

ENVIRONMENTAL ASSESSMENT
and
REGULATORY IMPACT REVIEW/INITIAL REGULATORY FLEXIBILITY
ANALYSIS
OF A REGULATORY AMENDMENT TO
DELAY THE 1992 DIRECTED FISHERY FOR GROUND FISH
WITH TRAWL GEAR IN THE
GULF OF ALASKA AND THE BERING SEA AND ALEUTIAN ISLANDS AREA

SUMMARY

During 1991, the Secretary of Commerce (Secretary) took emergency action to ameliorate potential adverse effects of groundfish trawl operations on Steller sea lions, a threatened species under the Endangered Species Act (ESA), and to foster the species' recovery. At its September 23-29, 1991, meeting, the North Pacific Fishery Management Council (Council) adopted Amendment 20 to the Fishery Management Plan (FMP) for the Groundfish Fishery of the Bering Sea and Aleutian Islands Area and Amendment 25 to the FMP for Groundfish of the Gulf of Alaska. These amendments would authorize the implementation of groundfish management measures for purposes of protecting Steller sea lions. The proposed rule that would implement Amendments 20 and 25 has been submitted for Secretarial review and approval.

The 1992 groundfish fishery is scheduled to commence on January 1, 1992. The schedule for public review and comment on the proposed rule to implement Amendments 20 and 25 will not allow for Secretarial approval of the sea lion protection measures prior to a January 1 start of the 1992 fishing year. The Secretary proposes, therefore, to delay the opening the Bering Sea and Aleutian Islands area and Gulf of Alaska trawl fisheries until sea lion protection measures authorized under Amendments 20 and 25 are implemented.

PURPOSE AND NEED

The domestic and foreign groundfish fisheries in the exclusive economic zone (EEZ) of the Gulf of Alaska (GOA) and the Bering Sea and Aleutian Islands area (BSAI) are managed by the Secretary of Commerce (Secretary) under the respective FMPs. The FMPs were prepared by the Council under the Magnuson Fishery Conservation and Management Act (Magnuson Act) and are implemented by

regulations governing the foreign fishery at 50 CFR part 611 and by regulations governing the U.S. fishery at 50 CFR parts 672 and 675. Additional regulations applicable to the U.S. fishery are codified at 50 CFR part 620.

In response to a precipitous decline of the Steller sea lion population, NMFS listed the Steller sea lion as a threatened species under the ESA (November 26, 1990; 55 FR 49204). To date, extensive declines have been noted in the Soviet Union, Aleutian Islands, Bering Sea, and Gulf of Alaska portions of the Steller sea lion's range. The causes of the observed decline are not known. Possible causes include changes in the sea lion's food base, intentional killing, incidental take in fishing gear, and disease.

The BSAI and GOA groundfish fisheries have developed in the geographic area that has historically supported the majority of the Steller sea lion breeding population. This same geographic region has also experienced substantial declines (about 78 percent decrease from 1956-1990) in the number of Steller sea lions counted on breeding sites over the last 30 years. Although the relationship between the Steller sea lion population and BSAI and GOA groundfish fisheries is unclear, Steller sea lions and commercial fisheries are known to interact in ways that may be detrimental to both fishermen and sea lions.

To date, NMFS has taken several steps to reduce the adverse effects of human activities, including commercial fisheries, on Steller sea lions. NMFS implemented the following conservation measures coincident with the 1990 threatened species listing under the ESA: (1) prohibited vessel entry within 3 nautical miles (nm) of Steller sea lion rookeries in the GOA and BSAI; (2) prohibited shooting at or near Steller sea lions; and (3) reduced the allowable level of take incidental to commercial fisheries in Alaskan waters.

On June 13, 1991, NMFS prohibited groundfish trawling within 10 nm of GOA Steller sea lion rookeries, and placed further time and area constraints on the harvest of GOA walleye pollock (56 FR 28112, June 19, 1991). These additional restrictions were promulgated under an emergency interim rule that expire on December 18, 1991.

At its September 23-29, 1991, meeting, the Council adopted Amendment 20 to the BSAI FMP and Amendment 25 to the GOA FMP that would authorize the implementation of groundfish management

measures for purposes of protecting Steller sea lions. The proposed rule that would implement these amendments has been submitted for Secretarial review. Pending public comment and Secretarial approval, the implementation of the proposed rule would revise and expand the sea lion protection measures implemented under the June 19, 1991, emergency interim rule. Specifically, the proposed rule to implement Amendments 20 and 25 would: (1) prohibit fishing with trawl gear in the EEZ within 10 nm of 37 unique Steller sea lion rookeries in the GOA and BSAI; (2) divide the GOA pollock total allowable catch (TAC) specified for the Western/Central Regulatory area into three pollock management districts; and (3) limit the amount of pollock quarterly harvest allowance that might be available in any of these districts as a result of unharvested pollock from previous quarterly allowances.

