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ASSLRT Final Report



*Presented to the
North Pacific Fishery
Management Council
September 2001*

ASSLRT

- Alaska Steller Sea Lion Restoration Team
- Formed by Governor Knowles September 2000
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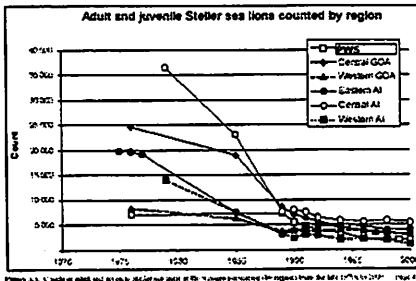
Goal and Objectives

- Goal - to promote the recovery of Steller sea lion populations while sustaining viable commercial fisheries in Alaska
- Specific objectives
 1. Review the justification of fishery restrictions to protect and restore Steller sea lions, and
 2. Recommend research priorities and adaptive management strategies designed to identify those factors inhibiting the recovery of the endangered western stock of Steller sea lions and provide increased understanding of fishery and sea lion interactions.

Report Components

1. Provide a concise synopsis of Steller sea lion declines and potential causes of those declines;
2. Review the Steller sea lion listing status under the Endangered Species Act (ESA);
3. Examine sea lion critical habitat definitions and related considerations;
4. Offer management advice with regard to protection of Steller sea lions for consideration by federal and state regulatory bodies and management agencies;
5. Provide an independent scientific review of the NMFS biological opinion (BiOp3) issued November 30, 2000;
6. Summarize recent and ongoing research on sea lion biology, ecology, and fisheries and other human interactions; and
7. Recommend scientific research needed to resolve uncertainties about the causes of Steller sea lion declines.

Steller Sea Lion (SSL) Decline



70s & 80s -
Steepest decline
Low survival
and birth rates -
nutritional stress

90s - Moderate
decline
nutritional stress
not found in
pups and
females with
pups in summer

From BiOp3 (August 2001)

ESA Listing Status

- Eastern SSL stock
 - ◆ Does not appear to meet ESA definition of threatened (stock appears to be at highest recorded level & thus not likely to become endangered within foreseeable future)
 - ◆ Threatened listing should be thoroughly reanalyzed
- Western SSL stock
 - ◆ Reassessment of listing status is warranted
 1. Current population size and trend data
 2. New, alternative population viability models
 3. Proposed new quantitative methods for ESA classification
 4. New consistent decision-making criteria such as that suggested by the International Union for the Conservation of Nature and Natural Resources (IUCN)

ESA Listed Critical Habitat

- Current definition - aquatic zones 20 nm around rookeries and important haulouts west of 144 W *not adequately justified*
- Need complete analysis of telemetry data integrating both location and dive data from individual trips

Review of BiOp 3 (November 2000)

- | | |
|---|--|
| <ul style="list-style-type: none"> ■ Good information <ul style="list-style-type: none"> ◆ History of regs, ◆ Current FMPS, ◆ Stock trends, ◆ Catch histories, and ◆ SSL biology and ecology | <ul style="list-style-type: none"> ■ Deficiencies <ul style="list-style-type: none"> ◆ Lack of fair treatment of alternative hypotheses of the decline ◆ Failure to distinguish 70s and 80s from 90s ◆ Lack of full treatment of recent and ongoing studies on nutritional stress |
|---|--|

Important SSL Activities and Management Goals

SSL activity - breeding and resting on land

Management goal - prevent human disturbance of land-based sea lion activities including breeding, nursing, resting, and social structure and behavior

SSL activity - foraging at sea

Management goal - preclude diminution of prey of appropriate species, in adequate densities, of sufficient spatial distributions, and in the sizes preferred by Steller sea lions to meet their nutritional needs

Appropriate Management Measures

■ Protecting animals on land

- ◆ No-approach zones for persons on land, and no-transit zones around rookeries and haulouts for vessels at sea, during the seasons (i.e., summer, winter, or year-round) that these sites are occupied, ranging from 100s to 1,000s of feet
- ◆ Size may need to be larger around rookeries
- ◆ Size should involve public consultation to include local knowledge and considerations of safe navigation, etc.

Appropriate Management Measures

- Precluding diminution of prey
 - ◆ Assumptions:
 1. SSL nutritionally stressed
 2. Fisheries contribute to SSL nutritional limitation
 - ◆ Appropriate size of precautionary no-fishing zones
 - ◆ Must be based on a full telemetry data analysis that characterizes spatial and temporal foraging patterns of juveniles

Research Recommendations

- Help resolve uncertainty regarding causes of declines and potential measures to foster recovery
- Research should emphasize adult females and subadults

Likely Causes of Decline Through 1980s

- Mortality from intentional shootings
- Bycatch mortality of SSL in fisheries
- Experimental harvests
- Nutritional stress associated with changes in prey abundance and composition in 70s and 80s due to regime shift and cascading ecosystem effects

Likely Causes of Decline in 1990s

- Potential impact of current fisheries is considerably less than during historical decline
 - ◆ Decline of western stock moderated to 5.1%
 - ◆ SSL are not prey-limited in a global sense based on estimated consumption needs and survey biomass
 - ◆ Pups and adult females with pups showed no evidence of nutritional stress in summer
 - ◆ Many precautionary restrictions have been placed on commercial fisheries
 - ◆ Conservative harvest control rules
 - ◆ No-trawl zones around rookeries and haulouts
 - ◆ Seasonal apportionments that dispersed fish removals in space and time

Conclusion

- It is unlikely that present fisheries currently put the western stock of Steller sea lions at risk of extinction, though the precise extinction probability should be reexamined with new population viability analysis informed with the best scientific data and methods currently available.

