretation of survey abundance indices. Efforts should continue to refine habitat maps of Pacific coast continental shelf and slope. Many commercial vessels are now using automated mapping software to augment digital navigation charts with improved bathymetry and bottom substrate information from echosounders. Cooperative research projects to access this information should be considered.
- Investigate the importance of calendar date and other covariates on catch rates from the triennial survey and propose adjustments to account for seasonal and other variation in selectivity/availability.
- Develop genetic methods to identify larval fish in plankton samples for accurate species identification.
- Explore use of genetic tags in population size estimation.

2.2.4 Biology and Basic Life History Data

Biological Information Including Fishery and Productivity Parameters

- Expand research on the basic life history characteristics of unassessed groundfish. There is a particular need for research on nearshore groundfish stocks that are targeted by hook and line fisheries and recreational fisheries. Studies should be specifically designed to estimate basic assessment information, including growth curves, length-weight relationships, age and length-maturity schedules, and longevity. Identify which species in the groundfish FMP are lacking this basic information and develop a timetable for generating this information.
- There is a need for focused relatively short-term biological collections to address acute assessment concerns. An example of this kind of study would be an evaluation of spatial variability in blue rockfish growth. Similar studies are needed for black rockfish and bocaccio, and there are other examples.
- Current harvest policies for rockfish use female spawning biomass or egg production as a metric of reproductive output. Recent laboratory research suggests that the larval survival of black rockfish increases with the age of the spawner, a result that calls into question the current working assumption. At present it is unclear if this is a general characteristic of rockfish reproductive biology. Both fieldwork and laboratory studies are

needed to evaluate the importance of maternal age in rockfish reproductive biology. Analysis is needed to assess the effects on current harvest policies.

- Recent genetic research indicates vermillion rockfish and blue rockfish may each represent two distinct but morphologically similar species. Further genetic studies are needed to confirm these findings. These genetic studies should be designed to address management issues, such as differences in spatial distribution, the extent of intermixing, differences in growth, longevity, and maturation schedules between the two species. Other species of rockfish should also be studied for genetic structure.
- Conduct comprehensive gut analysis of groundfish to determine basic trophic interactions. Only piecemeal information is currently available. Comprehensive information will be essential for developing ecosystem assessments for the California Current System (CCS).

2.2 Stock Assessment Issues

Stock Assessment Data Reporting Improvements

Identification of research and data needs is a routine part of the groundfish stock assessment review process. Stock Assessment Review (STAR) Panels frequently capture these needs in their final reports. The following general data reporting improvements were reiterated in several of the STAR Panel reports from the 2007 assessment reports. Species specific recommendations from 2007 reports are contained in Appendix I.

- Establish a meta database of all data relevant to rockfish stock assessments. The database should include enough detail about the nature and quality of the data that a stock assessment author can make a well informed decision on whether it could be useful for their stock assessment.
- Establish accessible online databases for all data relevant to groundfish stock assessments, so that assessment authors can expeditiously obtain the raw data if required.
- Establish a database for historical groundfish catch histories, “best” guesses and estimates of uncertainty (and processes for updating and revising the database).
- Develop a concise set of documents that provide details of common data sources and methods used for analyzing the data to derive assessment model inputs.
- Routinely produce and present supporting documentation for any derived indices which are included in a stock assessment model (e.g., GLMM derived trawl survey abundance indices).

Stock Assessment Modeling

- Develop methods to assess and manage stocks for which data are not adequate to fit age-structured assessment models. Develop harvest control rules and associated procedures to calculate acceptable biological catches (ABCs) and OYs for these data-poor stocks.

- Develop guidance on use of Bayesian priors in stock assessment models. Priors for survey catchability can be of extremely important when the contrast in relative abundance is not sufficient to produce a reliable model estimate of survey catchability. Examples of recent assessments with undetermined survey catchability include sablefish, longnose skate, and longspine thornyhead. A workshop to develop survey catchability priors to use in stock assessment modeling would promote development of suitable analytical techniques and bring together appropriate expertise.
- Develop and evaluate standard methods for jointly modeling age and length data, including choice of distribution, age-reading error, initial variance assumptions, and tuning methods.
- Evaluate how best to account for and report uncertainty in stock assessments. Explore alternative approaches to present uncertainty in a way that facilitates informed decision-making.
- Develop assessment models that appropriately incorporate results from tagging programs and alternative survey methodologies in stock assessment models.
- Conduct simulation testing to evaluate alternative methods to include environment variables in stock assessment. Apply cross-validation techniques when selecting environmental variables to ensure the derived relationships are robust. A full cross-validation should be carried out that includes the variable selection process.
- Evaluate the effect of MPAs on stock assessment and management of groundfish stocks.
- Continue the evaluation of optimum yield (OY) control rules, biological reference points, spawner-recruit relationships and harvest policies used to make decisions about acceptable biological catch and harvest guideline/OY for groundfish. Simulation methods should be used to evaluate the performance of harvest control rules used to determine OY, and to test alternative methods for determining B_{MSY} and F_{MSY} . Harvest policies should be tested to determine whether they are robust to decadal-scale environmental variation and directional climate change.
- Evaluate the statistical properties (i.e., bias, estimability, variance, etc.) of current stock assessment models used for groundfish. Assessment models for groundfish are complex with many estimated parameters, yet often the data used to fit these models are sparse and uncertain. The reliability of model estimates should be tested using simulation procedures.
- Conduct field projects and modeling studies to determine which selectivity assumptions (dome shape vs. asymptotic) are most appropriate for the various groundfish stocks including lingcod and numerous species of rockfish with age structured assessments.
- Current assessment models treat populations as a single unit. Often there are geographic differences in biological and fishery characteristics without compelling evidence that separate stocks exist. Population densities and temporal pattern of fishing mortality also show geographic differences. Meta-population assessment models should be developed

for linked populations. Simulation studies should be conducted to evaluate the feasibility of conducting reliable spatially-explicit stock assessments. Such models will be necessary to assess impacts of spatially-explicit management measures now being used by Council, and likely to be used to a greater degree in the future.

- The use of recreational fishery CPUE in stock assessments has increased, particularly for assessing nearshore species for which there are no other reliable indices of abundance. Although there have been some recent advances in the analytical methods used to derive abundance indices from CPUE data, further work is needed understand the properties of recreational CPUE data (e.g., method evaluation with simulation data or cross-validation studies). In particular, the effect of management changes and alternative fishing opportunities should be evaluated.
- Many stock assessments utilize artificial boundaries to delineate stocks, in particular those associated with international boundaries. While such assumptions are difficult to avoid in many cases, investigations regarding the implications of stock structure and population connectivity of transboundary resources has been highlighted by review panels as a key research priority in assessments of blackgill, canary, widow, and yelloweye rockfish, as well as in past review panels for other species. Investigations such as genetic methods to provide insights on stock structure, and modeling scenarios that could consider the implications of transboundary stock structure, remain critically important research needs.
- Continuation of joint U.S./Canada technical forums, workshops, and research programs is an important aspect of improving the assessment of transboundary rockfish stocks.

2.3 Habitat Issues

Investigate impact of fishing gear on specific habitats and habitat productivity on the West Coast fishing grounds.

A major effort was made to prepare a comprehensive Environmental Impact Statement (EIS) analysis for the EFH amendment to the FMP. The EIS analysis was an integrated Geographic Information System (GIS) analysis that included the first complete substrate map of the Pacific coast, habitat suitability maps for groundfish species, and maps of fishing impact and habitat sensitivity. This analysis was a significant achievement, but a notable shortcoming was the lack of information on fishing impacts specific to Pacific coast habitats. In an extensive literature review, the EIS identified only two Pacific coast studies. One study was anecdotal; the other was an observational study funded by the Monterey Bay National Marine Sanctuary and published in 1998. Estimates of habitat sensitivity to fishing gear impact and habitat recovery were obtained from studies in other areas.

Field studies are needed on the effects of fishing on benthic habitats on the Pacific coast. Studies should be conducted in a variety of bottom habitat types, using a variety of gear types. Studies should focus on short- and long-term effects on benthic communities and bio-geological processes.

2.4 Pacific whiting research

The following research needs were identified in the *Report of the 2008 U.S./Canada Pacific Hake (Whiting) Stock Assessment Review (STAR)*:

- A Management Strategy Evaluation approach is recommended to evaluate whether the current 40-10 harvest control rule is sufficient to produce the management advice necessary to ensure the sustainable use of the Pacific hake stock with its dramatically episodic recruitment. The 40-10 rule assumes that simply reducing catches in a linear fashion as stock biomass declines will be sufficient to guide the fishery back towards the target spawning biomass level. However, with the fishery being dependent upon a single declining cohort just reducing the catch may achieve the status quo but rebuilding will not occur without new recruitment.
- The operating model developed for the Management Strategy Evaluation should evaluate how well the different assessment models recapture true population dynamics. At issue is whether a simpler model such as ADAPT / VPA performs better or worse than a more complex model such as SS2.
- Conduct additional investigations to improve the Pacific whiting acoustic survey. Evaluate the current acoustic target strength for possible biases, and explore alternative methods for estimating target strength. Continue to compare spatial distributions of Pacific whiting across all years and between bottom trawl and acoustic surveys to estimate changes in catchability/availability across years.
- Female Pacific hake grow differently than male Pacific hake and many of the more influential dynamic processes that operate in the fishery are length-based but are currently considered from an age-based perspective (for example selectivity). Future assessment models should explore the need for including both gender- and length-based selection into the dynamics.
- The inclusion of ageing error was found to be influential on the model fit in the assessment model. However, issues with ageing still remain. Further ageing error analyses are required, especially focused on estimating any bias in the ageing. It will be important to conduct a cross-validation of ageing error from the different laboratories conducting the ageing. It is especially important to include otoliths that were read by AFSC staff.
- In light of current acoustic survey information, re-evaluate treatment/adjustment of pre-1995 acoustic survey data and index values. For example, compare the biomass index implied by the area covered by the pre-1995 surveys with the total biomass from the full area covered by the post-1995 surveys. The difference between these two indices has implications for the magnitude of the survey catchability coefficient prior to 1995.
- There should be further exploration of geographical variations in fish densities and relationships with average age and the different fisheries, possibly by including spatial structure into future assessment models.

- There should be exploration of possible environmental effects on recruitment and the acoustic survey.
- There should be further investigation and resolution of possible under-reporting of foreign catch.

3.0 SALMON FISHERY MANAGEMENT PLAN

3.1 Introduction

In the 2000 Research and Data needs report, three highest priority research and data needs for salmon, along with numerous additional high priority needs, were identified. A brief summary of the three highest priority issues identified in 2000 follows:

- There is increased interest in, and use of, mark-selective fisheries as a management tool to reduce fishery impacts on natural salmon stocks of concern. Successful implementation of selective fisheries will require accurate estimates of non-retention mortalities and more detailed information regarding migration patterns and stock contributions to fisheries.
- Techniques for Genetic Stock Identification (GSI) have advanced to the point that they are a potential management tool. With the establishment of the coast-wide genetic baseline for Chinook, almost 200 stocks can now be identified from a tissue sample. There is currently intense interest in using these techniques for inseason management of weak stock impacts.
- Recent expansion of the listings under the Endangered Species Act (ESA), and the new definition of Essential Fish Habitat (EFH), expands the Council's concerns with both freshwater and marine habitat in relation to harvest strategies and conservation. Probabilistic habitat-based models that incorporate environmental variation and anthropogenic disturbances which could be used to evaluate harvest policies and allow risk assessment for different fishing strategies are still needed.

High priority needs are essentially issues continuing from the 2000 document. Other high priority needs associated with hatchery fish are also identified. Emerging issues are concerned with the implementation of Genetic Stock Identification methods into fishery management, improved forecasting and modeling of Klamath fall Chinook, and examination of ecosystem and habitat interactions.

All research and data projects listed in this section are considered either "highest priority needs" or "high priority needs" according to their ability to meet the criteria listed in the Introduction to this report.

3.2 Highest Priority Issues

3.2.1 Mark-Selective Fisheries

A more accurate assessment of total fishing related mortality for natural stocks of coho and Chinook is needed. The ability of existing management models to predict and assess non-catch mortalities needs to be evaluated and the models modified, if needed.

Fishery management regimes designed to reduce impacts through selective fishing, or non-retention, depend on the accuracy of estimates of non-catch mortality. In recent years, an increasing proportion of impacts of Council fisheries on naturally-spawning stocks have been caused by non-catch mortality as regulations such as landing ratio restrictions and mark-selective

retention have been employed. Research using standardized methodologies (e.g., handling, holding, reporting, post-mortem autopsies, etc.), is needed to estimate release mortality, encounter, and drop-off rates associated with gears and techniques that are typically employed in different areas and fisheries. Special attention needs to be paid to mid-term and long-term mortality. Fleet profile data (i.e., fishing technique and gear compositions) are needed to estimate release mortality rates for individual fisheries.

Harvest models have been modified to incorporate non-catch mortality. The selective coho Fishery Regulation Assessment Model (FRAM) has been approved for Council use but the selective Chinook FRAM is still under review. The modified models should work well when exploitation rates are relatively low, but as selective fisheries become more intense these models will tend to underestimate total mortality of the unmarked stocks. This problem could be addressed by using continuous catch equations which would probably require a model of migration patterns. The harvest models become more sensitive to estimates of non-catch fishing mortality as the selective fisheries modeled become more intense. Uncertainty and risk need to be explicitly incorporated into these models as they are developed.

3.2.2 Stock Identification

Advances in GSI, otolith marking, and other techniques may make it feasible to use a variety of stock identification technologies to assess fishery impacts and migration patterns.

The increasing necessity for weak-stock management puts a premium on the ability to identify naturally-reproducing stocks and stocks that contribute to fisheries at low rates. In many instances, the coded-wire-tag (CWT) system alone does not provide the desired level of information. The Council encourages efforts to integrate a variety of techniques to address this issue.

Substantial progress has been made on this issue in the past eight years. A coast-wide microsatellite database for Chinook has been developed. A similar database for coho salmon is under development, but needs resources to coordinate efforts for the entire coast. Genetic techniques have improved so that samples can potentially be analyzed within 24-48 hours of arrival at the laboratory. GSI is being used on an inseason basis in Canada to manage coho salmon fisheries off the west coast of Vancouver Island. Studies are under way to evaluate the potential usefulness of real time GSI samples in Chinook management, particularly with Klamath fall Chinook. There are proposals to develop operational alternatives to time-area management using these techniques, in combination with existing CWT marking, mass marking, otolith microchemistry, and other emerging stock identification techniques. These types of studies are now the highest priority for salmon management.

3.2.3 Habitat-based Fisheries Models

The development of probabilistic habitat-based models that incorporate environmental variation and anthropogenic disturbances to evaluate harvest policies and enable risk assessment for different fishing strategies is encouraged.

Overfishing definitions are required to relate to a measure of maximum sustainable yield (MSY). MSY for salmon is related to productivity, which varies annually in the freshwater and the

marine environments. Techniques for evaluating productivity, or survival, in freshwater and marine habitats are needed to set appropriate harvest targets and associated conservation guidelines such as escapement floors and overfishing definitions.

Various habitat-based models have been developed, but in general they are not being applied to harvest management. One reason for this is that most of these models are developed to identify limiting factors and evaluate potential habitat restoration measures. Application to harvest management would require refined population dynamic components to these models. There is the potential for using these types of models to evaluate recovery exploitation rates. Other possible contributions could be improved understanding of climate variability and environmental influences on survival and stock productivity. Once satisfactory habitat-based models of population dynamics have been developed, they can be used in management strategy evaluations to simulate alternate management scenarios. This would be a valuable contribution to harvest management, but to become useful, substantial development efforts are needed.

3.3 High Priority Issues

The following high priority items are directly related to the highest priority items described above.

Alternatives to Time-Area Management. The annual planning process for salmon centers on the crafting of intricate time-area management measures by various groups. The feasibility of using alternative approaches (e.g., pre-defined decision rules to establish upper limits on fishery impacts, individual quotas, effort limitation) to reduce risk of error, decrease reliance on preseason abundance forecasts, improve fishery stability, simplify regulations, and reduce management costs needs to be investigated. For instance, the integration of Council preseason planning processes with the abundance-based coho management frameworks under consideration by the Pacific Salmon Commission, and by the State of Washington and Western Washington Treaty Tribes, needs to be developed and evaluated.

Continuous Catch Equations. Because current planning models used by the Council are constructed using simple linear independent equations, interactions between stocks and fisheries within a given time step are ignored. This can result in biased estimates of impacts. Research is needed to investigate the feasibility of recasting the models from discrete to continuous forms, e.g., competing exponential risk catch equations.

Mass Marking. Estimates of mark rates are essential for planning mark-selective fisheries. The accuracy of mark rates at release needs to be evaluated as well as the variability of mark-induced mortalities under operational conditions.