Two environmental assessments were prepared for Amendments 20 and 25 that examined the environmental and socioeconomic consequences of imposing additional constraints on the groundfish fisheries to minimize the potential adverse effects of the BSAI and GOA groundfish fisheries on Steller sea lions. These documents are incorporated by reference into the subject environmental assessment/regulatory impact review/initial regulatory flexibility analysis (EA/RIR/IRFA).

The 1992 groundfish fishery is scheduled to commence on January 1, 1992. The schedule for public review and comment on the proposed rule to implement Amendments 20 and 25 will not allow for Secretarial approval of the sea lion protection measures prior to a January 1 commencement of the 1992 fishing year. The Secretary proposes, therefore, to delay the opening the BSAI and GOA trawl fisheries until sea lion protection measures authorized under Amendments 20 and 25 are implemented.

DESCRIPTION OF ALTERNATIVES

Alternative 1. Regulatory status quo, i.e., retain the January 1 starting date of the 1992 groundfish trawl fishery in the GOA and BSAI. The fishery would commence prior to the implementation of the Steller sea lion protection measures proposed under Amendments 20 and 25. Only the existing prohibition against vessels approaching within 3 nm of the BSAI and GOA Steller sea lion rookeries would remain in effect.

Alternative 2 (preferred alternative). Delay the start of the

1992 groundfish trawl fishery until the Steller sea lion protection measures proposed under Amendments 20 and 25 are implemented.

ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

The EA/RIR/IRFAs prepared for Amendments 20 and 25 examine the impacts of proposed sea lion protection measures. A short-term delay of the start of the 1992 groundfish trawl fishery until these protection measures are implemented is necessary to support the intent of Amendments 20 and 25. The effect of the BSAI/GOA groundfish fishery on food availability to Steller sea lions is not known and a quantitative analysis comparing the effects of groundfish trawl operation on Steller sea lions under Alternatives 1 or 2 is not possible. However, based on the analysis presented in the EA/RIR/IRFA prepared for Amendments 20 and 25, a delay in the 1992 groundfish trawl fisheries until sea lion protection measures are implemented would minimize the potential adverse effects of the groundfish fishery on Steller sea lions.

A delay of the groundfish trawl fishery to mid or late January will not likely have a negative effect on gross revenues to the groundfish industry and may actually increase revenues to participants in the pollock fishery. The potential for foregone revenue to the pollock fishery would increase to the extent that a delay under Alternative 2 extends beyond the period of time of optimum pollock roe condition, which normally occurs around late January and early February.

Trawl fishing effort for non-roe pollock and other groundfish species is expected to be redistributed to the remaining portion of 1992. The fishery's ability to compensate completely for lost fishing opportunities, and the additional cost of that compensation, would vary with the extent of the season delay.

Alternative 1 - Status Quo

Physical and biological impacts on the environment

Under this alternative, the fishery would operate under the existing management regime. No change in environmental effects of the fishery would occur. No benefits or protection for

Steller sea lions would be provided prior to the implementation of Amendments 20 and 25 to the FMPs. Steller sea lions could be adversely impacted by commercial trawl operations within 10 nm of sea lion rookeries and within localized areas of the GOA that support concentrated fishing effort for pollock. No further impacts on the physical or biological environment would be expected from the status quo alternative relative to Alternative 2.

Socioeconomic impacts

The socioeconomic impacts of this alternative are associated with added costs of trawl vessel observer coverage during the first three - six weeks of 1992 and possible lost revenues associated with the start of the pollock roe fishery before optimum roe quality and value (late January - early February).

The current average cost of vessel observer coverage is \$7,500 per month, or about \$1,875 per week. During the first three weeks of 1991, 83 BSAI trawl vessels carried observers (90 percent of these vessels were participating in the pollock fishery), for a total estimated cost to vessel owners of about \$156,000. These same costs would be expected if a similar number of vessels participated in BSAI trawl fisheries during the first three weeks of 1992.