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September 7, 2001

Problems with Alternative 2: "Low and Slow Approach"

General: Alternative 2 is flawed in that it is a broad brush solution that will result in creating new additional management problems (i.e. "squeezing the balloon"). Displaced effort will be redistributed elsewhere, creating an other round of management issues. The effects of Alternative 2 on sea lions may be unknown due to the lack of experimental design in this alternative. It is clear that Alternative 2 will have severe negative effects on fisheries, safety, socio-economics, management and enforcement. In particular, the negative effects are greatest in the p-cod fishery and particularly in the longline fishery. Alternative 2 includes: restrictions on fisheries inside and outside of Critical Habitat; reduction of overall TACs; zonal reallocations; daily fleetwide catch limits by species; seasonal apportionments; and seasonal exclusive area registration.

1.) Global Reduction of TAC: Alternative 2 modifies the current Council TAC setting process (i.e. Plan Team/SSC/AP/NPFMC) by setting the maximum TAC as a percentage of ABC. The p-cod TAC would be 71.8% of the ABC in the BSAI and 55% of the ABC in the GOA, a reduction of 28.2% and 45% respectively. This TAC reduction is for all gear types (trawl, longline, pot, and jig) over broad geographic areas irregardless of use by SSLs.

- The current TAC setting process already employs the precautionary principle in multiple applications and has a proven track record to prevent overfishing (BiOp3: Figure 6.16 & Draft BiOp p. 120). The current TAC setting process is a public process with opportunity for public comment at the Plan Team, SSC, AP, and NPFMC levels.
- Reduction of global catch levels in broad geographic areas is inappropriate when the most recent satellite telemetry indicates 93.8% of juvenile at-sea locations and 75% of all at-sea locations are within 10 nm of land (p. 112 Draft BiOp).



Frozen at Sea Longline Caught Fish

- The SSC has previously commented on BiOp3 stating “...*the document should have concluded that global catch levels do not seem likely to affect SSLs, and consequently, that there is no justification for altering the current control rule for pollock, cod, and Atka mackerel at present.*”

2.) Seasonal Apportionment Increases Bycatch and Incidental Take:

Alternative 2 establishes four seasons with equal apportionment of TAC for pollock, p-cod, and Atka mackerel for all gear types. Two week stand-downs would be established between seasons with no provision for rollovers.

Presently the BSAI longline p-cod fishery is primarily conducted in the first and third trimesters. Alternative 2 mandates that 25% of the TAC will be taken in the summer quarter (June 15 to August 15). The seasonal reapportionment to summer months due to Alternative 2 will result in the following negative consequences for the p-cod longline fishery:

- Alternative 2 will increase the likelihood of interactions with short-tailed albatrosses (an ESA listed species). The draft SEIS (p. 4-222) states, “*An abundance index for short-tailed albatross in waters off Alaska indicates that August (highest index), July, and June experience the highest abundance (USFWS, 1999b). If under Alternative 2 the BSAI cod fishery was prosecuted during the June 15 to August 15 quarter, it is possible that vessels would potentially interact more frequently with short-tailed albatross... Alternative 2 was determined to have conditionally significant adverse effects on the short-tailed albatross with respect to incidental take.*”
- Alternative 2 will increase halibut bycatch (PSC) rates. The draft SEIS (p. 4-222) states, “*Historically this fishery [BSAI cod longline fishery] has not been fished during summer months when halibut bycatch levels tend to constrain harvest.*” During the summer, cod are less aggregated and move into shallower water where there is a higher incidence of halibut. Therefore, in order to fish the summer quarter, more gear would have to be run (due to the less aggregated cod biomass) in waters with a higher incidence of halibut. This would result in higher halibut by-catch rates. Prosecuting an open fishery in this quarter would trigger a seasonal closure (due to halibut PSC) with foregone harvest for the longline fleet (no seasonal rollovers under Alternative 2).

- The quality of cod as a seafood product decreases in the summer months. This would result in loss of ex-vessel value and potential loss of market.

3.) Zonal Approach: Under Alternative 2, the zonal approach for p-cod in the BSAI/GOA has very little to do with sea lions but considerably more to do with allocation and social engineering. The zonal approach is a reallocation scheme in regards to gear type, vessel length and product form by specific displacement from fishing grounds. Displaced effort doesn't vanish but is redistributed elsewhere, generating an other round of management considerations. As proposed in Alternative 2:

0-3 nm	No fishing around rookeries and haulouts (all vessels/gear).
3-10 nm	Pots (<60 pots/vessel), jigs, longliners < 60'
10-20 nm	Pots, jigs, longliners < 60', CV longliners > 60'
20+ nm	All vessels, all gear.

Note: All freezer-longliners (CPs) > 60' and all trawlers are only allowed in the zone outside of 20 nm outside rookeries and haulouts.

- The zonal approach to cod in Alternative 2 makes no distinction between the BSAI and GOA in terms of rationalization and participation. In the BSAI, there is presently an allocation between gear types. This has not taken place in the GOA cod fishery. Additionally, the NPFMC has passed Amendment 67 which will limit the number of participants in the BSAI fixed gear cod fishery. With these actions, the NPFMC has rationalized the BSAI fixed gear cod fishery. In contrast, the GOA cod fishery (though under LLP) is essentially an open access fishery for all gear types with no allocations.
- The zonal approach to cod in Alternative 2 makes no distinction between the BSAI and GOA in terms of geography. The distances in the BSAI from the cod longline grounds to shoreside processors can be up to multiple days, plus weather. This essentially precludes participation by non-freezer boats due to quality considerations and the perishable nature of the product. The longer distances of the BSAI also bring increased running time with associated costs particularly if delivering fresh product on a frequent basis.