Stock Migration and Distribution. The Council currently employs “single pool” type models (i.e., ocean fisheries operate simultaneously on the entire cohort) for evaluating alternative regulatory proposals. Under certain conditions, such models can produce results that are inconsistent with expectations of biological behavior. For example, if a fishery off Central California is closed to coho fishing for a given time period, the fish that were saved become available to fisheries off the Northwest Coast of Washington in the next time period. Research is needed to determine the feasibility of incorporating explicit migration mechanisms into planning models. In most cases it is not feasible to rely upon coded-wire-tagging of natural stocks,

particularly those in depressed status, to obtain direct information on patterns of distribution and exploitation. Alternative stock identification technologies should be explored as a means to collect data necessary for stock assessment purposes. Research is needed to improve our ability to estimate contributions of natural stocks in ocean fisheries and escapement. Potential research areas include 1) association studies to determine the degree to which hatchery stocks can be used to represent the distribution and migration patterns of natural stocks; 2) genetic stock identification, DNA, otolith marking, and scale studies; 3) improved statistical methods and models; and 4) basic research on stock distribution and migration patterns.

Limiting Factors. Research is needed to identify and quantify those factors in the freshwater habitat which limit the productivity of salmon stocks. Research should focus on 1) quantifying relationships between habitat factors and salmon production; 2) measuring the quantity and quality of these habitat factors on a periodic basis; and 3) evaluating habitat restoration projects for both short-term and long-term effects. Activities such as water diversions, dams, logging, road building, agriculture, hydroelectric projects, and development have reduced production potential by adversely affecting freshwater conditions. Habitat quality and quantity are crucial for the continued survival of wild stocks.

Explicit Consideration of Uncertainty and Risk. Current planning models employed by the Council are deterministic. Most aspects of salmon management, such as abundance forecasts and effort response to regulations, are not known with certainty. Given the increased emphasis on stock-specific concerns and principles of precautionary management, the Council should receive information necessary to evaluate the degree of risk associated with the regulations under consideration. Research is needed to evaluate the accuracy of existing planning models, characterize the risk to stocks and fisheries of proposed harvest regimes, and to effectively communicate information on uncertainty for use in the Council's deliberations.

Environmental Influences on Survival. Estimates of natural survival and stock distribution in the estuary and ocean, year-to-year, age-to-age, and life-history variability, and relationships to measurable parameters of the environment (i.e., temperature, upwelling, etc.) are needed. Substantial predictive errors in forecasts based on previous year returns and apparent large-scale, multi-stock fluctuations in abundance suggest important large-scale environmental effects. Some work has been done for coho but little is known for Chinook. Included in the information need are long-term and short-term relationships between environmental conditions and fluctuations in Chinook and coho salmon survival, abundance, and maturation rates.

Coast-wide Models. Currently, at least five models are employed to evaluate impacts of proposed regulatory alternatives considered by the Council. A single coast-wide Chinook model would provide analytical consistency and eliminate the need to reconcile and integrate disparate results. Additionally, research is needed to determine the feasibility of combining Chinook and coho into a single model to simplify the tasks of estimating mortalities in fisheries operated under retention restrictions (e.g., landing ratios or non-retention).

3.4 Interaction of Hatchery and Wild Salmon

In addition to the above high-priority items a number of issues related to hatchery/wild salmon interactions are of ongoing interest:

Genetics. Determine the extent to which there may be gene flow between hatchery and wild stocks, and what the likely effect of that gene flow may be on the fitness of wild stocks. A new genetic technique that is being applied to this problem is Full Parental Genotyping. If all mating adults can be captured and genotyped then offspring can be linked to their specific parents. This has great power for identifying the relative success of various hatchery/wild matings, but is limited in practice to relatively small systems and systems where all returning adults can be captured.

Freshwater Ecology. Investigate the ecological effects (competition, predation, displacement) of hatchery fish on natural production in freshwater. All life stages from spawner to egg to smolt may be affected.

Estuary Ecology. Migration timing, habitat utilization patterns, competition for food or space, and predator interactions are areas of interest. Differences between hatchery and natural smolts in these areas could help address the questions of the importance of density-dependent growth and survival and potential negative effects of hatchery releases on natural stock production.

Early Ocean Life-history. Points of comparison between hatchery and wild stocks could include: ocean distribution, migration paths and timing, size and growth, food habits, and survival rates.

Identification of Hatchery Fish. The presence of hatchery fish may interfere with the accurate assessment of the status of natural stocks. This problem may be alleviated by the use of mass-marking, otolith marking, CWTs, genetic marking, or other technologies to estimate the contribution of hatchery fish to fisheries and natural- spawning populations.

Supplementation. Research is needed to investigate the utility of using artificial propagation to supplement and rebuild natural stocks. Guidelines for the conduct of supplementation to preserve genetic diversity and legacy of populations are needed. Special care is needed to ensure that supplementation programs do not unintentionally jeopardize natural runs.

3.5 Emerging Issues

Genetic Stock Identification

Several emerging issues are related to the high priority assigned to the implementation of GSI technologies in weak stock fishery management. Research tasks and products necessary for this to be successful are:

- Identification of the error structure of GSI samples taken from operating fisheries.
- Development and application of technologies to collect high-resolution at-sea genetic data and associated information (time, location, and depth of capture, ocean conditions, scales, etc.).
- Collection of stock-specific distribution patterns on a coast-wide, multi-year basis analogous to the current CWT data base, but at a higher time-and-space resolution.
- Identification of stock distribution patterns useful for fisheries management and appropriate management strategies to take advantage of these distribution patterns.

- Development of pre-season and in-season management models to implement these management strategies and integrate them with PFMC management.

Klamath River Fall Chinook Management

Many research and data needs have been identified through the annual salmon management cycles and the methodology reviews relative to Klamath River fall Chinook. Some of these research needs have been identified in the past and have recently re-emerged due to current conservation concerns for Klamath River fall Chinook salmon.

- Review modeling methods for estimating Klamath River Chinook contact rates and catch projections.
- Examine the appropriateness of the September 1 “birth date” for Klamath River fall Chinook, and the sensitivity of the Klamath Ocean Harvest Model (KOHM) to changes in the birth date.
- An experimental design for a test fishery to estimate the relative impacts to Klamath River fall Chinook in fisheries restricted to nearshore areas.
- Review methods for estimating fall fishery impacts in the KOHM in the annual preseason management process.

California Central Valley Fall Chinook Management

Ocean fisheries in 2008 off of Oregon and California are severely constrained due record low forecasts for California Central Valley fall Chinook abundance. Only 59,000 Sacramento River fall Chinook spawners are expected to return in 2008 compared to the objective of 122,000-180,000; about 88,000 returned in 2007. Reasons for the decline are under investigation and further investigation will likely lead to new research priority in the near future. A list of focus areas for research was submitted to the Council by CDFG at the March 2008 Council meeting (see Appendix II) and is being reviewed by NMFS, the Council, the west coast states, and the Council advisory bodies.

Ecosystem and Habitat Issues

Long-term fluctuations in salmon abundance have proven to be difficult to predict and can create significant instability in the conservation, management, and economics of salmon and salmon fisheries. A better understanding of marine and freshwater conditions and their impacts on salmon populations is needed. Recent declines in west coast salmon populations, most notably Sacramento River fall Chinook, serve as a reminder of the volatility of salmon populations over time.

Describe environmental variability in the California Current ecosystem on seasonal to decadal time scales for use in understanding the impact of environmental variability on the distribution and population structure of salmon.

- Develop tools that describe the environmental state and potential habitat utilization for near-shore anadromous fish.

- Characterize and map the ocean habitats for anadromous species using data from satellites and electronic tags.
- Characterize climate variability in the northeast Pacific and its relation to salmon production.

4.0 COASTAL PELAGIC SPECIES FISHERY MANAGEMENT PLAN

4.1 Highest Priority Research and Data Needs

- Develop new indices of abundance or augment current methods that cover the population range for both Pacific sardine and Pacific mackerel including;
 1. a coastwide (Mexico to British Columbia) synoptic survey.
 2. redesigned aerial surveys that include on the water verification of species composition and school size using acoustics and capture techniques such as the pilot project under development by the Pacific Northwest sardine industry.
 3. acoustic methods, which are a qualitatively different approach to indexing relative abundance than current methods, are the primary fishery-independent method for obtaining abundance indices for many of the world's major pelagic fish stocks. Acoustic methods have been applied to northern anchovy off California. Acoustic data have the potential to provide information on the relative abundance of the populations of Pacific sardine off southern California and the PNW.
- Coordinate more timely exchange of fishery catch and biological port samples for age structures for both Pacific sardine and Pacific mackerel in the northern and southern end of their range. In particular, efforts must be made to develop a systematic long term program of data exchange with Mexico.
- Re-evaluate the harvest control rules for both Pacific sardine and Pacific mackerel. Since the establishment of the current MSY-proxy control rule in the CPS FMP more than a decade ago, modeling tools have advanced and more data on CPS accumulated. As such, simulation modeling, particularly within the context of a management strategy evaluation (MSE), should be conducted.
- Ageing error for both Pacific sardine and Pacific mackerel should be quantified and incorporated in future assessments. Ageing error and bias need to be quantified by conducting multiple readings on otoliths exchanged between readers and agencies, ideally on a double blind basis.

4.2 Continuing Issues

4.2.1 General CPS Research and Data Needs

- Develop a coastwide (Mexico to British Columbia, Canada) synoptic survey of sardine and Pacific mackerel biomass, i.e., coordinate a coastwide sampling effort (during a specified time period) to reduce "double-counting" caused by migration. The first coastwide, Baja California to British Columbia synoptic survey was completed in April 2006. Hopes are that this will be the first survey in a long time series, possibly within the Pacific Coast Ocean Observing System framework. The continuance of these synoptic research surveys on an annual basis is necessary to ensure survey results are representative of the entire range of this species (as well as other CPS of concern).

Developing and conducting such a survey will necessarily require considerable additions to current budgets, staff, and equipment. Expanded coastwide surveys are planned for 2008. To address seasonal issues and to further explore the possibility of successful spawning in the PNW, the Southwest Fisheries Science Center is planning to conduct two cruises in 2008, one in April and a second in July.

- Gain more information about the status of the CPS resource in the north using egg pumps during NMFS surveys, sonar surveys, and spotter planes. To address these questions, biological information has been collected from NMFS research surveys off the Pacific Northwest (PNW). So far, the PNW research surveys have occurred in July 2003, March and July 2004, and winter 2005. These Southwest Fisheries Science Center-based surveys included sardine acoustic trawl and Continuous Underway Fish Egg Sampler surveys off the coast of Oregon and Washington. The surveys were designed to fill major gaps in knowledge of sardine populations, by measuring the age structure and reproductive rates, and assessing the extent the fishery is dependent on migration and on local production of sardine. The primary objective of the surveys is to accumulate additional biological data regarding the northern expansion of the population into waters off the PNW and ultimately, to include data directly (or indirectly) in ongoing stock assessments of both Pacific sardine and Pacific mackerel.
- Increase fishery sampling for age structure (Pacific sardine and Pacific mackerel) in the northern and southern end of the range. Establish a program of port sample data exchange with Mexican scientists (Instituto Nacional de la Pesca [INP], Ensenada). There has been interest in coastwide management for the Pacific sardine fishery which would entail a more consistent forum for discussion between the U.S., Mexico, and Canada. Recent U.S.-Mexico bilateral meetings indicated willingness from Mexico to continue scientific data exchange and cooperation on research, and engage in discussions of coordinated management. Mexico suggested that the MEXUS-Pacifico Cooperation Program would be a good venue for starting that discussion. In November 2007, the United States hosted the 8th annual Trilateral Sardine Forum which resulted in effective exchange of data and ideas on the science and economics of coastwide sardine management. The 9th annual forum is scheduled to occur in the fall of 2008 in Astoria, Oregon.
- Evaluate the role of CPS resources in the ecosystem, the influence of climatic/oceanographic conditions on CPS; predatory/prey relationships. Increase the use of fishery information to estimate seasonal reproductive output of the stock (e.g., fat/oil content). The Coastal Pelagic Species Management Team (CPSMT) continues to pursue research to evaluate the role of CPS resources in the ecosystem, the influence of climatic/oceanographic conditions on CPS, and define predator-prey relationships. In 2004, the Council directed the CPSMT to initiate the development of a formal prohibition on directed fisheries for krill. This proposed action is in recognition of the importance of krill as a fundamental component of the ecosystem and a primary food source for much of the marine life along the west coast. In March 2006, the Council adopted a complete ban on commercial fishing for all species of krill in west coast Federal waters and made no provisions for future fisheries. They also specified EFH for krill, making it easier to work with other Federal agencies to protect krill. The Council has also initiated the development of an Ecosystem FMP. The previously discussed ban on krill harvest and

harvest set-asides that recognize the important role of CPS and buffer against overfishing have been sited as good starting points for such a plan (see Chapter 7).

- There should be overall greater collaboration with industry in the collection and analysis process for CPS, including Pacific sardine and Pacific mackerel.
- There should be continued support for the newly adopted CPS Observer Program and in particular, bolstering sample sizes (spatially and temporally) to ensure an adequate number of trips are ‘observed’ to produce statistics that are representative of the fishing fleets at large.
- Improve information on salmon and other bycatch in the CPS fishery. NMFS Southwest Region initiated a pilot observer program for California-based commercial purse seine fishing vessels targeting CPS in July 2004 with hopes of augmenting and confirming bycatch rates derived from CDFG dockside sampling. Future needs of the CPS observer program include: standardization of data fields, development of a fishery-specific Observer Field Manual, construction of a relational database for the observer data, and creation of a statistically reliable sampling plan.

4.2.2 Pacific Sardine

- Growth data for Mexico, southern California, northern California, the PNW and the offshore areas should be collected and analyzed to quantitatively evaluate differences in growth among areas. This evaluation would need to account for differences between Mexico and the U.S. on how birthdates are assigned, and the impact of spawning on growth.
- The timing and magnitude of spawning off California and the PNW should be examined.
- Hypothesis of a single stock structure should be examined using existing tagging data and additional tagging experiments, trace element analysis, and microsatellite DNA markers.
- Biological surveys should include regular systematic sampling of adult sardine for: 1) reproductive parameters for daily egg production method (DEPM); 2) population weight at age; and 3) maturity schedule. Specifically, adults collected from survey trawls must be collected and analyzed more routinely in the future than has been the case in the past.
- Information which could be used in an assessment of the PNW component of a single coastwide population or of a separate PNW stock should be obtained. Synoptic surveys of Pacific sardine on the entire west coast have the potential to provide such information as well as the basic data.
- The Tri-national Sardine Forum and MEXUS-Pacífico (i.e. the NMFS-Instituto Nacional de Pesca Forum) should be utilized to share fishery, survey and biological information among researchers in Mexico, Canada, and the U.S. The long-term benefits of this forum will be greatly enhanced if it can be formalized through international arrangements.

- Assess changes in early life history information from CalCOFI samples to evaluate Pacific sardine response to climate change.

4.2.3 Pacific Mackerel

- A large fraction of the catch is taken off Mexico in recent years. Efforts should continue to be made to obtain total catch, length, age and biological data on a timely basis from the Mexican fisheries for inclusion in stock assessments. Survey data (IMECOCAL program) should be obtained and analyses conducted to determine whether these data could be combined with the CalCOFI data to construct a coastwide index of larval abundance.
- There is a lack of biological sampling (and catch) data available from Mexico for inclusion in the assessment, which is more critical in recent years when the Mexican catch has been as large as or larger than that of California.
- The maturity schedule was developed more than 20 years ago, and it should be re-examined, with new data.

4.2.4 Market Squid

- Additional work is required on reproductive biology, including the potential fecundity of newly mature virgin females, the duration of spawning, egg output per spawning bout, the temporal pattern of spawning bouts, the growth of relatively large immature squid, and the growth of mature market squid. Important questions about growth might be addressed through Scanning Electron Microscopy (SEM) studies of statoliths.
- There should be overall greater collaboration with industry in the collection and analysis process for CPS, including market squid.

4.3 Emerging Issues

- Standard data processing procedures be developed for CPS species, similar to those developed for groundfish species.

4.3.1 Pacific Sardine

Full stock assessments were conducted in 2007 following the three year cycle in the CPS FMP. A new modeling program, Stock Synthesis 2 (SS2) was utilized for Pacific sardine in 2008. Several of the recommendations below came directly from the 2007 assessment review process. Additionally, in response to a decline in forecasted Pacific sardine abundance in 2007 and a desire for more research in the PNW, industry representatives are currently drafting a survey design for an aerial survey or relative Pacific sardine abundance in Washington and Oregon.

- The DEPM method should be extended so that constraints are placed on the extent to which the estimates of P_0 vary over time.