Table 1 lists the percentage of annual groundfish catch, by trawl fishery, during the first two, four, and six weeks of 1990 and 1991. Pollock comprised the greatest amount (85 percent) of total groundfish harvested during this time period. The weighted average first wholesale value of the 160,000 mt of pollock harvested during the first three weeks of 1991 was \$563/mt pollock, for a total weighted value of \$90 million (Table 2). The value of pollock increased to \$760/mt during the fourth - seventh weeks of 1991 when pollock roe quality was optimum. If these trends continued into 1992, the status quo alternative could result in a potential revenue loss of \$31.6 million to the pollock industry relative to a three-week delay under Alternative 2.

Alternative 2 (preferred alternative) - Delay the 1992 groundfish trawl fishery until sea lion protection measures are implemented.

Physical and biological impacts on the environment

A delay of the 1992 groundfish trawl fishery until sea lion protection measures proposed under Amendments 20 and 25 are implemented will minimize possible adverse effects of trawl operations on declining Steller sea lion populations. A discussion of these effects and other physical and biological impacts on the environment associated with the mitigating action of the protection measures proposed under Amendments 20 and 25 are contained in the EA/RIR/IRFAs prepared for these amendments.

Socioeconomic impacts

Under Alternative 2, the duration of the delay of the 1992 groundfish trawl fishery is unknown. The Secretary intends to implement the sea lion protection measures proposed under Amendments 20 and 25 as soon as possible and avoid unnecessary delay in the commencement of the 1992 trawl fisheries. The earliest that rulemaking promulgated under Amendments 20 and 25 could be implemented is the third week of January 1992. A delay of the groundfish trawl fishery for this or a longer period of time may (1) change the BSAI pollock roe recovery rates and the value of the pollock fishery during the first part of the year, (2) change the duration and value of the BSAI rock sole roe fishery, (3) change fishing costs through their effects on catch per unit of effort, and (4) change fishery bycatch rates of prohibited species.

The effect of alternative starting dates of the groundfish trawl fisheries will in part be determined by the amounts of catch that would be redistributed to later in the year. Estimates of the percentage of annual catch by fishery that occurred in 1990 and 1991 during the first two, four, and six weeks of the year are presented in Table 1. A two - six week period encompasses the likely duration of possible season delays for the 1992 fishing year under Alternative 2.

In the BSAI, fishing for pollock normally begins on January 1. In 1991, this fishery continued until the end of February, when the quota specified for the first pollock season ("A" season) was reached, two months ahead of the second pollock season ("B" season) opening on June 1. Catch through the end of February averaged about 55,000 mt per week, with the peak harvest occurring in mid-February. Catch of pollock (in round weight) and roe product weight by week are shown in Table 2 for the first three months of 1991.

As shown in Table 2, both pollock catch and roe production fell off drastically after the end of February. The peak roe production occurred in early to mid February at the time when it is at its peak condition and value. These data indicate that if catch during the first three weeks had been replaced by catch during weeks 4 to 7, a three week delay would have increased roe recovery rates and the value of the pollock fishery. With the increase in capacity that has occurred since the A season of 1991, catch during the first three weeks assumedly would be replaced by catch during the next four weeks. As discussed under Alternative 1, increased revenues to the pollock industry that may result from a three week delay of the season could approach \$31.6 million. Any advantages to the pollock fishery that may result from a three-week delay of the fishery would start to erode as the delay of the 1992 trawl fishery extends into February and lost opportunity to harvest optimum roe pollock occurs. The total first wholesale value of BSAI pollock harvested through the first 7 weeks of 1991 is estimated at \$289 million.

The effects of a delay on harvesting costs in other BSAI and GOA groundfish fisheries and the value of the BSAI roe rock sole fishery are not analyzed. A three - six week delay in these fisheries assumedly can be compensated for during the remainder of the year. The rock sole roe fishery normally peaks around March first and a delay of this fishery to late January or early February should not have significant adverse impact these operations. A three - six week season delay may actually optimize revenues from the rock sole roe fishery by constraining target operations to a period when roe quality and value are optimum.

Estimates of prohibited species bycatch effects of a two to six week delay of the groundfish trawl fisheries are presented in Tables 3 and 4. These estimates assume that the groundfish catch foregone during the duration of a season delay would be redistributed throughout the remainder of the first quarter of 1992. In the BSAI, a two week delay in 1991 would have resulted in a significant decrease in chinook bycatch by the trawl fisheries but no other significant changes in halibut or chinook bycatch. Further delays in 1991 would have increased trawl fishery and total groundfish fishery bycatch of halibut and chinook. If similar season delays had been implemented in 1990, results are similar to those in 1991 except that the percentage or absolute increase in halibut bycatch with a delay of more than two weeks is moderated.