- The zonal approach to cod in Alternative 2 makes no distinction between the BSAI and GOA in terms of weather. The zonal approach seeks to make the Bering Sea a small boat longline fishery (CV only inside of 20 nm) which is contrary to the weather patterns of the Bering Sea.
- The zonal approach to cod in Alternative 2 differentiates between CP and CV longliners. No rationale is provided as to what benefit this distinction provides to sea lions. The effect of longline gear and harvest is the same regardless if the harvested fish are slushed, iced, or frozen-at-sea. It is unclear how regulating product form is of significance or benefit to sea lions. There are no studies indicating a pinniped preference for product form in a fish hold. Due to quality considerations, the higher product value, and the remoteness of fishing grounds, over 99% of the longline p-cod harvest in the BSAI is by freezer-longliners (CPs). The zonal approach in the BSAI would then reallocate to a CV longline fishery that does not exist. A CV longline fishery may only be practical in fishing grounds that are close to processing facilities (limited in the BSAI). This would seem to concentrate effort to some near-shore areas rather than disperse effort.
- The zonal approach for longline gear also makes a distinction between longline vessel length without providing substantiation for that distinction in terms of sea lions. The rate of removal (“hole in the prey field”) by longline gear is the same regardless of the size of the vessel that is hauling the gear, i.e. the gear is the same “hook-and-line”. In contrast, trawl gear and vessel size are related by factors of horsepower and net dimensions.
- Given these considerations, the zonal approach is a reallocation of fishing grounds inside of 20 nm from longline and trawl to pot and jig. The zonal approach nearly eliminates freezer longliners (> 60’) from the Aleutian Islands as most of the fishing grounds are within 20 nm. The vessels that now fish the AI would then relocate to the EBS resulting in a further concentration of effort in the Bering Sea. The vessels already fishing in the Bering Sea would be further concentrated as these vessels would also be forced moved to outside of 20 nm in the Bering Sea under this alternative.

4.) Management and Enforcement: Alternative 2 is the most complex alternative for management and enforcement (Draft SEIS, p. ES-13) particularly for directed cod fishing and particularly for fixed gear vessels (p. 4-267). This alternative creates the largest number of new quota categories to be managed (+78 quota categories) . The draft SEIS (p. 4-270) states, “*Alternative 2 contains some fairly complex proposals with respect to groundfish quota management including a significant increase in the number of quota categories that would have to be managed, decreases in the amount of quota in each category, seasonal exclusive area registration, daily catch limits, and a foraging area catch limit for cod.*”

5.) Daily Catch Limits: Alternative 2 establishes maximum daily aggregate (all gear) catch limits for cod in the BS, AI, and GOA. The draft SEIS (p. 4-273) states, “*However, in analysis of the management and enforcement implications of daily catch limits, NMFS determined that our current fisheries management system cannot support daily catch limits.*”

6.) Safety: The draft SEIS (p. ES-15) states, “*Alternative 2 is predicted to have the largest operational changes (e.g. transit greater distances between port and open fishing grounds, fish farther offshore, and aggravate the race for fish). Therefore, Alternative 2 is expected to have a high potential to increase the risks of accidents and injury per unit of catch*”.

7.) Economic Costs: In the draft SEIS, Table ES-3 depicts overall losses resulting from Alternative 2 in four socio-economic comparisons ranging from 28 to 61% (from status quo). In contrast, the same comparisons for Alternative 4 range from less than 1% to 6%.

8.) Other Negative Effects: Northern Fur Seals, Crab Bycatch:

- Alternative 2 will result in displaced fishing effort that will redistribute in northern fur seal foraging areas in the EBS. The draft SEIS (p. 4-49) states, “*...under Alternative 2, the probable increase of in the fisheries harvest of prey species consumed by northern fur seals in the eastern Bering Sea is rated as conditionally significant negative (Table 4.1-9)*” and “*...Alternative 2 differs from Alternative 1 [status quo] and represents probable increases in the spatial and temporal interactions of the groundfish fisheries with northern fur seals, it is rated as conditionally significant negative.*”

- Under Alternative 2 and effects on PSC bycatch in the BSAI, the draft SEIS (p. 4-192) states *“In general there would be an increase in crab bycatch, especially in red king crab and C. opilio because the bycatch of these species are spatially removed from the critical habitat areas closed under Alternative 2 and increased fishing effort due to displaced effort would lead to increases in bycatch.”*

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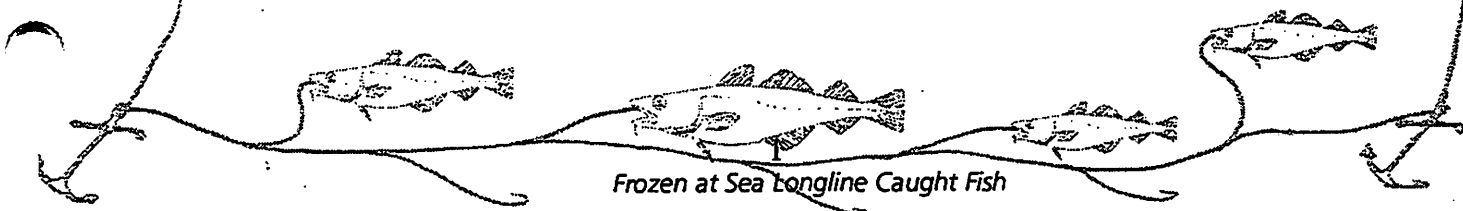
September 7, 2001