- The data on maturity-at-age should be reviewed to assess whether there have been changes over time in maturity-at-age, specifically whether maturity may be density-dependent.
- The aerial surveys should be augmented to estimate schooling areas and distinguish schools, and the enhanced survey design should undergo rigorous review. Data (e.g. bearing and distance to schools) should be collected which could be used in line transect-type estimation methods. ‘Sea-truthing’ of the species identification of the aerial surveys will enhance the value of any resulting index of abundance. In addition, aerial surveys should be extended to cover the PNW.
- Explore the use of PNW surveys (i.e.: NMFS NWFSC; Bob Emmett) as an index of abundance.
- The results of Stock Synthesis 2 (SS2) model runs at which treated the egg survey data either as an index of egg production or as an index of spawning biomass did not affect the outcome of the assessment, although estimates of survey selectivity were, unexpectedly, markedly different. SS2 should be adapted to enable indices of egg production and spawning biomass to be fitted simultaneously.
- Noting that there is potential for sardine from different stock subcomponents to recruit to adjacent stock areas, it would be desirable to account for this in the assessment model. To do so requires development of a new assessment model or modification of an existing one. If feasible, SS2 should be amended to include such an enhancement. Further, tagging experiments (or other means to facilitate the estimation of movement rates) should be considered.
- The catch history for the Mexico and southern California fisheries should be examined to estimate the catch from the southern subpopulation. For example, use temperature and/or seasonality to separate catches by subpopulation. Based on the results of this analysis, determine the biological data (length- and conditional age-at-length) by subpopulation. The analysis of subpopulation structure should ideally be conducted in conjunction with a re-evaluation of the current harvest control rule.
- The estimate of the catchability coefficient for the DEPM estimates was 0.4 (for the base model). Analyses should be conducted, for example, based on prior distributions for the factors leading to differences between DEPM estimates and spawning biomass to assess the plausibility of values for DEPM-q of this magnitude.
- Develop an index of juvenile abundance. The indices used in the assessment pertain only to spawning fish. An index of juvenile abundance will enhance the ability to identify strong and weak year-classes earlier than is the case at present.

4.3.2 Pacific Mackerel

Full stock assessments were conducted in 2007 following the three year cycle in the CPS FMP. A new modeling program, Stock Synthesis 2 (SS2) was unsuccessfully applied to Pacific mackerel in 2008. Several of the recommendations below came directly from the 2007

assessment review process. Additional recommendation specific to modeling methodologies can be found in the November 2007 Pacific mackerel STAR Panel report.

- The survey design of the new aerial spotter index should incorporate and adhere to consistent and rigorous protocols. Attempts should be made to estimate school surface area. Also, an aerial spotter survey should be initiated in the PNW in conjunction with industry.
- Examine the disparity between the observed recruitment dynamics (boom-bust) and the underlying spawner-recruit model (uncorrelated recruitment deviations).
- In addition to estimating ageing imprecision and bias for incorporation into assessment models, an age validation study should be conducted for Pacific mackerel. Such a study should compare age readings based on whole and sectioned otoliths and consider a marginal increment analysis.
- The construction of the spotter plane index is based on the assumption that blocks are random within region (the data for each region is a “visit” by a spotter plane to a block in that region). The distribution of density-per-block should be plotted or a random effects model fitted in which block is nested within region to evaluate this assumption (e.g. examine whether certain blocks are consistently better or worse than the average).
- The data on catches come from several sources which are not well documented. The catch history from 1926-27 to 2006-07 should be documented in a single report.

4.3.3 Market Squid

- The potential use of target egg escapement levels is partly predicated on the assumption that the spawning which takes place prior to capture is not affected by the fishery and contributes to future recruitment. However, since the fishery takes place directly over shallow spawning beds, it is possible that incubating eggs are disturbed by the fishing gear, resulting in unaccounted egg mortality. It is also possible that the process of capturing ripe squid by purse seine might induce eggs to be aborted, which could also affect escapement assumptions.
- The CalCOFI ichthyoplankton collections contain approximately 20 years of unsorted market squid specimens that span at least two major El Niños. This untapped resource might be useful in addressing questions about population response to El Niño conditions.

5.0 HIGHLY MIGRATORY SPECIES FISHERY MANAGEMENT PLAN

5.1 Background

The Council's FMP for highly migratory species (HMS) covers a broad range of species including tunas, billfishes, and sharks. The spatial extent of the Pacific Ocean used as habitat for these species is much larger than the USA's Exclusive Economic Zone (EEZ). The HMS FMP recognizes that stock assessment and management of these species cannot be done unilaterally – rather it must be done in conjunction with other nations that exploit these species throughout their range.

In the Pacific Ocean, HMS are managed by two regional fishery management organizations (RFMO) – Inter-American Tropical Tuna Commission (IATTC) and Western and Central Pacific Fisheries Commission (WCPFC) – that together cover the breadth of the Pacific Ocean habitat for the species included in the Council's HMS FMP (Figures 1 and 2). Stock assessments and related research are conducted under the auspices of these RFMO. U.S.A. scientists (whose affiliations include NMFS, academia, nongovernmental organizations (NGOs), and the fishing industry) participate in both RFMO processes.

A third scientific organization – International Scientific Committee (ISC) on Tuna and Tuna-like Species in the North Pacific Ocean conducts stock assessments for the North Pacific HMS stocks that straddle the 150° W longitude boundary between the RFMOs. Examples of these stocks include North Pacific albacore, Pacific bluefin tuna, swordfish, and striped marlin. The ISC is not an RFMO in that it does not manage HMS international fisheries. Rather, it provides the stock assessments that the RFMOs use to base management decisions for the straddling stocks.

Both of the RFMOs (IATTC and WCPFC) have scientific staff (either in-house or contracted) with responsibility and funding for data collection, biological studies, and stock assessment. The Council's role in specifying research and data needs for the tropical tunas (yellowfin, bigeye, and skipjack) that are the primary focus of the RFMOs is somewhat limited and may duplicate other ongoing efforts. Instead this chapter considers research and data needs for HMS that (1) are not the primary focus of the RFMOs and (2) have ongoing international stock assessment efforts.

Based on the above criteria, research and data needs for North Pacific albacore, Pacific bluefin tuna, swordfish, and striped marlin are delineated below. Much of the material was extracted from recent ISC assessment working group (WG) reports on these species. As such, the research and data needs reflect consensus of the respective WG members, i.e. international scientists (including U.S.A. representatives) who are closest to the data and analyses. It should be noted that the ISC WGs do not formally prioritize their research and data lists, and that these classifications were inferred from sections of the WG reports that discuss the strengths and weaknesses of the assessments. Furthermore, since the focus is on species for which assessments are ongoing, most of the items are categorized as “continuing issues”. Those that are considered “high priority” are noted. This is not to imply that there are no emerging issues for the Council with respect to HMS. Rather, it acknowledges that the prediction of the key issues that will emerge is more speculative. A final section entitled “Emerging Issues” is provided to highlight some of the issues most likely to emerge in the near term – especially for HMS that are not currently being assessed.

5.2 Continuing Issues

Research and data needs are identified in this section for the major HMS species pertinent to the Council.

5.2.1 North Pacific Albacore

Fisheries Statistics: Timely annual submission of national fishery data to the ISC Albacore WG data manager is critical for producing timely and up-to-date stock assessments. Additional resources are needed to oversee the submission of these data, provide database management, and improve documentation of the entire database system including metadata catalogs. An electronic fish ticket system on the west coast would greatly improve the availability and timeliness of fishery data.

Biological Studies: Biological information is a critical building block for stock assessments. It should be reviewed and updated regularly to capture changes in population parameters if they occur. Unfortunately, this process has not been followed for North Pacific albacore because of limited resources for routine biological studies. Consequently, the stock assessment models used by the ISC Albacore WG rely on a patchwork of biological information that was developed largely in the 1950s and 1960s.

There is a critical need to reassess the biological information and to conduct contemporary studies to update this information. More specifically, there is a critical need to conduct studies on:

- age and growth with the goal of updating growth rates and comparing with older studies (*high priority*);
- reproductive biology with the goal of updating the maturity ogive (*high priority*); and
- development of new indices of abundance particularly from fisheries that regularly catch recruitment age albacore (age 1), e.g. the USA recreational fishery (*high priority*).

Less critical but still important for improving the stock assessments are studies on:

- migration and habitat utilization, with the goal of better informing fishery effort standardization and fishery selectivity/catchability assumptions;
- an examination of whether there are multiple sub-stocks with juveniles having different migratory behaviors (i.e., juveniles from different spawning localities with different migration routes and timetables)
- environmental factors, as they relate to recruitment, growth, maturity, and catchability of albacore; and
- albacore length data through port sampling.

Stock Assessment and Management Studies: Recent stock assessment results as well as fishery developments suggest that the North Pacific stock of albacore is at or fast approaching full exploitation. Demand for more frequent and more precise information on status of the stock and the sustainability of the fisheries is therefore likely to increase. With this in mind, the albacore stock assessment needs improvement in several of its facets:

- investigation of competing assessment models using simulation to ascertain each model's strength and weakness when faced with input data generated from a known albacore-like population (*high priority*);
- simulation studies to assist fishery managers in selecting appropriate biological reference points for albacore (*high priority*);
- investigation of CPUE standardization;
- refinement of the VPA-2Box model (the WG's current assessment model);
- investigation of the applicability of Stock Synthesis 2 as an alternative assessment model for albacore;
- evaluation of the utility of formally adding tagging data into the assessment; and
- develop new indices of abundance from fisheries that regularly catch recruitment age albacore (age 1), such as the U.S. recreational fishery.

5.2.2 Pacific Bluefin Tuna

Fisheries Statistics: The timeliness of data reporting, as outlined for albacore above, is equally important for bluefin tuna. Additionally,

- the official bluefin catch statistics need further scrutiny, e.g. there are apparent discrepancies between some of the reported catches and the corresponding Japanese import records (*high priority*); and
- increased port sampling of commercial bluefin length frequencies is needed in the Eastern Pacific Ocean, particularly of the fish destined for the pens in farming operations (*high priority*).

Biological Studies: All of biological studies listed above for albacore are also needed for bluefin tuna. In addition,

- there is a need to develop seasonal and perhaps area-based weight-length relationships as the bluefin condition factor appears to vary both seasonally and regionally (*high priority*).

Stock Assessment and Management Studies: All of stock assessment and management studies listed above for albacore are also needed for bluefin tuna. In particular, there is a need for additional work on effort standardization if credible indices of abundance are to become available for bluefin tuna (*high priority*).

5.2.3 Striped Marlin and Swordfish

Fisheries Statistics: The timeliness of data reporting, as outlined above for albacore, is equally important for striped marlin and swordfish. Additionally:

- the official striped marlin catch statistics are considerably less well developed than those for albacore, and significant effort is needed to ensure that the total catch from all nations is well estimated (*high priority*).

Biological Studies: All biological studies listed above for albacore are also needed for striped marlin and swordfish as well. In addition,

- stock structure for striped marlin in the Pacific Ocean is more uncertain than for other HMS species and several stock structure hypotheses are credible. Further genetic work is unlikely to resolve the issue. A synoptic, critical review of all available information (fisheries data, ichthyoplankton data, and genetic studies) is needed to either resolve the issue or at least to reduce the number of credible hypotheses,
- age and growth data from locally caught fish should be examined, and
- the distribution of swordfish by season and age within the outer portions of the EEZ and high seas should be evaluated.

Stock Assessment and Management Studies: All stock assessment and management studies listed above for albacore are also needed for striped marlin and swordfish. In particular,

- there is a need for additional work on effort standardization (*high priority*).

5.2.4 Dorado

The stock structure of dorado in the eastern Pacific should be examined.

5.3 Emerging Issues

5.3.1 Sharks

Most of the tunas covered in the HMS FMP are being assessed – with varying degrees of completeness and sophistication – on a regular basis (Table 1). Some of the billfishes – particularly striped marlin and swordfish – are either being assessed or have assessments planned in the near future. On the other hand, stock assessments for sharks have been preliminary at best, and few and far between. Furthermore, comprehensive shark assessments do not appear to be on the near-term planning horizon for the RFMOs or for the ISC. This situation should not be taken to imply that sharks are unimportant. Nor should it be inferred that sharks are less vulnerable to the effects of fishing than are the tunas and billfishes. In fact, because of the key vital rates of most sharks (especially reproductive rates that are lower than those for tunas and billfishes), many shark species are likely to be more vulnerable to overfishing than other HMS.

To understand this *prima facie* inconsistency (i.e., perhaps more vulnerable but not assessed), it is necessary to understand the nature of the fisheries responsible for most of the catch of sharks over the past several decades. Internationally, these fisheries tend to be either (1) tuna-targeting fisheries that caught sharks as bycatch in their tuna fishing operations and discarded them (without recording numbers or mass) over most of their fishing history; or (2) smaller scale directed shark fisheries that tend not to report shark catches in a manner suitable for stock assessment, e.g. catch reports that aggregate the catch of multiple shark species into a single ‘shark’ category or do not report the catches at all.

As with the other species covered by the HMS FMP, most shark species cannot be assessed or managed unilaterally by the Council. Some species are highly oceanic with ranges similar to that of tunas (e.g., blue shark). Others are more coastal – with perhaps most of their habitat shoreward of the USA EEZ – but exhibit north-south migrations with significant catches in Mexican waters (e.g., thresher sharks). The net effect is that accounting for the total catch of sharks over their entire period of exploitation (several decades) is not possible. Furthermore,

there is a paucity of the biological samples needed to characterize the size of animals taken from the fisheries that account for most of the catch. Active biological studies (age, growth, maturity, food habits, etc.) are ongoing (NMFS, State, and academic researchers) and understanding of the biological characteristics for at least some shark species is probably sufficient for stock assessment purposes. However, without an accurate history of total catch and the corresponding size samples, stock assessment efforts and concomitant management by the Council will be problematic.

The following species-specific research priorities have been identified for sharks:

Thresher sharks:

- stock structure and boundaries of the species and relationships to other populations;
- the pattern of seasonal migrations for feeding and reproduction, and where and when life stages may be vulnerable;
- aging and growth rates, including comparisons of growth rates in other areas; and
- maturity and reproductive schedules.

Shortfin mako shark:

- distribution, abundance, and size in areas to the south and west of west coast EEZ; and
- age and growth rates (current growth estimates differ widely).

Blue shark

- sex and size composition of catches; and
- migratory movements of maturing fish from the EEZ to high seas.

5.3.2 *Survivability of Released Fish*

Little is known of the long-term survivorship of hooked fishes after release, to assess the effectiveness of recreational tag-and-release methods on big game fishes (pelagic sharks, tunas, and billfishes) and of methods to reduce bycatch mortality in longline fishing. Controlled studies of the survivability of hooked and released pelagic sharks and billfishes are needed to determine the physiological responses to different fishing gears, and the effects of time on the line, handling, methods of release, and other factors. Appropriate discard mortality rates, by species, need to be identified in order to quantify total catch (including released catch).

5.3.3 *Essential Fish Habitat*

There is very little specific information on the migratory corridors and habitat dependencies of these large mobile fishes; how they are distributed by season and age throughout the Pacific and within the west coast EEZ; and how oceanographic changes in habitat affect production, recruitment, and migration. Research is needed to better define EFH and to identify specific habitat areas of particular concern (HAPCs), such as pupping grounds, key migratory routes, feeding areas, and where adults aggregate for reproduction. A particularly important need is to identify the pupping areas of thresher and mako sharks, which are presumed to be within the southern portion of the west coast EEZ, judging from the occurrence of post-partum and young

pups in the areas (e.g., NMFS driftnet observer data). Areas where pregnant females congregate may be sensitive to perturbation, and the aggregated females and pups there may be vulnerable to fishing.

5.3.4 Stock Assessment Review

Pacific HMS stock assessments are carried out by the RFMOs and by the ISC. The processes used to conduct the assessments and to have them critically reviewed varies considerably across the organizations and the species being assessed. In none of these cases, however, does the level of critical peer review approach that of the Council's Stock Assessment Review (STAR) process. This may become an issue for the Council if international management regulations begin to affect USA coastal fisheries to a greater extent than they do at present. The Council may want to consider having some member(s) of its SSC participate in these international processes. This will provide the Council with a better perspective on the stock assessments and the ensuing international management advice.

5.3.5 Interactions with Protected Species and Prohibited Species

More work is also needed to investigate the life history, stock structure, and hooking survivorship of protected species, such as turtles and seabirds that are caught as bycatch in the HMS fisheries. More work is also required on turtle migration seasonality and routes, and genetic structures of populations by species in order to better understand likely periods of interaction with fisheries and turtle life histories. More work on the size and structure of turtle populations by species would also enable improved application of the ESA and other laws and regulations to HMS fisheries.