GOA bycatch data from 1990 and 1991 indicate that in 1990 a delay of two to six weeks would have caused small decreases in chinook bycatch and small increases in halibut bycatch. In 1991, a delay of two to four weeks would have caused chinook and halibut bycatches to increase, but not substantially; however, a six-week delay would have increased halibut and chinook bycatch, respectively, by almost 13% and 20%. For the two years together, the results are similar to those of 1991.

The differences in the estimated effects of the delays for 1990 and 1991 indicate that impacts of a specific season delay in 1992 on bycatch species are uncertain.

CONCLUSION

Delaying the 1992 groundfish trawl fishing under Alternative 2 is the preferred alternative. Delay of the 1992 groundfish trawl fisheries is necessary until Steller sea lion protection measures are implemented to minimize potential adverse effects of groundfish trawl operations on the threatened sea lion population. The economic impact of a season delay on groundfish trawl operations would vary with the duration of the delay. A three-week delay may actually increase total revenues by constraining pollock and rock sole roe fisheries to time periods when roe quality and value are optimum. Season delays that extend into February will result in foregone opportunity to harvest pollock during the period when maximum revenue from roe production occurs. In 1991, the total first wholesale value of BSAI pollock harvested during the first two months of the year exceeded \$122 million.

The effects on prohibited species bycatch rates that may result from a delay of the 1992 groundfish trawl season are difficult to predict because bycatch effects of a season delay will vary from year to year.

FINDING OF NO SIGNIFICANT IMPACT

Delaying the 1992 groundfish trawl fisheries until sea lion protection measures are implemented, as proposed under the preferred alternative, is not likely to significantly affect the quality of the human environment, and the preparation of an environmental impact statement for selection of Alternative 2 as the preferred action is not required by Section 102(2)(C) of the National Environmental Policy Act or its implementing regulations.

DATE

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Table 2 BS/AI pollock fishery catch and value and roe production by week and by area for the first three months of 1990 and 1991.

Aleutian Islands

Week ending	Total catch	Roe		Price Adjusted		Value/mt total catch
		mt	%	adj.	roe %	
1/13/90	701	11	1.61%	1.079	1.74	347
1/20/90	162	5	3.08%	1.132	3.49	529
1/06/91	8,652	288	3.33%	1.079	3.59	570
1/13/91	3,032	107	3.52%	1.079	3.80	648
2/24/91	1,035	40	3.88%	1.000	3.88	664
3/03/91	17,859	222	1.24%	1.000	1.24	455
3/10/91	22,411	533	2.38%	1.000	2.38	563
3/17/91	12,127	218	1.80%	1.000	1.80	534
3/24/91	12,547	66	.52%	1.000	.52	446

Bogoslof Island

1/13/91	25,149	1,144	4.55%	1.079	4.91	698
1/20/91	32,052	1,416	4.42%	1.132	5.00	675
1/27/91	31,975	2,135	6.68%	1.132	7.56	900
2/03/91	32,388	2,220	6.86%	1.094	7.50	875
2/10/91	34,653	2,728	7.87%	1.094	8.61	981
2/17/91	53,176	4,639	8.72%	1.000	8.72	1,039
2/24/91	2,635	150	5.69%	1.000	5.69	747
3/03/91	886	16	1.82%	1.000	1.82	357

Other Bering Sea

1/06/90	18,495	351	1.90%	1.079	2.05	508
1/13/90	20,161	466	2.31%	1.079	2.50	523
1/20/90	23,527	844	3.59%	1.132	4.06	627
1/27/90	26,999	1,120	4.15%	1.132	4.70	637
2/03/90	27,899	1,639	5.87%	1.094	6.43	764
2/10/90	31,894	2,309	7.24%	1.094	7.92	818
2/17/90	32,411	2,799	8.64%	1.000	8.64	961
2/24/90	18,752	1,369	7.30%	1.000	7.30	968
3/03/90	18,800	465	2.47%	1.000	2.47	562
3/10/90	29,060	405	1.39%	1.000	1.39	466
3/17/90	26,534	349	1.31%	1.000	1.31	435
3/24/90	22,376	175	.78%	1.000	.78	397