New Information in the Draft BiOp 2001

- 1.) Accounting of Known Sources of SSL Mortality
- 2.) SSL Diet Trends by Region
- 3.) Immature SSL Foraging Behavior
- 4.) Overview of Telemetry Studies
- 5.) Evaluation of the Impacts of the RPAs on SSLs
- 6.) Summary Report from the "Is it Food 11" Workshop
- 7.) Review of the November 2000 BiOp

Uncertainty in the Nutritional Stress Hypothesis

- 1.) **Change in Decline Trend:** *"Direct evidence for the nutritional stress hypothesis in the second phase of decline [1990s] is lacking."* (draft BiOp, p. 71 & 137).
- 2.) **75% of the Current Decline is Unexplained:** *"...some combination of factors is most likely the cause of the continued decline, and that no one factor is likely to be responsible for the lack of recovery of the species."* (p. 72-73).



Frozen at Sea Longline Caught Fish

3.) Body Measurements: *“Body measurements taken from SSLs in the western stock do not indicate that animals are suffering from nutritional stress. Measurements of girth, length, and blood chemistry parameters of lactating females from both western and eastern populations between 1993 and 1997 revealed that animals in the western population were rounder, longer, and heavier than animals in the eastern population...”* (p. 71- 72).

4.) Lack of Signs of Nutritional Stress: *“There was also no indication of nutritional stress among 238 free-ranging pups (<1 month old) sampled from 1990-1996 in the GOA, AI, and SE Alaska. The nutritional stress theory is also weakened by a study that found no difference in the energy intake of 40 pups at 5 rookeries in the declining and stable stocks of SSLs sampled from 1993 -1997..”* (p. 72).

5.) Comparison to Other Pinniped Populations: *“In all of the cases presented here [gray seals, Galapagos fur seals, South American fur seals, Cape fur seals, harp seals], two factors were consistent. All were characterized by either decreased juvenile survival or by a reduction of growth rates or female fecundity. In all cases, the populations began to rebound after the original decline or mortality event. Thus, of the known cases, the Steller sea lion may be the only species in continuous decline in response to hypothesized prey depletion.”* (p. 104).

6.) Forage Ratio (with four assumptions): *“Based on this calculation, there is 446 times more forage available than required in the Bering Sea, compared with 11 and 17 times more forage available than required in the Aleutian Islands and Gulf of Alaska, respectively.”* (p. 145).

BSAI Pacific Cod Longline Fishery

There exists a great deal of uncertainty in the relationship between commercial fishing and the decline in the western population of SSLs. The slow and dispersed nature of the longline fisheries makes localized depletion an unlikely scenario inside or outside of Critical Habitat.

- 1.) Rationalization:** The fishery has a stable number (<40) of participants and is on the road to rationalization with Amendments 64 and 67.
- 2.) Season:** The fishery is largely conducted in the first and third trimesters.
- 3.) Area:** The harvest area is broadly distributed in the EBS and AI. The majority of harvest occurs (82%) occurs outside of Critical Habitat (20 miles) while 76% of the harvest occurs outside of all Critical Habitat (20 miles plus foraging areas). Access to Critical Habitat is important to the longline fleet. Due to the topography in the Aleutian Chain, 80% of the harvest in the AI occurs inside Critical Habitat. Loss of this access would result in displacement of the vessels who currently fish the AI area and as a result this would concentrate effort in the Bering Sea.
- 4.) Cod:** The average length of cod caught in the longline fishery is 67 cm (1997-98 avg.). Scat analysis indicates that 80% of the cod eaten by SSLs were approximately 50 cm in length.
- 5.) Gear Efficiency:** A Norwegian study (*Responses of Cod and Haddock to Baited Hooks in the Natural Environment*, Lokkeborg, Bjordal, and Ferno, 1989) gives an indication of the effectiveness of longline gear on the prey field. In the study, less than 5% of the

cod reacted to the bait. Of those cod that reacted, only 29% bit the bait, and of those that bit the bait, only 37% were hooked.

If nutritional stress from associated local depletion is the accepted hypothesis, it is less likely that longline gear is factor due to its relative effectiveness in the prey field and water column.

Future Actions

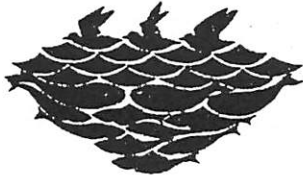
1.) Continued Research: Emphasis should be placed on accurate SSL population counts, killer whale population counts in the WGOA/BSAI, killer whale predation, and testing the nutritional stress hypothesis. If the nutritional stress/local depletion hypothesis is to be accepted than testing of localized depletion by gear type should be conducted

2.) New Recovery Plan

3.) De-Listing Criteria for Threatened and Endangered for Eastern and Western Stocks

4.) De-Listing of the Eastern Stock

5.) Re-Designation of Critical Habitat



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September 4, 2001

David Benton, Chair
North Pacific Fishery Management Council
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Re: Initial Review of Analysis for 2002 Steller Sea Lion RPA

Dear Mr. Benton,

AMCC has reviewed the new Steller sea lion Supplemental Environmental Impact Statement (SEIS) and Biological Opinion. We are primarily concerned about two aspects of the documents:

- The scope of analysis in the SEIS
- The basis for the agency's no jeopardy conclusion of the Biological Opinion

We recommend that the NPFMC request NMFS to expand the final SEIS to include the three options you approved in June for Alternative 4. These options include AMCC's Zonal Approach for Gulf of Alaska cod (Option 3).