Inter-American Tropical Tuna Commission (IATTC)

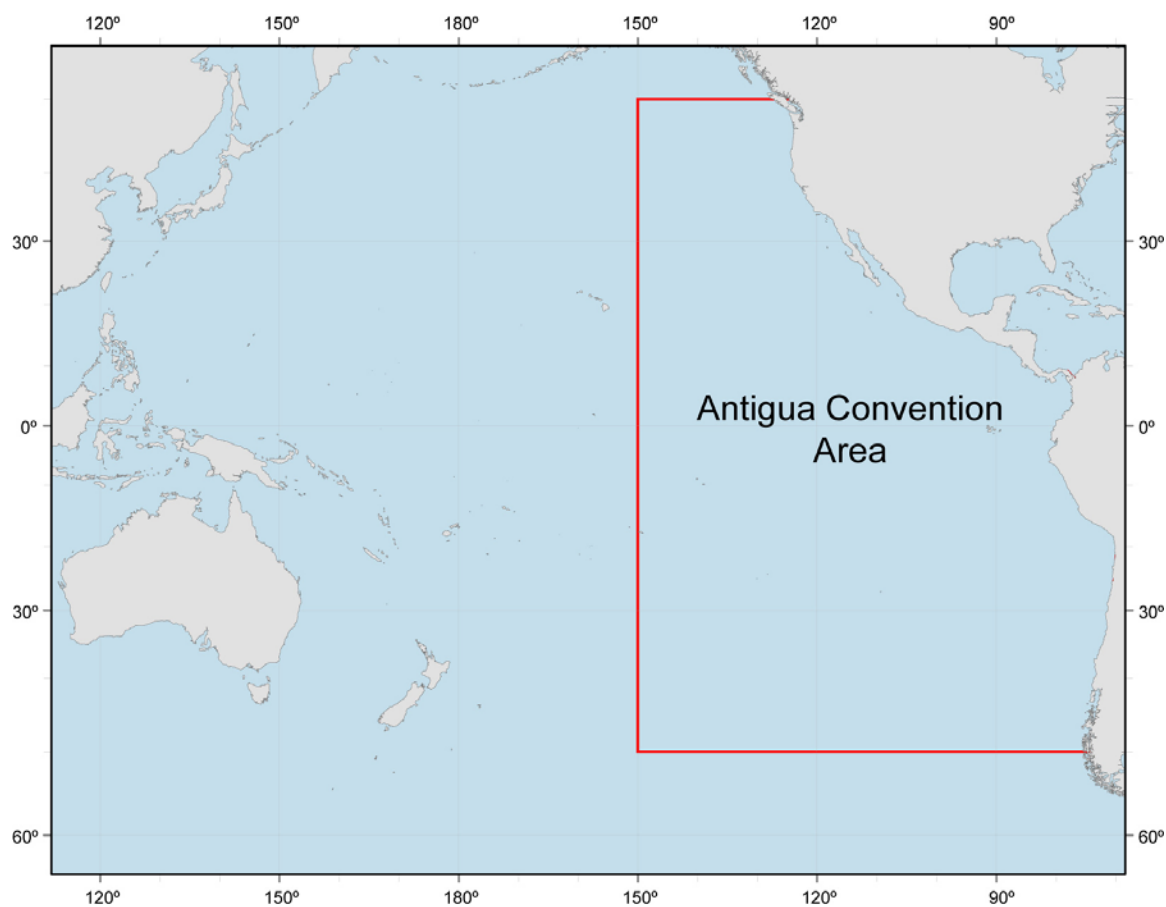


Figure 1. Area covered by the Inter-American Tropical Tuna Commission (IATTC). The Antigua Convention refers to the recent international treaty that revised the IATTC boundaries.

Western and Central Pacific Fisheries Commission (WCPFC)

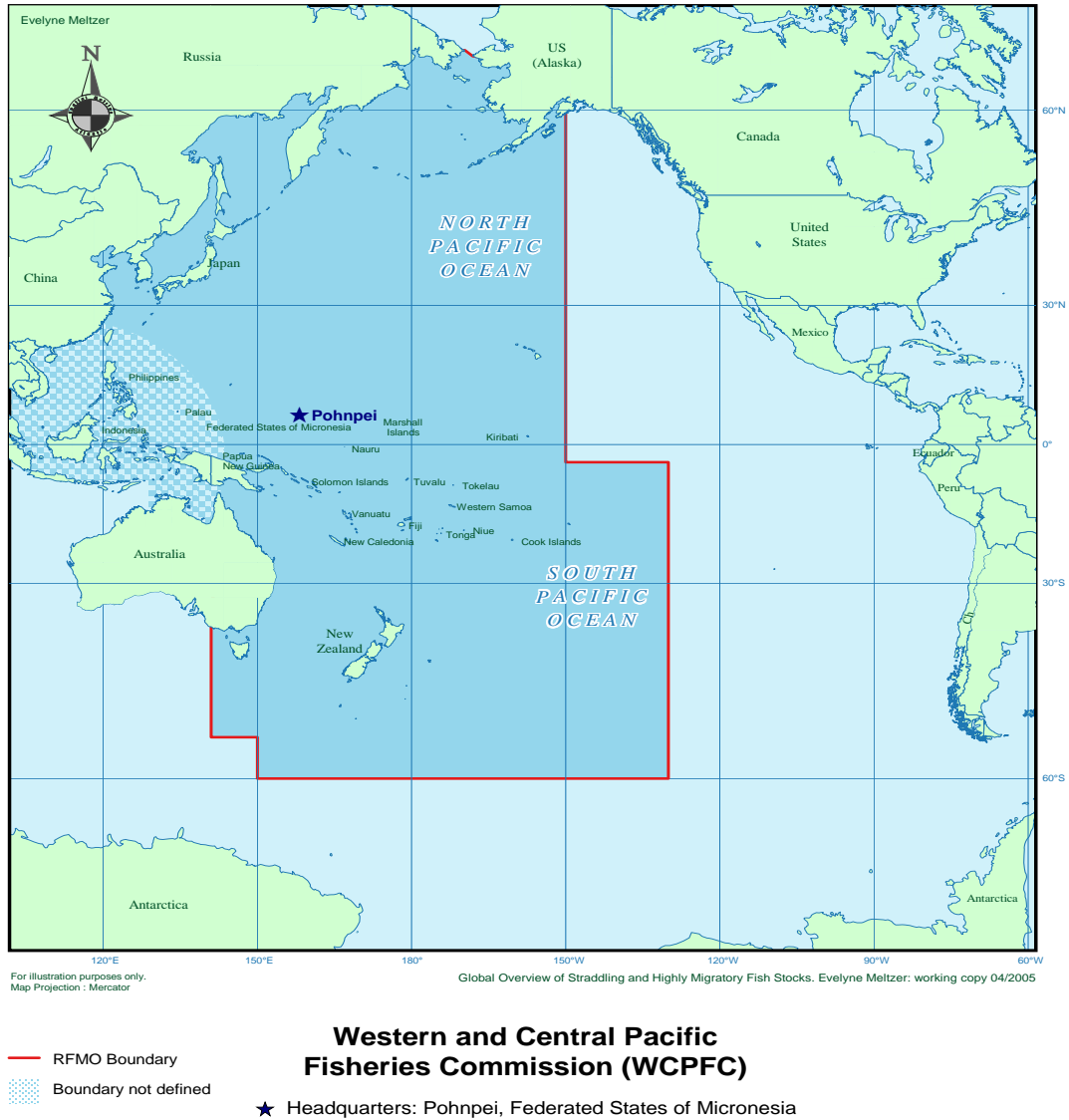


Figure 2. Area covered by the Western and Central Pacific Fisheries Commission (WCPFC).

Table 1. HMS Stock status and stock assessment history (adapted from the 2007 PFMC HMS SAFE document, will be updated with 2008 version when available).

Note that for most of these species, the scientific bodies developing the assessments do not have a consensus biological reference point for use in the context of managing the fisheries.

Species (stock)	F _{Recent} / F _{MSY} ¹	Overfishing? (F/F _{MSY} >1.0)	B _{Recent} / B _{MSY} ¹	B _{MSST} / B _{MSY}	Overfished? (B _{Recent} <B _{MSST})	B _{FLAG} ² (1.25B _{MSST} /B _{MSY})	Assessment
<u>TUNAS</u>							
Albacore (NPO)	1.02–2.26 ³	Unknown ³	0.67–1.07 ³	0.7	Unknown ³	0.94	Nineteenth NPALBW, Stocker 2005
Bluefin (NPO)	>1.0 ⁴	Unknown ⁴	Unknown	0.75	Unknown		ISC 2006a
Bigeye (EPO)	1.47 ⁵	Y	1.10 ⁵	0.6	N		IATTC, Maunder and Hoyle 2006
Bigeye (WCPO)	1.32 ⁶	Y	1.27 ⁶		N		WCPFC, Hampton, et al. 2006a
Skipjack (EPO)	Unknown ⁷	Unlikely ⁷	Unknown ⁷	0.5	Unlikely ⁷		IATTC, Maunder and Harley 2004
Skipjack (WCPO)	0.17 ⁸	N	3.01 ⁸		N		WCPFC, Langley, et al. 2005
Yellowfin (EPO)	0.98 ⁵	N	1.0 ⁵	0.5	N		IATTC, Hoyle and Maunder 2006
Yellowfin (WCPO)	1.11 ⁶	Y	1.17 ⁶		N		WCPFC, Hampton, et al. 2006b
<u>BILLFISHES</u>							
Striped Marlin (NPO)	Unknown ⁹	Unknown	Unknown	0.5	Unknown	0.63	ISC 2006b
Striped Marlin (EPO)	<1.0 ¹⁰	N	≥1.0		N		IATTC, Hinton and Maunder 2003
Swordfish (NWPO)	Unknown ¹¹	Unlikely	Unknown	0.61–0.8	Unlikely		ISC 2004b
Swordfish (SEPO)	Unknown ¹²	Unknown	>1.0		N		IATTC, Hinton and Maunder 2006
<u>SHARKS</u>							
C. Thresher (CA,OR,WA)	<1.0 ¹³	N	~1.10	0.77	N	0.96	NMFS, PFMC HMS plan development team 2002
Pelagic Thresher	Unknown ¹⁴	Unknown	Unknown	0.85	Unknown	1.06	
Bigeye Thresher	Unknown ¹⁵	Unknown	Unknown	0.78	Unknown	0.97	
Shortfin Mako	<1.0 ¹⁶	N	>1.0	0.71	N	0.89	
Blue	<0.5 ¹⁷	N	>1.0	0.78	N	0.97	
<u>OTHER</u>							
Dorado	Unknown ¹⁸	Unknown	Unknown	0.5	Unknown		

Notes:

- ¹ Measures of F_{MSY} and B_{MSY} are not available for all species. Various proxies for these values have been used in preparing this table. However, PFMC has not adopted the use of a particular proxy; hence the designation of Overfishing and Overfished should be considered preliminary.
- ² For vulnerable species managed under the OY control rule only: bluefin tuna, striped marlin, and pelagic sharks.
- ³ Albacore results are based on a suite of F_{MSY} proxies ($F_{40\%}$, $F_{30\%}$ and $F_{0.1}$), two estimated levels of recent fishing pressure ($F=0.43$ and $F=0.68$), and two scenarios of productivity (high $R = 31$ million recruits and low $R = 22.5$ million recruits). However, “Unknown” is indicated because of the lack of a PFMC reference point for management.
- ⁴ Bluefin analyses indicated that F has exceeded F_{Max} 2-fold during the last 2 decades. However, “Unknown” is indicated because of the lack of a PFMC reference point for management.
- ⁵ EPO bigeye and EPO yellowfin results are based on base-case assessments assuming no stock-recruitment relationships.
- ⁶ WCPO bigeye and yellowfin results are based on the base-case assessments (LOWSAMP).
- ⁷ Because of uncertainties in the estimates of growth and natural mortality, MSY -proxy reference points could not be calculated for EPO skipjack; however, the IATTC does not consider there to be a need for management due to low fishing mortalities and high biomass estimates relative to historical levels.
- ⁸ CWPO skipjack results are from the base-case assessment.
- ⁹ Assessment results from three production models for NPO striped marlin are provisional, but F was shown to be slightly greater than F_{MSY} in one case and slightly lower than F_{MSY} in a second case. The ISC recommended that F not be increased.
- ¹⁰ Two production models demonstrate that the EPO striped marlin population is in good condition with fishing effort and landings in decline since the early 1990s.
- ¹¹ Standardized CPUEs from swordfish fisheries indicate declining trends in the northwest Pacific; however, the fisheries are causing, at worst, modest declines in abundance.
- ¹² Specific values for F/F_{MSY} and B/B_{MSY} are not available; however the assessment results indicate that stock biomass is well above the level which would support MSY .
- ¹³ U.S. West Coast EEZ regional catch and CPUE demonstrated the population increasing from estimated low levels in the early 1990s. Recent (2000–03). West Coast commercial landings average 318 mt, which is less than $0.75 \times MSY$ proxy (MSY proxy = $LMSY$ from the Population Growth Rate method).
- ¹⁴ Status unknown, but catches are incidental and occur on the edge of the species’ range, predominately during warm water years.
- ¹⁵ Status unknown, but catches are incidental and occur on the edge of the species’ range.
- ¹⁶ Tentative results based on commercial landings and CPUE calculations. Recent (2000–03) West Coast commercial landings average 70 mt, which is less than $0.75 \times MSY$ proxy (MSY proxy = average landings 1981–99).
- ¹⁷ Analyses demonstrated that for north Pacific blue shark, fishing pressure is 2 to 15 times below F_{MSY} . West Coast catch is poorly documented because the fish are not landed.

6.0 ECONOMICS AND SOCIAL SCIENCE COMPONENTS

6.1 Status of the Highest Priority Issues Identified in 2000

Comparative analysis of limited access and rights-based management programs.

An analysis of these programs is lacking, except for information being developed for the Trawl Individual Quota (TIQ) program.

Baseline descriptions of fishing industry and communities and periodic assessment of fishery status.

Periodic assessments of fishery status are contained in Stock Assessment and Fishery Evaluation (SAFE) documents. Quantitative descriptions of economic status and trends in specific sectors of commercial and recreational fisheries (e.g. commercial harvesters, processors, party/charter boat operators) and in fishing communities are generally limited to basic information such as landings, ex-vessel revenues and fishing effort.

Economic and social analysis of groundfish and salmon harvest and management strategies.

Analyses of harvest and management strategies are lacking in groundfish, salmon, and other fisheries. Bycatch models for selected components of groundfish fishery have been developed and - in some cases (i.e. limited entry trawl) - reviewed. Cost-earnings surveys of limited entry groundfish vessels, open access groundfish vessels and salmon trollers have been completed in recent years that should facilitate such analyses.

Recreational fishery net economic value and angler participation models.

Net economic value and angler participation models are under development for the salmon and groundfish recreational fisheries in the Pacific Northwest. Development of similar models is underway for California.

Social Data and Socioeconomic baseline profiles of fishing industry and communities.

Socioeconomic profiles for 125 coastal communities significantly involved in west coast and North Pacific fisheries have been published and are posted on the NMFS NWFSC web page.

Annual port-specific profiles of all west coast commercial fisheries are being developed for 1981-2007.

6.2 Continuing Issues

Continuing issues are categorized into two types of activities: data collection/augmentation and model development/analysis.

6.2.1 Data Collection and Augmentation

Economic data needs, as described in the Council's *West Coast Fisheries Economic Data Plan 2000-2002*, are summarized in the following table and augmented to include communities as well as specific fishery sectors. Core data needs pertain to fundamental information relevant to understanding economic behavior and estimating the economic value and impact of fisheries.

Harvesters	Processors	Charter Vessels	Recreational Fishers	Communities
# harvesters, effort by fishery (including AK)	# companies, associated plants and buying stations	# vessels, effort by trip type	# anglers, effort by mode/trip type	Fishery-related businesses in harbor and larger community
Revenue by fishery (incl AK)	Volume of raw product by source (fishery deliveries, imports), revenue and value added	Revenue by trip type		
Variable (trip) and fixed costs	Variable and fixed costs	Variable (trip) and fixed costs	Variable (trip) and fixed costs	Expenditures by fishery-related businesses
Employment and income	Employment and income	Employment and income		Fishery-related employment and income
Vessel characteristics (including harvest capacity)	Processor characteristics (including processing capacity), location of markets and product flows	Vessel characteristics	Angler demographics and socioeconomic characteristics	Community demographics and socioeconomic characteristics

Data are needed to enumerate and quantify the spatial distribution of commercial and recreational fishing trips, processors and buying stations, commercial passenger fishing vessel (CPFV) operations and other fishery-dependent businesses. Spatial data on fishing trips should include both landing sites and areas fished. Such data are needed to evaluate a range of spatial management issues, including but not limited to marine reserves. Processor files and vessel characteristic files available from the Pacific Fisheries Information Network are probably in need of updating, or at least a thorough check for consistency and accuracy. The processor list, in particular, has many typos that create ambiguities regarding the identity of processors. To facilitate analysis, each processor should be assigned a unique identification code that is standardized across states and that allows each processor to be linked with its associated plants and buying stations.

Currently, landings receipt data do not include a variable measure of fishing effort. Instead, analysts must rely on proxies such as number of vessels or trips, or use logbooks, which are not available for most fisheries. Adding a variable measure of fishing effort, such as days fished per trip, would make the fish tickets more useful for economic analysis.

Inclusion of crewmember IDs on landings receipts would greatly facilitate understanding of the economic effects of regulations on this data-poor segment of the commercial fishery.

Bycatch has become a central issue in west coast fisheries management. Groundfish trawl logbooks have been an important tool for analyzing bycatch, and logbook programs have been implemented in fisheries such as market squid. Logbooks are a primary source of information on the spatial distribution of catch and fishing effort and should be considered for other fisheries.