3/31/90	29,272	134	.46%	1.000	.46	395
1/06/91	31,124	523	1.68%	1.079	1.81	487
1/13/91	32,566	621	1.91%	1.079	2.06	496
1/20/91	27,128	512	1.89%	1.132	2.14	462
1/27/91	35,087	764	2.18%	1.132	2.46	470
2/03/91	22,363	455	2.03%	1.094	2.22	496
2/10/91	26,844	471	1.76%	1.094	1.92	483
2/17/91	25,071	468	1.87%	1.000	1.87	482
2/24/91	47,987	1,268	2.64%	1.000	2.64	540
3/03/91	783	15	1.95%	1.000	1.95	490
3/17/91	45	4	9.81%	1.000	9.81	460
3/24/91	59	8	13.81%	1.000	13.81	521
3/31/91	196	3	1.50%	1.000	1.50	278

Notes: These estimates are based on product weight data provided by the Alaska Region and on 1990 first wholesale price data collected jointly by NMFS, ADF&G, and CFEC. The roe price adjustment factors were provided by industry. The factors were used to adjust the roe recovery rates, not total wholesale value. The total value is for all pollock products, not just roe.

Table 3. Estimates of BS/AI trawl bycatch amounts if starting dates had been delayed and catch had been redistributed to the rest of the first quarter.

1990	Halibut	Red King Bairdi	Crab	Chinook	Other Salmon	
Trawl						
All Targets						
Jan 1	4,348.6	1,710,192	99,144	13,798	16,213	
Jan 15	4,325.5	1,686,349	84,409	14,190	16,214	
Feb 1	3,840.4	1,294,624	58,260	13,848	16,218	
Feb 15	3,772.8	1,180,771	46,661	13,582	16,191	
1991						
Trawl						
All Targets						
Jan 1	6,114.3	2,565,732	111,545	37,702	21,743	1,215.1
Jan 15	6,255.5	2,646,132	96,649	23,300	21,393	1,214.9
Feb 1	6,556.6	2,934,303	102,537	25,669	21,654	1,214.6
Feb 15	7,221.1	3,373,991	89,802	25,718	22,214	1,214.7
1990 and 1991						
Trawl						
All Targets						
Jan 1	10,462.9	4,275,923	210,698	51,500	37,956	1,215.1
Jan 15	10,600.9	4,340,641	182,173	37,510	37,582	1,214.7
Feb 1	10,383.0	4,191,992	160,859	39,380	37,784	1,214.2
Feb 15	10,887.6	4,427,797	135,974	39,143	38,197	1,213.9

Notes: Halibut and herring are expressed in mt; bairdi and red king and chinook and other salmon are expressed in numbers. The halibut bycatch estimates have been adjusted to reflect assumed discard mortality

rates of 100% in the BSAI trawl fisheries and 50% in the GOA trawl fisheries. These estimates are based on data provided by the Alaska Region. The 1991 data are for January 1 - September 29. It is assumed that the redistribution of catch to later periods will not change the bycatch rates of the later periods.

Herring bycatch was not available from the Region for 1990. With the exception of rock sole, no BSAI flatfish fishery data are included prior to May 1 because currently the other flatfish fisheries do not open until May 1.

Table 4. Estimates of GOA trawl bycatch amounts if starting dates had been delayed and catch had been redistributed to the rest of the first quarter.

1990	Halibut	Bairdi	Red King Crab	Chinook	Other Salmon
Trawl					
All Targets					
Jan 1	2,113.8	87,730	422	15,763	4,071
Jan 15	2,157.2	89,278	422	15,293	4,092
Feb 1	2,235.1	91,779	422	14,501	4,131
Feb 15	2,248.5	91,598	422	14,540	4,146
1991					
Trawl					
All Targets					
Jan 1	1,628.5	93,311	132	36,092	13,498
Jan 15	1,672.5	92,261	133	37,093	13,529
Feb 1	1,706.0	89,904	134	38,264	13,564
Feb 15	1,821.9	96,349	135	43,208	13,660
1990 and 1991					
Trawl					
All Targets					
Jan 1	3,742.3	181,041	555	51,165	17,569
Jan 15	3,832.8	182,370	555	52,152	17,624
Feb 1	3,946.4	184,192	556	53,886	17,707
Feb 15	4,073.0	188,594	558	58,239	17,809

Notes: Halibut and herring are expressed in mt; bairdi and red king and chinook and other salmon are expressed in numbers. The halibut bycatch estimates have been adjusted to reflect assumed discard mortality rates of 50% in the GOA trawl fisheries, 16% in all hook-and-line fisheries, and

12% in all pot gear fisheries. These estimates are based on data provided by the Alaska Region. The 1991 data are for January 1 - September 29. It is assumed that the redistribution of catch to later periods will not change the bycatch rates of the later periods.