This letter explains our concerns from the standpoint of achieving Steller sea lion protection by complying with both the Endangered Species Act and the Magnuson-Stevens Act.

I. Scope of the SEIS

A. The SEIS does not analyze the options selected by the NPFMC in June

In June the NPFMC included five alternatives and three options for analysis in the SEIS. Although the analysts produced an amazing amount of work in a very short time period, they did not in fact analyze the options as you requested. There is one page in the SEIS that evaluates very generally the effect of the options but it is not by any means an analysis and we believe even this one page misrepresents AMCC's Option 3/Zonal Approach. We were told the options were not analyzed for a few different reasons: 1) options do not carry as much

weight as complete alternatives, 2) the biological opinion could not contain options, but rather needed to be confined to a single alternative, and 2) there wasn't enough time. We understand a large amount of work needed to happen in a small amount of time but we want to see the options analyzed so that they can be effectively considered as the NPFMC requested in June.

Over the last year, the NPFMC has asked NMFS on more than one occasion to conduct a differential gear analysis, such as the Zonal Approach, to inform your decisions on Steller sea lion measures for the cod fishery:

- September 2000 – NPFMC approved a motion to analyze alternatives for the cod fishery that considered the effects of different gears on the spatial and temporal nature of the fishery
- January 2001 – NPFMC reiterated its intent:
An initial set of alternatives [for 2002] will stem from previous RPAs recommended by the Council, as well as the September 2000 EA/RIR/IRFA developed by NMFS for the Pacific cod fisheries and Council recommendations made at that September meeting. (NPFMC newsletter, Vol. 1-01, p. 2)
- June 2001 – NPFMC approved a motion to include the Zonal Approach for Gulf cod as Alternative 4, Option 3.

AMCC accepted the recommendations made by industry members of the RPA Committee for 2001 fisheries because NMFS and committee members felt the zonal approach was too much to analyze in time to produce an emergency rule for the second half of 2001. The RPA Committee chair promised a zonal approach would be considered for 2002. As a member of the committee, AMCC presented such a proposal for Gulf of Alaska cod and, although not recommended by the majority of the committee for analysis, the NPFMC did include it in the scope of items to be analyzed in the SEIS.

We believe the analysis should include a range of alternatives especially for fisheries that are prosecuted by very diverse fleets from many coastal communities such as Gulf cod. The Zonal Approach provides the NPFMC with some variations to consider when making a final decision in October.

The Zonal Approach option provides a reasonable way to achieve sea lion conservation through modified fishing opportunities for coastal community fleets using lower impact fishing gears and practices.

We limited trawl gear to the zone beyond 20 nm because of information from NMFS that trawling has the most impact on the prey field. NMFS states:

The possible effects of these other gear types are dwarfed by the magnitude of biomass removals by the trawl sector. (Biological Opinion, November 30, 2000, p. 257)

In terms of effects on ESA listed species the slower and more dispersed nature of the hook and line and pot fisheries make localized depletion less likely than would be possible with trawl gear. (Biological opinion, Nov. 30, 2000, p. 215)

Trawling may disadvantage sea lions not only by removing their potential prey within their foraging areas, but also disrupting the normal schooling behavior of the prey species. (Biological Opinion, Nov. 30, 2000, p. 187)

We can speculate that trawl gear, due to its higher catch capacity than fixed gear types, would have greater likelihood in causing localized depletions which could adversely affect sea lions...Additional closures, especially for trawl gear in the Pacific cod fisheries would strengthen these conservation measures and would provide a more risk averse approach to minimizing competition. (August 2001 Biological Opinion, p. 123.)

Analysis of Option 3 is supported by statements in the Biological Opinion that reflect the increased benefit from a zonal approach:

... other tools such as differential gear closures to areas inside critical habitat from 0-10 nm or inside foraging areas, or other critical habitat limits (i.e. harvest levels inside SCA) would strengthen the conservation measures, and further insure that competition was unlikely to occur between fisheries and sea lions. (August 2001 Biological Opinion, p. 116.)

B. Evaluation of the Option 3/Zonal Approach

The SEIS contains one page of discussion about the Option 3/Zonal Approach which we found to be misleading in several ways (SEIS, p. 4-550):

- The document equates the Option 3/Zonal Approach for Gulf cod with the cod element of Alternative 2. In fact there are important differences which would be reflected in a real analysis:
 - AMCC's option allows fishing in the 0-3 nm zone for jig and pot vessels under the same rules as the State water cod fishery. Alternative 2 allows no fishing in the 0-3 nm zone.
 - Option 3/Zonal Approach allows more longline fishing than Alternative 2 in the other zones.
 - The conservation benefits of Option 3 are higher than the cod component of Alternative 4 from the standpoint of Steller sea lions, benthic habitat, and bycatch but not as high as Alternative 2.

- The SEIS says Option 3/Zonal Approach would have the same economic effect as Alternative 2. In fact, the economic impact would be lower than Alternative 2 because the AMCC option provides for more fishing opportunity.
- One of the expectations of Option 3 is a shift from trawls to pots by those vessels who already use both gear types or decide that fishing inside critical habitat is important enough to make the transition from trawls to pots. A blanket statement that the economic impacts would be high on trawl vessels does not take into account that at least some portion of the existing Gulf trawl fleet would be able to make a smooth transition to pots and thus have the same access to cod as they do today inside critical habitat. An economic analysis of Option 3 should contain a discussion and, to the degree possible, some statistical information on the number of cod trawl vessels that are also engaged in pot fisheries. This would indicate how much of the fleet would actually be able to participate in the cod fishery inside critical habitat without having to purchase different gear.