Comprehensive detailed data on recreational fishing effort (anglers as well as trips) are needed to estimate aggregate angler expenditures and associated economic value and impacts. Improvements to existing angler license frames (e.g., complete electronic coverage of the angling population, access to addresses/phone numbers of license holders) would facilitate collection of economic data.

6.2.2 Model Development and Analysis

Analyses relevant to the high priority issues discussed in Section 6.1 are as follows:

- periodic assessment of status of west coast commercial and recreational fisheries - including participation, profitability, employment, income, and major management issues,
- evaluation of alternative programs to document and reduce bycatch, bycatch mortality, and effects of gear on habitat – with cost-effectiveness and incentive compatibility included among evaluation criteria,
- evaluation of alternative management approaches to increase harvest stability and enhance flexibility of fishery participants,
- evaluation of alternative capacity management programs - including limited entry and dedicated access privileges - on fishery participants and fishing communities. Important non-trawl fisheries to consider are open access groundfish and salmon.

In addition, more specific and quantitative analysis is needed to augment existing socioeconomic

profiles of fishing communities, including:

- trends in major commercial and recreational fisheries, and factors affecting these trends,
- infrastructure availability and needs (for commercial fisheries, recreational fisheries, other marine resource-related uses),
- financial aspects of infrastructure development and maintenance,
- indicators of community dependence on fisheries and community well-being and resilience that can be linked to changes in regulations, economic conditions and other relevant factors.

6.3 Emerging Issues

Major regulatory changes have occurred in west coast fisheries in the past five years that warrant retrospective evaluation. Prime examples include the implementation of RCAs, the groundfish trawl vessel buyback program in 2003, the salmon fishery closures, and the increasing use of marine protected areas. Also, growing attention is being paid to more holistic approaches to management that focus on the relationship of fisheries to habitat, bycatch, and environmental and domestic/global market conditions, and consider non-fishery activities and values that may be enhanced by ecosystem approaches to management. As above, these needs are divided into two activities: data collection/augmentation, and model development/analysis. While some of the data and modeling needs identified in this section are relevant to social as well as economic issues, the Council report *Social Science in the Pacific Fishery Management Council Process*¹ provides more complete information on social science needs and can be found on the Council's website (www.pcouncil.org/research/resdocs.html).

6.3.1 Data Collection and Augmentation

Many of the data needs previously identified in Section 6.2.1 are relevant to emerging as well as continuing issues.

To achieve some of the more holistic modeling discussed in Section 6.3.2, fishery data will need to be integrated with data on habitat, environment, market conditions and other human activities. Such integration will likely pose challenges in terms of data availability and lack of standardization in the measurement and temporal/spatial scale of individual data elements. Cooperative data collections that pool resources and expertise of agencies, fishermen and research entities may prove beneficial to all involved.

To facilitate retrospective evaluation of the trawl vessel buyback program, surveys or interviews are needed of individuals and entities that participated in the buyback to determine whether individuals truly departed, or remained, in the groundfish fishery, or are now participating in other fisheries.

¹ Gilden, Jennifer. July 2005. *Social Science in the Pacific Fishery Management Council Process*. Pacific Fishery Management Council, Portland, Oregon 97220-1384.

6.3.2 Model Development and Analysis

Retrospective analyses of major recent regulatory changes are needed to determine socioeconomic effects of:

- Rockfish Conservation Areas (RCAs) on commercial and recreational fisheries and fishing communities,
- the trawl vessel buyback program on related fisheries and on fishing communities (including fishery infrastructure),
- the salmon fishery closures,
- marine protected areas.

Comprehensive models of CPFV fleet dynamics are needed that reflect the multi-species nature of the fishery, economic incentives of CPFV operators to provide not just fish but a “fishing experience”, and adaptations of CPFVs to regulatory, market and environmental conditions. Such models could be used to determine whether CPFV fleet dynamics yield single-species CPUEs that can reasonably be used as an index of relative abundance for that species.

Computable bioeconomic models of fishing effort that are spatial and include effects of ex-vessel prices and climate (e.g. sea surface temperatures, sea level pressure) are needed to predict effects of changes in regulatory, habitat, environmental and market constraints on participation and harvest in the ocean commercial, ocean sport, tribal and in river sport salmon fisheries.

Models are needed to estimate and manage bycatch in non-trawl fisheries, for different species of concern including marine mammals, birds, sea turtles, and others.

Models are needed to analyze the transition from an open access fleet to a limited entry fleet in terms of regional economic impacts and effects on costs, earnings and harvest capacity of the fleet.

Models are needed to evaluate the economic dependency of coastal communities on fishery and marine resources and the linkages between these industries and the broader regional economy. This type of analysis should be developed to the point of incorporating general equilibrium effects, and linked to participation and bioeconomic factors.

A more holistic perspective is being promoted in marine resource management (e.g. ecosystem-based management). In light of this perspective, a characterization is needed of all commercial and recreational fisheries within the California Current Ecosystem, including spatial distribution and identification of behavioral linkages among complementary and substitute fishing activities. In addition, an analytical framework that accounts for dynamic and inter-regional interactions among industries and households would improve estimates of economic impacts, and comparison of costs and benefits among management alternatives. A systematic and critical evaluation of alternative economic models and analytical frameworks should be conducted, perhaps in the context of a workshop.

Stated preference surveys and other non-market valuation techniques could be used to estimate existence or other non-use values associated with threatened and endangered species, ecosystem protection, and stock rebuilding plans. Studies are needed that (1) evaluate the robustness of

stated preference responses to the types of information provided in the valuation scenario, (2) determine the extent to which valuation responses differ systematically among socioeconomic groups, (3) evaluate how the “extent of the market” varies according to the nature/scope/location of the good being valued, (4) address aggregation issues that may arise when summations of valuations across multiple goods yield implausible results, and (5) consider the extent to which non-use values are applicable to fisheries as well as environmental goods.

7.0 ECOSYSTEM-BASED FISHERIES MANAGEMENT AND MARINE PROTECTED AREAS

7.1 Ecosystem-based Fisheries Management

These suggestions are based on the presumption that ecosystem-based fisheries management (EBFM) would be an evolutionary process rather than a revolutionary process. We also suggest that almost any movement towards EBFM will involve more spatially explicit management, whether through use of MPAs or in recognition of fine scale stock structure and spatial process affecting recruitment. Field and Francis suggest three key elements of an ecosystem-based approach:

- Increasing use of short and long term climate and ocean status, trends, and scenarios for the California Current ecosystem in stock assessments and rebuilding plans.
- Consideration of trophic interactions among species, both fished and unfished, and the associated impacts of fishing on trophic dynamics and ecosystem structure and function.
- The increasing application of new management approaches, including spatial management measures to protect life history characteristics, biodiversity, and complex stock structure.

In November 2006, the SSC and the Habitat Committee held a joint session to begin the task of reviewing the science of EBFM and the application of EBFM principles in other regions, and to consider existing and potential future applications of EBFM in Council fishery management. Of note, the group agreed to a preliminary working definition of EBFM.

“Ecosystem-based fishery management recognizes the physical, biological, economic and social interactions among the affected components of the ecosystem and attempts to manage fisheries to achieve a stipulated spectrum of societal goals, some of which may be in competition.”

The definition was originally developed at a July 2006 panel discussion sponsored by PSMFC and was presented in an ensuing paper entitled *Ecosystem Based Fishery Management: Some Practical Suggestions*².

² Muraso et al, 2007, *Ecosystem Based Fishery Management: Some Practical Suggestions*, Canadian Journal of Fisheries and Aquatic Science, 64: 928-939.

To begin moving towards these objectives and explicitly incorporating habitat and climatic factors in our fishery management models, the following data and research priorities are suggested:

7.1.2 Highest priority Issues:

- Identify ecosystem-related objectives at all levels of assessment and management. This includes stock assessments, habitat analyses, and coastwide and regional ecosystem status reports.
- Identify an approach for evaluating the benefits of various management tools in relation to achieving EBFM management objectives.
- Provide a status of the ecosystem report to the council annually that includes, but is not limited to, evaluation of oceanographic condition, analysis of system responses to management measures, updated habitat mapping or evaluation, observations of recruitment patterns across species, and changes in trophic dynamics.
- Identify key physical and biological indicators for prediction of salmon early ocean survival and groundfish recruitment, as well as other conditions that are directly applicable to management.
- Collection of indices of ecosystem state (on appropriate temporal and spatial scales, e.g. demarcation points might be Point Conception, Point Año Nuevo, Cape Mendocino, Cape Blanco, Columbia River, Cape Flattery):
 - upwelling, El Niño, Pacific Decadal Oscillation, Sea Surface Temperature, etc.
 - abundance of key ecosystem process indicators, such as zooplankton and forage fishes
 - larval and juvenile fish abundance
 - total annual production and surplus production
 - species diversity and other measures of ecological health and integrity.
- Estimate total catch for target and non target species and their prey and predators.
- Evaluate the effect of fishing on habitat and response of habitat to spatial closures.
- Encourage development of probabilistic ecosystem-based models that incorporate environmental variation and anthropogenic disturbances to establish harvest policies and enable risk assessment for fishing strategies.
- Prioritize these Issues according to immediate need and relevance to management, and develop a comprehensive plan to integrate ecosystem-based processes and information into all aspects of assessment, monitoring and evaluation.

7.1.3 Emerging Issues:

- Develop an approach for interpreting the values for indicators, including the development of thresholds, where appropriate

- Collect data on distribution and abundance for target and non target species and their prey and predators on finer spatial scales, following a prioritization exercise that identifies target species in greatest need of finer scale assessment and non-target or target species that may function as indicators of ecosystem condition.
- Estimate total population size of higher level carnivores, including sea birds and marine mammals and estimate forage needs and foraging efficiencies (to provide an estimate of not only their food requirements, but the prey density needed for them to acquire these food resources).
- Provide report on trophic interactions among exploited species and model consequences of fishing at various levels on either predators or prey and/or the changes in biomass that may be expected due to major shifts in climate and productivity.
- Use of otolith elemental analysis or genetic fingerprinting to determine origin of benthic juveniles and formulate hypotheses on larval dispersal and stock structure.

7.2 Marine Protected Areas

In 1999, the Council began a two-stage process to consider marine reserves as a tool for managing groundfish. The first part was a “conceptual evaluation” and the second part was to develop alternatives for consideration. The second phase was to be started only if there was a positive result from the conceptual evaluation.

The first phase (Phase 1 Technical Analysis) ran from the spring of 1999 through September 2000. During this phase, a technical analysis³ of marine reserves was prepared and an Ad-Hoc Marine Reserve Committee met to develop recommendations for the Council. Following these efforts, the Council adopted marine reserves as a tool for managing the groundfish fishery.

As part of the first phase, the technical analysis was designed to assist the Council in the conceptual evaluation of the role of marine reserves as a management tool. Four options were developed in considering the implementation of marine reserves. One option was the creation of “*heritage and research reserves*”. The analysis concluded that these “heritage and research” types of marine reserves should be viewed as a supplementary management tool.

The types of research included evaluating the impacts of fishing on marine ecosystems relative to effects caused by natural changes and improving estimates of population parameters for harvested species, thereby directly improving management of the fisheries.

The analysis also noted that these types of small reserves may play a valuable role in fisheries management by serving as “*reference or benchmark sites*” which would provide necessary controls for monitoring local trends in populations and ecosystem processes and would be

³ Pacific Fishery Management Council. 2001. Marine reserves to supplement management of West Coast groundfish resources. Phase I Technical Analysis. Prepared by R. Parrish, J. Seger, and M. Yoklavich. 62 pp. Portland, Oregon.

particularly effective as controls for evaluating the effects of fishing activities in nearby unprotected areas.

In 2004, the SSC completed a white paper entitled “Marine Reserves: Objectives, Rationales, Fishery Management Implications and Regulatory Requirements.”⁴ This document contains additional recommendations regarding research needs associated with marine reserves and MPAs.

As MPAs and marine reserves are added to state waters and National Marine Sanctuaries, an evaluation of the likely benefits of these actions in the context of current management strategies should be required. Cumulative impacts of closures on fishing effort distribution should be examined, as well as social and economic costs and benefits.

7.2.1 Priority Research and Data Needs Related to Marine Protected Areas

- Identify type and scale of information needed to conduct stock assessments after establishment of marine reserves and evaluate the feasibility and cost of collecting such information.
- Information on the location and type of harvest and effort relative to a proposed marine reserve area is needed in order to begin to evaluate the degree of impact and effectiveness of the creation of marine reserves.
- Research is needed to understand the biological and socioeconomic effects of marine reserves and determine the extent to which ABCs would need to be modified when marine reserves are implemented, over the short-term and long-term.
- Information on advection of eggs and larva and pre-settlement juveniles. Particularly emphasis on differences between areas upstream and downstream of major geographical features.
- Knowledge of when in the life cycle density dependent effects occur is important in the assessment of the effects of marine reserves (as it is in assessing conventional catch management).
- Increased biological and socioeconomic monitoring of existing marine reserves and other areas of restricted fishing in order to gain information on current reserves that might be extrapolated to evaluate the creation of additional reserves on the west coast.

7.2.2 Essential Fish Habitat Issues

The Council has developed documents that describe and map EFH for coastal pelagic species, salmon, groundfish, and highly migratory species and has suggested management measures to

⁴ Pacific Fishery Management Council 2004. Marine Reserves: Objectives, Rationales, Fishery Management Implications and Regulatory Requirements. Pacific Fishery Management Council, Portland Oregon, 97220-1384.

reduce impacts from fishing and non-fishing activities. The Council may use area closures and other measures to lessen adverse impacts on EFH. Given the Council's intention to review EFH descriptions, designations of HAPCs, and fishing impacts on EFH every five years, new data and the tools to analyze those data will be needed.

- Continue development of dynamic spatially-explicit models of habitat sensitivity, fishing impact, and habitat recovery.
- Specifically identify habitat areas of particular concern: those rare, sensitive, and vulnerable habitats (to adverse fishing and non-fishing effects). Identify associated life stages and their distributions, especially for species and life stages with limited information. Develop appropriate protection, restoration, and enhancement measures.
- Identify any existing areas that may function as “natural” reserves and protection measures for these areas.
- Map benthic habitats within Federal and State waters on spatial scales of the fisheries and with sufficient resolution to identify and quantify fish/habitat associations, fishery effects on habitat, and the spatial structure of populations. Mapping of the rocky areas of the continental shelf is critical for the identification of the rocky shelf and non-rocky shelf composite EFHs.
- Conduct experiments to assess the effects of various fishing gears on specific habitats on the west coast and to develop methods to minimize those impacts, as appropriate. From existing and new sources, gather sufficient information on fishing activities for each gear type to prioritize gear research by gear, species, and habitat type.
- Explore and better define the relationships between habitat, especially EFH, and stock productivity. Improved understanding of the mechanisms that influence larval dispersal and recruitment is especially important.
- Evaluate the potential for incentives as a management tool to minimize adverse effects of fishing and non-fishing activities on EFH.
- Standardize methods, classification systems, and calibrate equipment and vessels to provide comparable results in research studies and enhance collaborative efforts.
- Develop methods, as necessary, and monitor effectiveness of recommended conservation measures for non-fishing effects. Develop and demonstrate methods to restore habitat function for degraded habitats.

APPENDIX I - 2007 AND 2008 GROUNDFISH STOCK ASSESSMENT REVIEW PANEL RECOMMENDATIONS FOR FUTURE RESEARCH AND DATA COLLECTION

Arrowtooth Flounder

- The arrowtooth flounder catch history should be reconstructed using all available data including catch by gear and by region. The reconstruction should include an envelope of high and low values to set bounds for exploration of alternative catch histories. As has been recommended previously by a variety of STAR Panels, the reconstruction of historical landings needs to be done comprehensively (i.e., with other species) to ensure efficiency and consistency.
- Evaluate the feasibility of a bi-lateral assessment with Canadian scientists, perhaps through the TSC (Technical Subcommittee of US Canada groundfish working group).
- Investigate the importance of calendar date on catch rates from the triennial survey and propose an adjustment, if needed.

Black Rockfish

Northern stock recommendations

- Development of informed priors for tagging and recreational CPUE *qs*.
- Age validation study
- Reader to reader comparisons are needed between States (Oregon and Washington).

Northern stock recommendations

- Additional work is needed to develop a quantitative prior for tagging catchability. Tagging catchability should be based on analysis of potential black rockfish habitat and the relative abundance of black rockfish throughout the geographic range of the assessment (see Appendix IV to the 2005 cowcod assessment). Continuation and/or expansion of tagging programs should consider the scope of project the relative to the area being assessed. If the area covered by the project is small relative to assessed area, the potential to provide useful information for stock assessment is limited. Development of priors for tag catchability should consider uncertainty as well as point estimates.
- Development of a fishery independent time series using fixed sites and volunteer fishers properly supervised using standard protocols. The CPFV dataset consisting of reef-specific CPUE data has been repeatedly identified as most valuable index for monitoring stock trends of nearshore species.
- The STAT excluded a large amount of ageing data because of inconsistencies that made it unsuitable for use in the assessment model. This raises concerns about age reading protocols. Age reader comparisons, both between readers within the same agency and between readers from different agencies, should be a routine part of age reading procedures.
- This assessment was limited by inadequate biological sampling of California component of the recreational and commercial fishery for black rockfish. Recreational fishery length data

could not be expanded to landings because strata with large landings were not sufficiently sampled. Age data were unavailable for California, which made it impossible to compare geographic differences in growth. There have been positive steps towards sustainable management of nearshore species off California at the policy level, but the lack of investment in long-term sampling programs for biological data may make it difficult to achieve policy objectives.

- For stocks whose primary assessment index is derived from recreational fishery CPUE, greater consideration should be given to the potential impact of management changes on the ability to assess the stock. Management tools such as bag limit and season closures may have different impacts on CPUE trend data. Each management change, e.g., a bag limit change, potentially reduces the value of fishery-dependent data.

Blue Rockfish

- Further genetic studies are needed to confirm that blue rockfish is two species. The sampling for genetic samples should be designed to address management issues, such as differences in spatial distribution, the extent of intermixing, differences in growth, longevity, and maturation schedules between the two species.
- Development of a fishery independent time series using fixed sites and volunteer fishers properly supervised using standard protocols. The CPFV dataset consisting of reef-specific CPUE data has been repeatedly identified as most valuable index for monitoring stock trends of nearshore species.
- The next assessment should provide documentation of historical blue rockfish catches off Oregon and south of Point Conception. A comprehensive assessment of blue rockfish throughout its west coast range should be considered.
- This assessment was limited by inadequate biological sampling of the California recreational and commercial fishery for blue rockfish. Recreational fishery length data could not be expanded to landings because strata with large landings were not sufficiently sampled. Reliable age data are unavailable for past 20 years, which made it impossible to evaluate temporal changes in growth or to compare geographic differences in growth. There have been positive steps towards sustainable management of nearshore species off California at the policy level, but the lack of investment in long-term sampling programs for biological data may make it difficult to achieve policy objectives.
- Given the availability of biological samples, studies are needed on spatial and temporal growth patterns of blue rockfish.
- Given the availability of biological samples, studies are needed on reproductive biology of blue rockfish. The apparent higher mortality of male blue rockfish, which is unique among assessed rockfish (female mortality is higher for several shelf and nearshore rockfish species), may also be linked to reproductive biology or behavior.
- The next assessment should provide a detailed justification for the use of fishery CPUE indices as indices of abundance. A detailed descriptive analysis of the data should be provided, with particular attention to annual changes that affect fundamental assumptions. Further, evaluate the robustness of the method to trip selection criteria and regulatory changes in the fishery.

- GLM diagnostics for both binomial and non-zero catch rate regressions should be provided routinely in all assessments that use this technique.
- For stocks whose primary assessment index is derived from recreational fishery CPUE, greater consideration should be given to the potential impact of management changes on the ability to assess the stock. Management tools such as bag limit and season closures may have different impacts on CPUE trend data. Each management change, e.g., a bag limit change, potentially reduces the value of fishery-dependent data.

Bocaccio

- The next assessment of bocaccio rockfish should be a full assessment and should use SS2 or some comparable modeling platform.
- All the bocaccio rockfish data need a critical review and potential revision before being included in the next assessment. Of particular concern are adjustments for bag-limit and other management-induced changes, the derivation of length-composition data, and the basis and selection of data sources to include in the assessment. The next assessment document should provide thorough and comprehensive documentation of the data sources and statistical models used in processing the data.
- Assumptions about stock structure and boundaries should be reviewed in light of information on catches of bocaccio rockfish taken off Mexico, Oregon, and Washington.
- The bocaccio rockfish catch history should be reconstructed using all available data including catch by gear and by region. The reconstruction should include an envelope of high and low values to set bounds for exploration of alternative catch histories. The STAR Panel notes that the SWFSC has made significant progress in retrieving detailed historical landings data, which will facilitate catch reconstructions. As has been recommended previously by a variety of STAR Panels, the reconstruction of historical rockfish landings needs to be done comprehensively across all rockfish species to ensure efficiency and consistency.
- Length frequency data, which are collected seasonally, should be modeled accordingly. This could be accomplished within the stock assessment model or externally by converting length-compositions to age-compositions, as has been done in New Zealand (Hicks et al. 2002).
- The new assessment model and data should be configured to explore cohort- and/or year-specific growth. Again, this could be done within the stock assessment model or externally by converting length-compositions to age-compositions.
- Age-reading of bocaccio otoliths should be pursued.
- Establish a meta-database that provides a comprehensive overview of all relevant data sources and sufficient information to correctly interpret the data.
- Establish an accessible database for rockfish catch histories by species, including envelopes of high and low values for each species to set bounds for exploration of alternative catch histories.
- Relevant raw data, updated in a timely manner, should be readily accessible to assessment authors in on-line databases that are user-friendly.

- Develop comprehensive descriptive analyses of recreational fisheries and fleets to assist in interpretation of recreational CPUE and length-composition data.
- Develop a concise set of documents that provide details of common data sources and methods used for analyzing the data to derive assessment model inputs.

Canary Rockfish

- Assumptions about stock structure and distributional boundaries should be reviewed in light of information on Canadian/Alaskan catches.
- A catch history should be reconstructed using all available data including catch by gear and by region. The reconstruction should include an envelope of high and low values to set bounds for exploration of alternative catch histories. As has been previously recommended, the reconstruction needs to be done comprehensively across all rockfish species to ensure efficiency and consistency.
- Evaluate the feasibility of a bi-lateral assessment with Canadian scientists, perhaps through the TSC (Technical Subcommittee of US Canada groundfish working group).
- Investigate the importance of calendar date and other covariates on catch rates from the triennial survey and propose adjustments to account for seasonal and other variation in selectivity/availability.

Chilipepper Rockfish

- Reconstruct the chilipepper rockfish catch history using all available data including catch by gear and by region. The reconstruction should include an envelope of high and low values to set bounds for exploration of alternative catch histories. The Panel notes that the SWFSC has made significant progress in retrieving detailed historical landings data, which will facilitate catch reconstructions. As has been recommended previously by a variety of STAR Panels, the reconstruction of historical rockfish landings needs to be done comprehensively across all rockfish species to ensure efficiency and consistency.
- Read chilipepper rockfish otoliths from the triennial and combination bottom trawl surveys to provide better data on the early stages of growth and possible time-variations in growth.
- Explore use of conditional age-at-length data rather than coupled age- and length-composition data.
- Explore time-varying growth as influenced by environmental changes.
- Explore possible spatial structuring of the data and model.
- The next STAT should have full access to raw data from the NWFSC trawl survey.

Cowcod

- Present and consider all available data potentially relevant to abundance trends in recent and historical years (e.g., outfall surveys, CalCOFI data, NWFSC bottom trawl data, observer data, and hook and line survey data). Data for recent and current trends are important in tracking progress towards rebuilding. Historical data may be useful in corroborating trends in CPFV logbook data.

- Enhance modeling procedures for standardizing CPFV data, particularly in representing potential interactions between year and region.
- Provide reviewers with complete sets of model diagnostics for standardized abundance indices based on CPFV and other types of data.
- Conduct additional video surveys to provide direct measures of current cowcod biomass and to facilitate interpretation of the existing video survey data. Ideally, video sampling should be carried out both inside and outside the Cowcod Conservation Areas so that extrapolation to the entire stock is not required.
- Reconstruct the cowcod rockfish catch history using all available data including catch by gear and by region. The reconstruction should include an envelope of high and low values to set bounds for exploration of alternative catch histories. As has been recommended previously by a variety of STAR Panels, the reconstruction of historical rockfish landings needs to be done comprehensively across all rockfish species to ensure efficiency and consistency.
- A preliminary query of the RecFIN database showed a very small number of cowcod in the RecFIN sample data. The Panel recommended that a thorough investigation of these data be prepared for the next assessment of this stock.
- Re-examine the assumption that commercial selectivity at length is the same as maturity at length.
- Conduct a full Bayesian assessment if possible. Cowcod are an ideal potential case because of the simple model structure and uncertainties about key model parameters and data.
- Develop surveys that track trends in abundance of cowcod. The NWFSC bottom trawl shelf and slope surveys should, in particular, be evaluated for cowcod.
- For the historical and recent fisheries, evaluate the relative capacity of fishing fleets and markets for cowcod to determine how much catch might have reasonably been taken during historical periods and whether relatively high fishing mortality rates during the late 1980s are plausible.
- Evaluate the hypothesis that CPFV indices are nonlinear measures of stock biomass.
- Assessment and review work would have been enhanced if the STAT had consisted of more than one person and if more time had been available to carry out the assessment.

Darkblotched Rockfish

- GLMM survey index swept area biomass data for the NWFSC shelf and slope surveys were much higher than simple swept area biomass calculations. Although some differences might be expected, the magnitude and consistency of the differences was surprising. GLMM procedures and models used to standardize the survey data should be checked and differences should be explained.
- Assessment data and background information should be presented clearly and completely before dealing with assessment models and modeling results. Data tables should be distributed at the start of the review.

- Future assessments should include complete sets of model diagnostics for GLMM standardized abundance indices, and other types of model runs.
- Maps showing the spatial overlap of the darkblotched rockfish stock area, surveys, fishing grounds and prime habitat should be provided and considered in interpreting survey data.
- Continued work to characterize effective sample size for length composition and, particularly, conditional age composition data is needed. For example, the procedure used to assign effective sample size initially for darkblotched rockfish was questioned in this assessment.
- Conduct a full Bayesian assessment.
- It would be useful to routinely check model estimates of survey catchability to determine if they imply implausible biomass estimates. This can be done by comparing the prior and posterior for q in a fully Bayesian assessment. Other approaches involve calculating bounds for plausible q values, comparison of model and minimum swept-area biomass estimates from trawl surveys.
- Assessment and review work would have been enhanced if the STAT had consisted of more than one person and if more time had been available to carry out the assessment.

Longnose Skate

- Re-create catch history (best estimates plus uncertainty) based on fishing effort.
- Investigate anomalous 2004 AFSC triennial survey longnose skate (and possibly other flatfish) catches.
- Ageing (validation) studies and maturation rate studies.
- Continue skate species identification in the fishery.
- Continue discard monitoring.
- Studies to estimate discard rates and discard mortality.

Sablefish

- The sablefish assessment needs a full review (this is not possible during a STAR Panel meeting). Additional resources are required to do this. Personnel with specialist experience and skills should critically review each data source. Model complexity should be simplified to be compatible with the expected information content of the data. The starting point should probably be an age-only model with growth estimated outside the model.
- Age data, in general, and especially for sablefish, intrinsically contains more information on recruitment (and biomass) than length data. Of course, if ageing methods are unreliable, then age frequencies will be also. The existing age frequencies (and model fits) should be critically examined to see if cohorts (at relatively young ages) are being tracked reliably. If they are not, then ageing methods should perhaps be reviewed with consideration given to how representative the age samples are likely to be. If cohorts do track reliably, then priority should be given to ageing any remaining samples.
- The exercise for deriving the prior on q should be redone. All potentially relevant data sources should be made available to a selected group of participants with appropriate skills

and experience. Ideally, priors would be formed for all of the trawl surveys used in the assessment. The sablefish q-priors could be derived at a more general workshop covering several species.

- The use of environmental variables as recruitment indices is currently fashionable and results do look encouraging. However, the priority for this work is to conduct a full cross validation study on the existing candidates rather than to further refine the candidate environmental indices.
- Continuation of trawl time series is essential for future stock assessments. The NWFSC slope survey has been surveying the whole of the Conception stratum in recent years and this should probably continue. If the full survey results are used to construct a time series then the Conception stratum must be subdivided at Point Conception. A consistent time series, using the full area, could be constructed using a number of methods including a GLM or extrapolation using the ratio of average catch rates north and south of Point Conception. A GLM is probably preferable, especially if there are significant vessel effects.
- Continued sampling of the commercial fishery is necessary and priority should be given to obtaining representative samples (good spatial and temporal coverage for the main fleets).

Pacific Whiting

- The Panel recommends that a Management Strategy Evaluation approach be used to evaluate whether the current 40-10 harvest control rule is sufficient to produce the management advice necessary to ensure the sustainable use of the Pacific hake stock with its dramatically episodic recruitment. The 40-10 rule assumes that simply reducing catches in a linear fashion as stock biomass declines will be sufficient to guide the fishery back towards the target spawning biomass level. However, with the fishery being dependent upon a single declining cohort just reducing the catch may achieve the status quo but rebuilding will not occur without new recruitment.
- Related to Recommendation 1, the operating model developed for the Management Strategy Evaluation should evaluate how well the different assessment models recapture true population dynamics. At issue is whether a simpler model such as ADAPT / VPA performs better or worse than a more complex model such as SS2.
- Female Pacific whiting grow differently than male Pacific whiting and many of the more influential dynamic processes that operate in the fishery are length-based but are currently considered from an age-based perspective (for example selectivity). The Panel recommends that future assessment models explore the need for including both gender- and length-based selection into the dynamics.
- The inclusion of ageing error was found to be influential on the model fit in the SS2 model. However, issues with ageing still remain. Further ageing error analyses are required, especially focused on estimating any bias in the ageing. It will be important to conduct a cross-validation of ageing error from the different laboratories conducting the ageing. It is especially important to include otoliths that were read by AFSC staff.
- In light of current acoustic survey information, re-evaluate treatment / adjustment of pre-1995 acoustic survey data and index values. For example, compare the biomass index implied by the area covered by the pre-1995 surveys with the total biomass from the full area

covered by the post-1995 surveys. The difference between these two indices has implications for the magnitude of the survey catchability coefficient prior to 1995.

- There should be further exploration of geographical variations in fish densities and relationships with average age and the different fisheries, possibly by including spatial structure into future assessment models.
- There should be exploration of possible environmental effects on recruitment and the acoustic survey.
- There should be further investigation and resolution of possible under-reporting of foreign catch.

APPENDIX II - FOCUS AREAS OF RESEARCH RELATIVE TO THE STATUS OF THE 2004 AND 2005 BROODS OF THE CENTRAL VALLEY FALL CHINOOK SALMON STOCK

This report was originally submitted to the Council by the California Department of Fish and Game and the Council's March 2008 meeting (Agenda Item D.1.b., CDFG Report, March 2008)

Freshwater Biological Focus

- 1) Was the level of parent spawners too low, for natural or hatchery populations?
- 2) Was the level of parent spawners too high, for natural or hatchery populations?
- 3) Was there a disease event in the hatchery or natural spawning areas?
- 4) Was there a disease event in the egg incubation, fry emergence, rearing, or downstream migration phases?
- 5) Was there any disease event during the return phase of the 2 year old jacks?
- 6) Were there mortalities at the time of trucking and release of hatchery fish?
- 7) Was there a change in the pattern of on-site release of hatchery fingerlings compared to trucked downstream release?
- 8) Was there a change in recovery, spawning and/or release strategies during hatchery operations?
- 9) Did thermal marking occur for any hatchery releases? What were the effects of this or other studies (e.g. genetic stock identification of parental broodstock)?
- 10) Was there a change in the methodology or operations of the SF Bay net pen 'acclimation' program for trucked hatchery fish?
- 11) Were there any problems with fish food or chemicals used at hatcheries?

Freshwater Habitat Areas Focus

- 1) Were there drought or flood conditions during the spawning, incubation, or rearing phases?
- 2) Was there any pollution event where juveniles were present?
- 3) Was there anything unusual about the flow conditions below dams during the spawning, incubation, or rearing phases?
- 4) Were there any in-water construction events (bridge building, etc.) when this brood was present in freshwater or estuarine areas?
- 5) Was there anything unusual about the water withdrawals in the rivers or estuary areas when this brood was present?
- 6) Was there an oil spill in the estuary when the 2005 brood was present, as juveniles or jacks?
- 7) Were there any unusual temperature or other limnological conditions when this brood was in freshwater or estuarine areas?
- 8) Was there any unusual population dynamics of typical food or prey species used by juvenile Chinook salmon in the relevant freshwater and estuarine areas?
- 9) Was there anything unusual, in the same context as above for juvenile rearing and outmigration phases, about habitat factors during the return of the 2 year olds from this brood?
- 10) Were there any deleterious effects caused by miscellaneous human activities (e.g., construction, waterfront industries, pollution) within the delta and SF bay areas?

- 11) Was there a change in the recovery of juvenile outmigrants observed in the USFWS mid-water trawl surveys and other monitoring programs in the Delta.

Freshwater Species Interactions Focus

- 1) Was there any unusual predation by bird species when this brood was in freshwater or estuarine areas?
- 2) Was there any unusual sea lion abundance or behavior when this brood was in freshwater or estuarine areas?
- 3) Was there any unusual striped bass population dynamics or behavior when this brood was in freshwater or estuarine areas?
- 4) Were northern pike present in any freshwater or estuarine areas where this brood was present?
- 5) Is there a relationship between declining Delta smelt, longfin smelt, and threadfin shad populations in the Delta and CV Chinook survival.
- 6) Was there additional inriver competition or predation with increased hatchery steelhead production?