Since Option 3 will have a positive effect on sea lions, it provides the NPFMC with another tool to refine management for the Gulf cod as part of a whole RPA package.

II. Basis for No Jeopardy Conclusion

A. Conservation Ratings

The SEIS finds Alternative 4 to have a “conditionally significant adverse” effect on the criteria labeled “effect on harvest of prey species.”¹ It is rated “insignificant” (that is no improvements would be expected) on the criteria labeled “spatial and temporal concentration of the fishery.” (SEIS, p. ES-25) These are two of the primary conservation criteria for removing jeopardy. It is not clear to us how Alternative 4 meets a no jeopardy finding with these ratings. Furthermore, we are very concerned that Alternative 4 is given a no jeopardy grade even though it results in a continuing decline in the Steller sea lion population trend.

B. Telemetry Data

The RPA Committee alternative (called Area and Fishery Specific Approach in the SEIS) and NMFS’s no jeopardy conclusion in the August 2001 Biological Opinion are hinged on a faulty interpretation of telemetry data that assumes 0-10 nm is *more* important than the rest of critical habitat for sea lion foraging success.

¹ This is explained later in the SEIS as: *Does the alternative result in harvests on prey species of particular importance to marine mammals, at levels that could compromise foraging success?* (SEIS p. 4-3)

Concerns About Use of the Telemetry Data

Although a lot of good work has been done with satellite telemetry, at this point the data is not an accurate gauge of the importance of different locations to sea lion foraging success.

Limitations of the technology are enough to question reliance on it as a tool to partition critical habitat into areas that are important to sea lions and areas that are not important. To achieve an at-sea hit, the animal has to 1) rise far enough out of the water to expose the transmitter located on the back of the animal or 2) be resting at the surface with the transmitter exposed and dry. Most of the time that sea lions are foraging offshore, they will not be at the surface with the transmitter dry at the same time that the satellite passes overhead. Many fewer hits occur offshore compared to the time sea lions actually spend offshore because they are spending less time at the surface where the transmitter needs to be in order to contact the satellite.

Regarding foraging behavior, NMFS scientists explain:

Steller sea lion foraging patterns can be divided into at least two categories 1) foraging that occurs around rookeries and haulouts and that is crucial for adult females, pups, and juveniles, and 2) foraging that may occur over much larger area where these and other animals may range to find the optimal foraging once they are no longer tied to rookeries and haulouts for reproductive or survival purpose (NMFS, RFRPA, October 1999, p. 25).

There are important caveats associated with what conclusions can be drawn from the data. These are described in the Biological Opinion and were presented to the RPA committee by scientists from ADFG, NMFS and University of British Columbia.

- 1. Due to a larger proportion of time spent at the surface when animals are nearshore, there is a higher probability of obtaining at-sea locations near haulouts and rookeries than when animals are farther offshore and likely to be diving at greater depths,*
- 2. At-sea locations only describe where an animal was at a given time; it does not necessarily indicate whether the animal was foraging,*
- 3. The large majority of pups instrumented, and perhaps most juveniles, were likely to still be nursing*

and thus not foraging independently from their mother, and

4. *Telemetry data are lacking for subadults and females without pups. (August 2001 Biological Opinion, p. 110)*

The Biological Opinion goes on to say:

These caveats were presented and discussed at the RPA Committee meeting. The author pointed out the danger of using the telemetry data to estimate the percentage of time the instrumented sea lions may have spent at specific distances from shore, and then further inferring from that information the spatial distributions of foraging bouts. (emphasis added) (August 2001 Biological Opinion, p. 110)

The Biological Opinion attempts to filter the telemetry data to remove bias toward the 0-10 nm portion of critical habitat. (August 2001 Biological Opinion, p. 114) But, according the sea lion biologists, even the filtered data is not appropriate to determine foraging area:

The purpose of [filtering the data] was not to suggest the frequency distributions of distances from at-sea locations to the nearest landmass should be used to infer the spatial extent of Steller sea lion foraging areas. (Satellite Telemetry and Steller Sea Lion Research. White Paper prepared by ADF&G and NMFS Steller sea lion research programs for the NPFMC RPA Committee, p. 14.)

What conclusions can we draw from the telemetry data?

The large number of satellite hits between 0 to 10 nm and the comparatively low number of hits beyond 10 nm does not mean that 0 to 10 nm is the primary Steller sea lion foraging area. While the nearshore waters are obviously important habitat, there is reason to give the 10-20 nm areas equal weight when designing conservation measures. The Biological Opinion itself states:

The critical assumption that must be made here is that the observed at-sea distributions are indicative of sea lion foraging. At this point we can still say very little about the foraging success of these animals while at sea, and therefore do not know if there are areas of ocean, a time of day or distance from land that is more or less important or effective for a foraging Steller sea lion. (August 2001 Biological Opinion, p. 112)

C. Aleutian Islands Pollock

The declining condition of the Aleutian Islands pollock stock is of concern both from the standpoint of the directed fishery and Steller sea lions. AMCC supported the 2000 RPA closure to the directed fishery because of 1) decline of Aleutian Islands pollock, 2) poor scientific understanding about the biological relationship between the Eastern Bering Sea pollock stock and the Aleutian Islands stock (if it is indeed a separate stock), 3) loss of other stock components of Bering Sea pollock (Donut Hole and Bogoslof), and 4) the steep decline of Steller sea lions in the area. The Biological Opinion does not make a good case for why the area should be re-opened for pollock. ~~The rationale for partitioning critical habitat and assuming the 0-10 nm portion is adequate for sea lion foraging is not appropriate for supporting a re-opening of the Aleutian Islands pollock fishery for all the reasons explained above.~~

D. Reliance on Decision by the State Board of Fisheries

Action to remove jeopardy on federally managed fisheries should not be contingent on action by the State for the parallel fisheries. The State may well need to address sea lion conservation but federal fishery managers should take responsibility for federal fisheries without having to rely on actions by the State to make federal fisheries meet Endangered Species Act requirements. There are plenty of ways – including treating all of critical habitat as critical habitat – to increase conservation in the federal fisheries to a level that brings them into compliance with the law.