Marine Biological Focus

- 1) Was there anything unusual about the ocean migration pattern of the 2004 and 2005 broods?
- 2) Was there anything unusual about the recovery of tagged fish groups from the 2004 and 2005 broods the ocean salmon fisheries?
- 3) Has the bycatch in non-salmonid fisheries (e.g., whiting, groundfish) increased?

Marine Habitat Areas Focus

- 1) Were there periods of reduced upwelling or other oceanographic physical conditions during the period of smolt entry into the marine environment, or during the period of marine residence up to the return to freshwater of the jacks?
- 2) Were there any effects to these fish from the 'dead zones' reported off Oregon and Washington in recent years?
- 3) Were plankton levels depressed off California, especially during the smolt entry periods?
- 4) Was there a relationship to an increase in krill fishing worldwide?
- 5) Limnology: temperature, salinity, upwelling, currents, red tide, etc.
- 6) Were there any oil spills or other pollution events during the period of ocean residence?
- 7) Was there any aquaculture occurring in the ocean residence area?
- 8) Was there any offshore construction in the area of ocean residence, for wave energy or other purposes?

Marine Species Interactions Focus

- 1) Was there any unusual population dynamics of typical food or prey species used by juvenile Chinook salmon in marine areas? (plankton, krill, juvenile anchovy or sardines, etc.)

- 2) Was there an increase in bird predation on juvenile salmonids caused by a reduction in the availability of other forage food?
- 3) Was there an increase of marine mammal predation on these broods?
- 4) Was there predation on salmonids by Humboldt squid?
- 5) Was there increased predation on salmonids by other finfish species (e.g., lingcod)?

Cumulative Ecosystem Effects Focus

- 1) Were there other ecosystem effects?
- 2) Were there synergistic effects of significant factors?

COASTAL PELAGIC SPECIES ADVISORY SUBPANEL REPORT ON UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Coastal Pelagic Species Advisory Subpanel (CPSAS) reviewed the Coastal Pelagic Species Fishery Management Plan chapter of the draft 2008 Research and Data Needs Document. Mr. Mike Burner summarized the May 12, 2008 research needs discussion of the Scientific and Statistical Committee's Coastal Pelagic Species Subpanel (SSC Subpanel) and Coastal Pelagic Species Management Team (CPSMT). The CPSAS concurs with the following draft priorities identified by the SSC and CPSMT (listed here in no order of priority):

- Timely receipt of catch and biological information from Mexico.
- Development of additional indices of abundance for CPS.
- Development of consistent and standardized ageing protocol.
- Review of harvest control rules for CPS.

Of these four priorities, the CPSAS ranks as highest, the development of alternative indices for assessing Pacific sardine population abundance. It is critical to the economic viability of the entire sardine industry.

Specifically, the CPSAS strongly recommends that the Council support and rank as the highest research priority, the development of a collaborative aerial spotter and acoustic survey methodology. This presently is being funded and sponsored entirely by the Pacific Northwest sardine industry. The CPSAS further asks the Council to promote the importance of increasing NOAA's cooperative research funding for west coast fisheries and California Current Ecosystem research with the stated goal of obtaining Federal funds to assist in this important aerial/acoustic research program.

Additionally, the CPSAS recommends that the Council support as high priority the review of the harvest control rule for sardine including the evaluation of the relevance of three-year mean sea surface temperature used to determine the harvest rate fraction.

PFMC
05/27/08

HABITAT COMMITTEE REPORT ON UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Habitat Committee (HC) reviewed the Research and Data Needs document. The document does a good job of identifying the highest priority action items and data needs for each species/topic group. However, treatment of habitat research varies throughout the document. Some sections do a better job than others of placing the need for habitat-species relationship information in context with other study needs. Overall, habitat research continues to take a back seat to more specific and urgent issues, which tends to perpetuate the species/fishery management plan (FMP)-specific focus for fisheries management.

The HC supports the steps taken to collate research and data needs according to species/FMP groupings – clearly, managers in each of those topic areas know best what information is needed to improve management under their FMPs. The ecosystem-based fisheries management section (Section 7.1) does a good job of bringing the ecosystem-related components of the separate FMP sections into an ecosystem-based fisheries management context. This component should be brought to the top of the document, as it provides a foundation and broad context into which the species/topic pieces fit.

The HC wishes to emphasize and enhance the three key components of ecosystem-based fisheries management implementation identified in Section 7.1:

- Increasing use of short- and long-term climate and ocean status, trends, and scenarios for the California Current ecosystem in stock assessments, harvest levels, and rebuilding plans.
- Consideration of trophic interactions among species, both fished and unfished, and associated impacts of fishing on trophic dynamics and ecosystem structure and function (and conversely, the implications of trophic changes on fishing).
- The increasing application of spatial management measures to protect life history characteristics, biodiversity, complex stock structure, and identify sensitive habitats.

The HC suggests that key recommendations in the remainder of the document be cross-referenced with these ecosystem objectives in order to identify elements that meet multiple objectives. This would help readers understand how data items are linked in a broader context, and will improve the effectiveness of this section in demonstrating efficient use of limited research resources.

To kick off the Council's ecosystem-based fisheries management activity, a large-scale initial effort is needed to collate and synthesize existing data from multiple sources. Additional data may be available, but not in a form useable for our needs – projects need to be encouraged and undertaken to bring these data to a useable form. The Council process will benefit from this cross-species, cross-FMP assessment, not only in the contexts of individual species management, but especially as we begin to seek ways to adapt to a changing ocean environment.

Salmon FMP Emerging Issues (Section 3.4) includes the following four bullets on Ecosystem and Habitat Issues:

- Develop tools that describe the environmental state and potential habitat utilization for nearshore anadromous fish.
- Characterize and map the ocean habitats for anadromous species using data from satellites and electronic tags.
- Characterize climate variability in the northeast Pacific and its relation to salmon production.

These items are broadly relevant to the other species/FMP sections in this document.

By-Section comments:

Introduction:

The introduction does a good job of relating the basis for the research and data needs document, and of showing the new provisions of the Magnuson-Stevens Reauthorization Act. A Section 1.3 should be added that identifies a plan to communicate and coordinate with entities beyond those specified in Section 302(h)(7) of the Magnuson-Stevens Act. Specific actions must be taken to enhance the probability that research and data collection activities will be coordinated and actively pursued. Specific targets for collaboration should include the Pacific Coast national marine sanctuaries, state and tribal management agencies, nongovernmental organizations, and the academic community.

Groundfish:

Emphasis on mapping benthic habitat is important as both a groundfish and ecosystem research need. Benthic habitat mapping in both state and federal waters remains an item of critical interest to the HC, and we suggest increasing the priority of this item. The research should include habitat/species associations to further elucidate how species are utilizing the habitat.

Salmon:

The HC agrees that incorporating environmental factors and variability into salmon productivity models is a “highest” priority. Development of relationships between measurable environmental factors and stock survival, abundance, maturation rates, and distribution should also be a “highest” priority. Particular emphasis should be placed on studying outmigrant survival in estuarine areas – this is important not only for Central Valley fall Chinook but for the many other stocks originating from degraded estuaries coastwide. Research needs specific to the Klamath should include items identified in the Klamath overfishing report.

In addition to the recommendations provided for Klamath fall Chinook, the HC recommends further exploration of the role of hatchery practices on recruitment, specifically with respect to relative production of fingerlings and yearlings, and the need to reduce competition between hatchery and natural outmigrants. The HC applauds the salmon “Ecosystem and Habitat Issues” section, and suggests that the kinds of research outlined here should be cast in the broader context of all marine species, and not restricted to salmon.

Central Valley fall Chinook (Appendix II)

The HC notes that the list does not include specific questions related to the fate of these fish in estuarine habitat. Such information is anxiously awaited by HC members.

Coastal Pelagic Species:

The HC suggests that studies of krill concentrations and California Cooperative Oceanic Fisheries Investigations (CalCOFI) larval data in association with annual and intra-annual variations in environmental conditions may provide insights into predator-prey relationships, ocean productivity, and climate change.

Within Section 4.1.2, Pacific Sardine:

Bullet #6: Acoustic methods could also be used to provide information on distribution and physical oceanographic (pelagic habitat) information, such as currents, sea surface temp, chlorophyll, etc.

Bullet #11: microsatellite DNA markers might also be useful for mapping distribution and pelagic habitat utilization.

Emerging Issues Pacific Sardine: Aerial surveys are not only useful for relative abundance estimates, but for studying pelagic habitat utilization.

Emerging Issues Bullet#6: Whiting survey data may also have data on sardine bycatch.

In Section 4.2.2 Pacific Mackerel:

Bullet #4. Overlaying oceanographic data on spotter plane observations may provide information on pelagic habitat utilization to help predict movement patterns and/or for use in stock assessment.

Highly Migratory Species:

The HC wishes to underscore the importance of habitat work needed to identify pupping grounds, migratory routes, feeding areas, and areas where adults aggregate for reproduction, with critical emphasis on thresher and mako shark pupping areas. This section also lacks an explanation of the role of Highly Migratory Species (HMS) as top predators and their importance in food web dynamics for many different habitats and ecosystems.

In Section 5.2.1, HMS Species – Albacore, habitat utilization and environmental factors are said to be “less critical” information needs. We disagree. Environmental factors could be quite important to understanding the population fluctuations of this species.

Section 5.3.3, Sharks – Emerging Issues/Essential Fish Habitat (EFH) is on the right track and could be pasted into FMP sections for species lacking an EFH determination. EFH should also include oceanographic parameters, not just substrate.

Economics and Social Science

This section fails to draw an important conclusion that is also relevant to ecosystem-based management: there is need for spatial information by fishery type (p. 37) at a scale useful for management. Almost any socioeconomic question requires spatial information by fishery type. Spatial information is also critical in species/habitat management, for example to determine economic impact of EFH and habitat areas of particular habitat areas of particular concern

(HAPC) development and the locating of marine protected areas, to determine impacts from wave energy development, and to aid siting of aquaculture projects.

Ecosystem-Based Fisheries Management

The HC recommends that Section 7 be split into two separate sections: marine protected areas (MPAs) and Ecosystem-based fisheries management (EBFM). The ecosystem-based fisheries management discussion should be moved to the beginning of the Data and Research Needs document, because these items set broad context for all aspects of fishery management.

The HC supports the ecosystem section as outlining priorities that are necessary foundational steps towards a longer-term objective of ecosystem management. The Council should develop a plan to undertake the “Highest Priority Issues” outlined in Section 7.1.2 as a critical step toward implementation of ecosystem-based fisheries management.

In the first bullet under Section 7.1 (page 45), modify the sentence as follows: Increasing use of short and long term climate and ocean status, trends, and scenarios for the California Current ecosystem in stock assessments, harvest levels and rebuilding plans.

In the fifth bullet under Section 7.1.2 (page 46), include as an indicator some measure of ocean acidification and associated impacts on ecosystem structure and function.

Marine Protected Areas

MPA-related research is likely to be focused on specific geographic areas, and conducted by state, local, or sanctuary program scientists. The HC wished to stress the importance of collaboration between Pacific Fishery Management Council (Council) and sanctuary, state and local entities to ensure that management questions relevant to all parties are incorporated into study designs. Also, the Council and its members have data resources that can aid sanctuary, state and local entities in answering some of those management questions. The Office of National Marine Sanctuaries, and sanctuaries throughout the Council management area, should be encouraged to consult early and often with the Council about management questions, research priorities and opportunities to collaborate. Finally, the Council data needs for MPAs should be coordinated with nearshore efforts (e.g., by the states), especially for lifecycle and larval dispersal information.

EFH Issues

The HC suggests that the new Groundfish EFH Review Committee develop a plan to undertake the activities called out in Section 7.2.2 or prioritize continuing data gaps.

PFMC

06/10/08

HIGHLY MIGRATORY SPECIES ADVISORY SUBPANEL REPORT ON UPDATE AND
COMMUNICATION OF RESEARCH AND DATA NEEDS

The HMSAS discussed and agrees with the Highly Migratory Species Management Team recommended reorganization and prioritization of highly migratory species research and data needs to reflect the needs of west coast fisheries.

PFMC
6/8/08

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Highly Migratory Species Management Team (HMSMT) reviewed the preliminary draft of the Research and Data Needs document (Agenda Item C.3.a, Attachment 1) at its April and June meetings. The HMSMT found the chapter on the Highly Migratory Species Fishery Management Plan (“HMS chapter”) to be largely reflective of the Council’s HMS research priorities as identified in the Stock Assessment and Fishery Evaluation (SAFE) document. However, the team does see a need to update both documents and suggests that the updates be coordinated.

The first task of the Research and Data Needs HMS chapter should be to identify the Council’s priority HMS stocks, i.e., those most important to and most affected by Council-managed fishing activities. Priority should then be given to maintaining and improving our ability to measure the impact of fishing on those stocks and to monitor status and trends in their distribution and abundance. The second task of the Research and Data Needs document should then be to identify and prioritize the fishery independent and dependent data collection activities and biological research needed to do so for each stock.

The HMSMT recommends prioritizing, and organizing the HMS chapter of the Research and Data Needs document into three tiers:

<u>Priority Level 1</u>	<u>Priority Level 2</u>	<u>Priority Level 3</u>
<ul style="list-style-type: none">• Albacore• Swordfish• Protected species interactions• Shortfin mako• Common thresher	<ul style="list-style-type: none">• Blue shark• Striped marlin• Bluefin tuna	<ul style="list-style-type: none">• Bigeye thresher• Pelagic thresher• Dorado• Tropical tunas

The team recommends highest priority for albacore tuna and swordfish, because of their commercial importance, and for shortfin mako and common thresher sharks, because of their recreational importance. The stocks listed above in Priority Level 2 and Priority Level 3 are either encountered less in the Council’s HMS fisheries, are taken primarily incidentally, and/or have research and monitoring priorities set primarily in the international arena. However, the team also briefly discussed the new Annual Catch Limits rule and how it might require increased priority for some of these lower priority stocks, especially for sharks that are not actively monitored or managed in the international arena.

Lastly, the HMSMT recommends that highest priority be given to research on interactions of HMS fisheries with protected species, including economic and conservation engineering research, because of the Council’s responsibilities under the Endangered Species Act and Marine

Mammal Protection Act and because of current constraints placed on U.S. west coast fisheries as a consequence of protected species interactions.

The HMSMT will be coordinating the update of the Research and Data Needs section of the HMS SAFE document this summer for review by the Council at the September Council meeting. If the Council accepts the team's recommendation, the HMSMT has identified a subgroup that will work with the authors of the Research and Data Needs document to ensure that both reports are consistent in their characterization of the Council's HMS research and monitoring priorities. The team is also working with Council staff to have some stock-specific updates and edits included in the public review draft of the Research and Data Needs document.

PFMC
6/8/08

SALMON ADVISORY SUBPANEL REPORT ON
UPDATE AND COMMUNICATION OF RESEARCH AND DATA NEEDS

The Salmon Advisory Subpanel (SAS) supports research and data needs 3.2.2 associated with genetic stock identification, otolith, and other stock identification issues as the highest priority.

PFMC
06/08/08

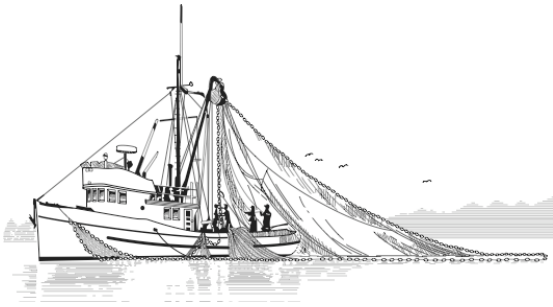
SCIENTIFIC AND STATISTICAL COMMITTEE REPORT ON UPDATE AND
COMMUNICATION OF RESEARCH AND DATA NEEDS

The Scientific and Statistical Committee (SSC) discussed the Council's Preliminary Draft Research and Data Needs 2008. The following summarizes the items discussed by the SSC:

- The SSC will modify the third priority in the salmon section of the document to reflect the need to develop models to improve evaluation of alternative management strategies.
- The SSC supports the species and research priorities identified by the Highly Migratory Species Management Team (HMSMT) (Item C.3.b Supplemental HMSMT Report).
- The SSC supports the recommendation from the California Wetfish Producers Association (Item C.3.c Public Comment) to incorporate research on the effects of ocean acidification on marine resources into the ecosystem section of the document.

The SSC supports these proposed changes to the document and publication of the document for public review. Additionally, the SSC will identify high priority items for groundfish and update the salmon and economics priorities for the Council's consideration in September.

PFMC
6/9/08



CALIFORNIA WETFISH PRODUCERS ASSOCIATION

Representing California's Historic Fishery

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May 21, 2008

Mr. Don Hansen, Chair &
Dr. Don McIsaac, Executive Director
Pacific Fishery Management Council
7700 NE Ambassador Place #200
Portland OR 97220-1384

RE: Agenda Item C.3.c : Research and Data Needs pertaining to Chapter 4 CPS FMP and
Chapter 7 EBM Fishery Management

Dear Chairman Hansen, Dr. McIsaac and Council members,

Again for the record, the California Wetfish Producers Association (CWPA) represents the majority of sardine/wetfish processors and active wetfish fishermen from both Monterey and southern California. We very much appreciate this opportunity, once again, to address the Council on subjects of importance to our wetfish industry.