If the State needs to address state waters as a separate matter, the Option 3/Zonal Approach offers a way to limit fishing effort in the 0-3 nm zone to jig and limited pot gear. This formula mirrors regulations applied to the State water cod fishery that commences in the spring after the federal parallel fishery is closed.

III. Conclusion and Recommendation

AMCC cannot support NMFS's selection of Alternative 4 as the preferred alternative or the conclusion of the Biological Opinion because we believe it hinges on a shaky rationale for a large management plan under Endangered Species Act standards. In our view, this is not an appropriate time to scale back on protection of Steller sea lion critical habitat based on a weak, if not wrong, interpretation of sea lion telemetry data. Furthermore, sea lion measures for federal fisheries should not be reliant on a decision by the State yet to be made.

For these reasons, we are very concerned that selecting Alternative 4 without considerable modification is not sufficient in terms of Steller sea lion conservation and therefore puts our fisheries – and fishermen – at risk in 2002.

We recommend that the NPFMC request the following changes in the SEIS and Biological Opinion in order to widen the range of tools from which to craft the 2002 RPA in October:

- **Analyze Option 3/Zonal Approach for Gulf cod.**
- **Add an option to Alternative 4 that restores the Aleutian Islands pollock closure, a measure that was in place in the 2000 RPA.**
- **Ensure that federal fisheries are in compliance with the Endangered Species Act independent of action by the State. Federal fisheries should take responsibility without relying on State action to make a no jeopardy conclusion "stick." (Please note that AMCC supports the State restricting fishing effort inside 3 nm as our Option 3/Zonal Approach indicates, but we do not support a no jeopardy conclusion for fisheries under federal jurisdiction that is contingent on another management body.)**

Thank you the opportunity to offer our comments.

Sincerely,



Dorothy Childers
Executive Director

cc: Governor Tony Knowles
Senator Ted Stevens
Senator Frank Murkowski
Congressman Don Young

Streamers could save birds from hooks

Fluttering streamers could save seabirds from fatal encounters with many longline fishing boats, according to a big study.

The streamers could also save part of the U.S. fishing fleet from the financial consequences of accidentally killing endangered species, says Ed Melvin of the federally funded Washington Sea Grant Program in Seattle. Short-tailed albatrosses are so rare that if the entire fishing fleet in the Bering Sea and the Gulf of Alaska catches as few as two on longline hooks in 2 years, the Endangered Species Act will kick in and require more protection for the birds.

The study focused on demersal longline fishing boats, which trail lines of baited hooks to the depths of such species as cod and halibut. Birds crowd around to snatch waste but sometimes lunge for the hooks. U.S. regulators already require some kind of warning object above the hooks. Before tightening regulations, however, they sought data on what really works.

After 2 years of testing bird-protection devices, Melvin and his colleagues report that streamers dancing from two strings suspended behind the boat can keep seabirds away from the hooks as they sink off the boat's stern. The project's formal report is still in review, but Melvin offered a preview at the American Ornithol-

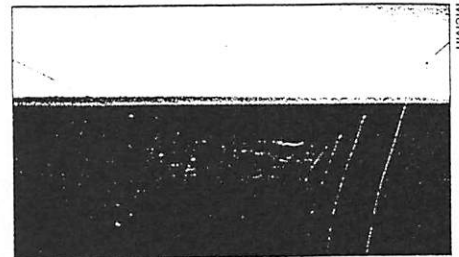
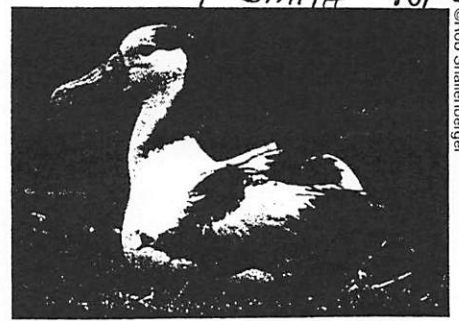
ogists' Union meeting in Seattle last week. In on-water tests, the streamer system cut the accidental deaths of seabirds by 94 percent, he said.

Thorn Smith of the North Pacific Longline Association in Seattle praises the study for including the fishing industry, as well as regulatory agencies. Wide input proved "absolutely essential," says coinvestigator Julia K. Parrish of the University of Washington in Seattle. Usually, "that step . . . is sadly lacking in conservation," she says.

Smith urged the researchers to seek more realistic results by doing their tests on commercial fishing vessels during normal operations rather than vessels chartered specifically for research. Also, the 2-year study gauged the devices' effectiveness over a period that reflects the natural variability in seabird numbers.

The testers sighted the endangered short-tailed albatross a few times, but never saw one hooked. Most of the world's remaining 1,500 of these birds breed on the active volcano of Japan's Torishima island, but they forage widely. "When a bird gets that endangered, every one counts," explains endangered species biologist Greg Balogh of the U.S. Fish and Wildlife Service in Anchorage.