Another recommendation in our October 13, 2007 comments:

[2] We ask the Council to join with the CPS industry in sending a strong message to the Secretary of Commerce and NOAA Fisheries in Washington DC, urging appropriation of sufficient funding to accomplish not only the CalCOFI synoptic cruise planned in April 2008, but also a second synoptic cruise timed for late June-July, the peak spawning period in the Pacific Northwest, to measure the extent of spawning in the Northwest as well as S.CA, then incorporate data from the full extent of the spawning range into the 2008 stock assessment.

As a second element of this request for expanded field research: we believe developing a second index of abundance is essential to provide a more accurate, more stable picture of the resource. CWPA would be happy to cooperate with the SW Fisheries Science Center and SW Region to expand knowledge of the sardine resource in California.

We thank NOAA Fisheries and the SW Fisheries Science Center for their significant efforts to secure adequate funding and ship time to conduct the two synoptic sardine CPS research cruises planned in 2008, the first of which ran in April coastwide and the second is scheduled for July. We appreciate the SW Center's ongoing commitment to Pacific sardine research.

CWPA members and California's wetfish industry also support the CPS Advisory Subpanel statement on Research and Data Needs, recommending that the Council rank as a high

research priority for sardine the development of collaborative aerial spotter and acoustic survey methodology, now sponsored by the Pacific Northwest sardine industry. We thank the PNW sardine industry for their efforts to develop a science-based second index of abundance. As we commented last October, we believe development of a second measurement of abundance in addition to daily egg production, a highly variable index, is essential to provide a robust picture of the resource. CWPA is pleased to cooperate in this research effort, as well as with the SW Fisheries Science Center, to expand knowledge of the sardine resource coast-wide. CWPA members have volunteered to monitor California sardine landings during directed sardine fishing periods and cease targeting sardine in time to reserve a portion of the directed fishery HG for research, intended for point sets to quantify aerial observations, testing the feasibility of this aerial/acoustic method to provide a second independent assessment of the sardine resource.

Regarding Chapter 7 – EBM Management Research Needs, Section 7.1.1 Climate and ocean status and trends, 7.1.2 Trophic interactions and 7.1.3 Highest Priority Issues:

We urge the Council to include as a highest priority increased measurements of and research on the effects of ocean acidification on marine resources. Ocean acidification, the 'other CO₂ problem, may precipitate serious consequences for numerous marine organisms over the near term, in particular calcifiers at the bottom of the food web. Attached for your information is an abstract from a 2007 NOAA research cruise that measured undersaturated [acidified] water throughout the water column from 50 m to the beach in northern CA, a condition not anticipated until at least 2050.

Thank you again for this opportunity to comment. We appreciate your consideration of these recommendations and look forward to working with the Council to develop management measures for the sardine resource that heed the lessons of the past and acknowledge the vital importance of wetfish generally, and sardine specifically, to California's historic wetfish industry.

Sincerely,



Diane Pleschner-Steele
Executive Director

Attachments:

Abstract – Feeley et al ocean acidification research findings

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EVIDENCE FOR UPWELLING OF CORROSIVE 'OCEAN ACIDIFIED' WATER ONTO THE CONTINENTAL SHELF

During a cruise in May-June 2007 onboard the RV *Wecoma*, we observed 'ocean acidified' water that is corrosive to calcifying organisms upwelling onto the continental shelf of western North America from Queen Charlotte Sound, Canada to San Gregorio Baja California Sur, Mexico. The ocean uptake of anthropogenic CO₂ has shoaled the aragonite saturation horizon so that seasonal upwelling exposes significant portions of the shelf to waters that are undersaturated with respect to aragonite. The corrosive waters reached mid-shelf depths of ~ 40-120 m along most transect lines, and reached all the way to the surface on two transects off northern California. In the region of the strongest upwelling, the isolines of $\Omega_{\text{arag}} = 1.0$, DIC = 2190 and pH = 7.75 closely followed the 26.2 potential density surface. This density surface shoaled from a depth of ~175 m in the offshore waters and breached the surface over the shelf near the 100 m bottom contour, ~ 40 km from the coast. These results indicate that the upwelling process caused the entire water column shoreward of the 50 m bottom contour to become undersaturated with respect to aragonite, a condition that was not predicted to occur in surface waters until 2050. While little is known about how these seasonal processes might impact the development of calcifying organisms or the finfish that populate this region, results from laboratory studies show that many species are highly sensitive to changes of this magnitude.

<http://www.pmel.noaa.gov/co2/>

Oral presentation

Presentation is given by student: No

Session #:003

Date: 03-04-2008

Time: 13:45

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Agenda Item C.3.c

Supplemental Public Comment

June 2008

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Public Comment C.3.c

*West Coast Seafood Processors Association**1618 SW 1st Avenue, Suite 318**Portland, OR 97201*

June 2, 2008

Mr. Don Hansen, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Ste. 101
Portland, OR 97220

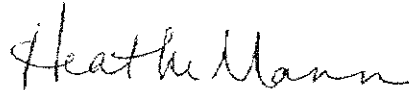
Dear Don:

The West Coast Seafood Processors Association (WCSPA) would like to go on record in support of the Coastal Pelagic Species Advisory Subpanel statement identifying development of alternative indices for assessing Pacific sardine populations as the highest priority research need for coastal pelagic species.

As Council members are aware, processors and fishermen in Oregon and Washington have been working on a collaborative project with NMFS and the states to explore use of aerial observation combined with acoustic surveys as an alternative method to measure sardine biomass off those states. To date, this project has been funded entirely by the industry. Identification of this sort of methodology as a research priority could open the way for additional support should cooperative research funding become available in the coming fiscal year.

We appreciate the Council's consideration of and support for innovative concepts to increase our knowledge of fish populations.

Sincerely,



Heather Munro Mann
Deputy Director

FISCAL MATTERS

The Council's Budget Committee will meet on Saturday, June 7, 2007, at 2:00 P.M. to consider budget issues as outlined in Ancillary C, Budget Committee Agenda.

The Budget Committee's report is scheduled for Council review and approval on Thursday, June 12.

Council Action:

Consider the report and recommendations of the Budget Committee.

Reference Materials:

1. Agenda Item C.4.b, Supplemental Budget Committee Report.

Agenda Order:

- | | |
|---|--------------|
| a. Agenda Item Overview | John Coon |
| b. Budget Committee Report | Jerry Mallet |
| c. Reports and Comments of Advisory Bodies | |
| d. Public Comment | |
| e. Council Action: Consider the Report and Recommendations of the Budget Committee | |

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REPORT OF THE BUDGET COMMITTEE

The Budget Committee (BC) met on Saturday, June 7, 2008 and received the Executive Director's Budget Report. The report covered the current status of funding and expenditures under the 2005-2009 Award, proposed budgets for calendar year (CY) 2008 base operations and the trawl rationalization program for CYs 2008 and 2009, and expectations for future funding. The following Budget Committee members were present:

Mr. Jerry Mallet, Chairman
Mr. Phil Anderson
Mr. Donald K. Hansen

Mr. Mark Helvey
Mr. Frank Warrens

Absent: Mr. Frank Lockhart
Dr. Dave Hanson (in attendance at concurrent North Pacific Fishery Management Council meeting)

Current Status of CY 2008 Base Funding

Dr. McIsaac reviewed the sequence of events which established the 2008 funding available to the Council. The regional council line-item in the federal fiscal year (FY) 2008 budget had a small increase over the 2007 budget, yielding just under \$2.5 M to our Council compared to a little less than \$2.2 M in 2007. Additional soft money funding has been provided by NMFS to bring the total funding received to date to a little over \$3 M. The only remaining funding expected in the near future is about \$100 K for supporting improvements in the Council's peer review process of stock assessments to occur after funding is received.

Proposed CY 2008 Base Budget and Status of Expenditures

Dr. McIsaac presented the committee with a total proposed CY 2008 operational base budget of \$3,235,891. This budget utilizes the funding received in 2008 (\$3 M) and, with the addition of some savings from 2007, provides for continuation of status quo programs and Council staffing while also supporting some contract work on Groundfish Amendment 22 (Open Access Limitation).

Expenditure of the proposed CY 2008 budget is proceeding within normal expectations for the first four months of the year.

CY 2008 and 2009 Groundfish Trawl Rationalization and Intersector Allocation Funding and Proposed Budgets

Remaining, dedicated funding for the groundfish trawl rationalization program (including the Intersector Allocation Environmental Impact Statement [EIS]) stood at about \$1.3 M at the start of CY 2008. This was about \$21,000 more than planned for in the combined CY 2008 and CY 2009 budgets. Based on that available funding, Dr. McIsaac presented the BC with proposed minor revisions to the CY 2008 and CY 2009 trawl rationalization budgets which would result in budgets of \$795,119 and \$539,483 for CYs 2008 and 2009, respectively.

Preliminary Expectations for Future Funding

For 2009, Dr. McIsaac reported that the President's FY 2009 budget includes \$18.9 million for the regional council line item. This would be about \$1.6 M more than the 2008 line item budget, but this line item total alone would be well short of the funding level the regional councils need to maintain status quo operations under the combination of hard and soft funding they have been receiving. In addition, with the imminent change in administration, there is a great deal of uncertainty as to the federal FY 2009 budget that will be enacted and also concern that the enactment could be delayed to as late as mid-March 2009.

Budget Committee Action and Recommendations

Recognizing the base operational funding received by the Council in 2008; the Council guidance from November 2007, and the uncertainties of the budget process for 2009, the Budget Committee recommends the Council adopt:

1. The CY 2008 operational base budget proposed by Dr. McIsaac of \$3,235,891;
2. A carry over of savings from the 2007 budget year to protect the operational continuity and capacity of the Council in 2009;
3. The CY trawl rationalization program budgets proposed by Dr. McIsaac of \$795,119 for CY 2008 and \$539,483 for CY 2009.

The BC also suggests that given the continued increase in fuel costs, the staff look carefully at travel cost estimates for the remainder of the year which could require further budget adjustments.

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MEMBERSHIP APPOINTMENTS AND COUNCIL OPERATING PROCEDURES

During this agenda item, the Council will consider changes in advisory body membership, appointments to other forums, and relevant changes in Council Operating Procedures (COP).

Council Advisory Body Appointments

Management and Technical Teams

Coastal Pelagic Species Management Team (CPSMT)

The Oregon Department of Fish and Wildlife (ODFW) has nominated Ms. Cyreis Schmitt to fill the ODFW vacancy on the CPSMT (Closed Session A.1.a, Attachment 1). The Council should take formal action at this meeting to confirm this nomination.

Highly Migratory Species Management Team (HMSMT)

Dr. Guillermo A. Compéan, Director of the Inter-American Tropical Tuna Commission (IATTAC), has notified the Council that Mr. Brian Hallman will again be available to represent the IATTC on the HMSMT. When Mr. Hallman is not available, his designee will be Mr. Ricardo Belmontes. The Council should confirm this arrangement, reinstating Mr. Hallman as the IATTC representative, at this meeting.

Advisory Subpanels

None.

Other Council Committees

Ad Hoc Groundfish Essential Fish Habitat Review Committee (EFHRC)

The Council established member positions for the initial EFHRC at its April meeting with the intent of naming members at this meeting. In response to a formal solicitation, Council staff received the following nominations for EFHRC membership.

- NMFS Fisheries Science Centers—1 position each from NWFSC and SWFSC (Closed Session A.1.a, Attachment 2):
 - Dr. Waldo Wakefield, NWFSC
 - Ms. Mary Yoklavich, SWFSC
- Scientists Affiliated with a Conservation Organization—2 positions (Closed Session A.1.a, Attachment 3):
 - Mr. Santi Roberts, Oceana, Monterey, CA

- Scientists At-large—2 positions (Closed Session A.1.a, Attachment 4):
 - Dr. H. Gary Greene, Professor Emeritus at Moss Landing Marine Labs
 - Dr. Chris Goldfinger, Associate Professor of Marine Geology at the College of Oceanic and Atmospheric Sciences, Oregon State University.
- Fishing Industry—2 positions, bottom trawl and non-trawl bottom gear (Closed Session A.1.a, Attachment 5):
 - Mr. Brad Pettinger, Brookings, OR (bottom trawl)
 - Mr. Bernie Bjork, Astoria, OR (non-trawl bottom gear)
 - Mr. Robert Eder, Newport, OR (non-trawl bottom gear)
- NMFS Northwest Region—1 position (Closed Session A.1.a, Attachment 6):
 - Mr. Steve Copps, Senior Policy Analyst
 - Mr. John Stadler, Habitat Conservation Division Regional EFH Coordinator
- Office of National Marine Sanctuaries—1 position (Closed Session A.1.a, Attachment 7):
 - Mr. Ed Bowlby, Olympic Coast National Marine Sanctuary
 - Ms. Karen Reyna, Gulf of Farrallones National Marine Sanctuary
- Unsolicited—no positions specified (Closed Session A.1.a, Attachment 8):
 - Mr. Stephen B. Scheiblaue, Harbor Master, City of Monterey, CA

Council staff solicited for a total of ten positions. There is at least one nominee for each position specified in the Council's announcement except for the lack of a second scientist affiliated with a conservation organization. In addition, there is a nomination for an unsolicited position for a member who would be capable of representing the needs of ports.

The proposal for two representatives from the NWR provides for both a policy level person who led the original EFH effort and a representative of the NWR Habitat Section which would add additional depth and breadth to the committee. With regard to the two nominees offered by the Office of National Marine Sanctuaries (ONMS), if ONMS is willing, staff believes it would be advantageous to name both to cover the geographic range of possible proposals. It might not be necessary for each to attend all meetings if the agenda did not include their geographic area of familiarity.

Staff is also aware that COP 22 included a representative from the Enforcements Consultants (EC) on the EFHRC and that was not included in the action taken by the Council in April. The Council may wish to ask the EC to comment on the need for EC membership on the EFHRC.

If the Council seats the EFHRC at this meeting, the next step would be for it to meet prior to the September Council meeting. At its first meeting, the EFHRC would appoint a chair and vice chair, and review and recommend a revised COP 22 as needed to clarify and establish: the EFHRC charge; a schedule and process for the five year review; an adjusted schedule, criteria, and process for submission and review of proposed EFH changes within the five-year period; and any other recommendations deemed appropriate, including the EFHRC role in recommending additional or replacement members.

Vacancies on Permanent Council Advisory Bodies

The following advisory body positions are vacant with no nominations:

- GMT NMFS NW Region, 2nd Position
- Habitat Committee IDFG Position

Update on Appointments to Other Forums

None.

Changes to COP

COP 22, Groundfish Essential Fish Habitat Review and Modification, is held in abeyance until the Council can consider recommendations from the EFHRC.

Council Action:

1. **Confirm or provide guidance on appointments to Council advisory bodies and potential COP changes.**
2. **At the time of briefing book preparation, the following specific items needed attention: the ODFW CPSMT position, the IATTC HMSMT position, and membership of the EFHRC.**

Reference Materials:

1. Closed Session A.1.a, Attachment 1: Nomination—ODFW CPSMT Position.
2. Closed Session A.1.a, Attachment 2: Nominations—NMFS FSC Scientists on EFHRC.
3. Closed Session A.1.a, Attachment 3: Nomination—Conservation Scientist on EFHRC.
4. Closed Session A.1.a, Attachment 4: Nominations—Scientists At-large on EFHRC.
5. Closed Session A.1.a, Attachment 5: Nominations—Fishing Industry Positions on EFHRC.
6. Closed Session A.1.a, Attachment 6: Nominations—NMFS NWR Position on EFHRC.
7. Closed Session A.1.a, Attachment 7: Nominations—ONMS Position on the EFHRC.
8. Closed Session A.1.a, Attachment 8: Nomination—Unsolicited Position.

Agenda Order:

- a. Agenda Item Overview John Coon
- b. Reports and Comments of Advisory Bodies
- c. Public Comment
- d. **Council Action:** Consider Changes to COP and Appoint New Advisory Body Members as Needed (Including Initial Groundfish Essential Fish Habitat Review Committee)

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SUPPLEMENTAL NOMINATIONS AND INFORMATION FOR PROSPECTIVE
GROUNDFISH ESSENTIAL FISH HABITAT REVIEW COMMITTEE (EFHRC) MEMBERS

Council staff has received the following supplemental information or nominations for positions on the groundfish EFHRC (letters and CV's are contained in Closed Session A.1.a, Supplemental Attachment 9).

- NMFS Fisheries Science Centers—1 position each for NWFSC and SWFSC:
Updated addendum to Ms. Mary Yoklavich's CV
- Scientists Affiliated with a Conservation Organization—2 positions:
Nomination for Ms. Megan Mackey, Pacific Marine Conservation Council
Nomination for Ms. Karen Garrison, Natural Resources Defense Council
- Fishing Industry—2 positions, bottom trawl and non-trawl bottom gear:
Nomination for Mr. Scott McMullen (bottom trawl)

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