The streamer setup "is one of the



The rare short-tailed albatross (top) and more-common seabirds that are sometimes snagged by hooks could be saved by streamers trailing from a fishing boat (bottom).

cheapest alternatives we have," he says. Parrish estimates that perhaps \$150 would outfit a boat. Regulations may eventually require them on U.S. vessels. Parrish says she dreams that some philanthropist will one day buy devices for boats around the world. —S. Milius

Psychopaths may come in two varieties

Some men and women regularly prey on the people around them. Through charm and manipulation, they take what they want and do as they please. Even the vilest acts leave these predators remorseless.

People with this personality, who are known to psychologists as psychopaths, sometimes pay for their deeds by going to jail or psychiatric facilities for criminals. In the August *JOURNAL OF ABNORMAL PSYCHOLOGY*, researchers report finding that psychopaths who evade the law may constitute a breed apart from those who at some point end up behind bars.

In previous studies, imprisoned psychopaths speaking in front of a camera or performing other stressful tasks expressed little emotion, either verbally or as signaled by increases in heart rate and other bodily measures. They also displayed problems in planning ahead, thinking flexibly, and controlling their impulses.

In the new study, a stressful task induced sharper heart-rate hikes in male psychopaths who had eluded criminal conviction than in their previously convicted counterparts or in nonpsychopathic men, reports a team of psychologists led by Sharon S. Ishikawa and Adrian Raine, both of the University of

Southern California in Los Angeles. Moreover, nonconvicted psychopaths scored highest on a test of decision-making skills and impulse control. The three groups scored comparably on an IQ test.

"Heightened physiological reactivity to stress may improve the ability of some psychopaths to evaluate risky situations and make decisions that benefit their criminal careers," Raine says.

The researchers recruited men from five temporary-employment agencies in the Los Angeles area. Participants, aged 21 to 45, were assured that they couldn't be subpoenaed regarding uninvestigated crimes they revealed.

A total of 29 volunteers were identified as psychopaths on a self-report questionnaire. The test probes for characteristics such as superficial charm, frequent lying, shallow emotions, impulsiveness, a need for excitement, and a tendency toward violent outbursts.

Court records showed that 17 of these men had past criminal convictions. Another 26 men recruited from the same agencies weren't psychopaths and had no previous convictions.

Each participant had 2 minutes to prepare a speech detailing his personal faults before presenting it in front of a researcher while being videotaped, a task

intended to elicit embarrassment and guilt. During this exercise, nonconvicted psychopaths experienced a much greater rise in heart rate than men in the other groups did, the researchers say.

This apparent higher emotional sensitivity to risky situations may also have allowed nonconvicted psychopaths to outscore their peers on a card-sorting task that requires subtle judgments, the researchers add.

"The stress-induced heart-rate rise in nonconvicted psychopaths is a big surprise," remarks psychologist Scott O. Lilienfeld of Emory University in Atlanta. These results don't establish that there are basic differences among psychopaths, Lilienfeld cautions.

It may be that the traits underwriting success in society are the very ones that help some psychopaths evade capture, Lilienfeld speculates. Having the moxie to found and run large companies, for example, would put a smart psychopath in a position to get away with the crimes he or she commits.

Psychologist Robert D. Hare of the University of British Columbia in Vancouver is skeptical of the new findings. Jumps in heart rate could indicate that nonconvicted psychopaths simply tried harder on the speech test and may not reflect differences in their core personality traits, he says. —B. Bower

*John Davern
Groundfish Forum
9/1
SSL*

Data set supplied to Groundfish Forum by FCA to describe differences in catching power of FCA vessels

FCA Catch Rates (average catch per day per boat per season) for seasons where all fca boats fished OTC

	542 2000 A	542 2001 A	542 2000 B	543 2000 A	543 2001 A	average MT per day
fca 1	121	124	109	148	105	113
fca 2	118	113	109	126	98	107
fca 3	165	115	136	NA	116	122
fca 4	NA	116	136	NA	105	119
fca 5	132	139	118	NA	117	125

note: average is for 3 of 5 seasons where all fca boats fished: 542 2001 A, 542 2000B, 543 2001A, but inclusion of all seasons in data set does not affect results

Simulation 1: no platoons and 10,000 MT TAC for 542 A season

average catch per day (MT)

fca 2	107
fca 1	113
fca 4	119
fca 3	122
fca 5	125
non-fca 1*	120
non-fca 2*	90
non-fca 3*	80
non-fca 4*	70
non-fca 5*	70

=====

total catch/day	1015
season length (days)	10
catch projection for non-fca 5	689.4

* = for non-fca, this "educated guess" for purposes of the simulation not based on data

Simulation 2: Platoons with FCA selection privilege 5,000 MT PTAC for 542 A season

Platoon 542

average catch per day (MT)

non-fca 4*	70
non-fca 1*	120
fca 4	119
fca 3	122
fca 5	125

=====

total catch per day	556	
season length (days)	9	
catch projection for non-fca 5	629.5	
non-fca 4's loss relative to sim.	60	MT
non-fca4's percentage loss	9%	

* = same "educated guess" as above

— Original Message —

From: Mary Furuness

To: mikeszymanski@acsalaska.net

Sent: Monday, August 27, 2001 5:47 PM

Subject: FCA vessels catching power..

Mike
Szymanski
FCA

9/10/01

SS

Here's all the numbers I came up with. So it does look like it varies quite a bit.

OTC	542	542	542	543	543
	2000-A	2001-A	2000-B	2000-A	2001-A
Juris	121	124	109	148	105
Ranger	118	113	109	126	98
Warrior	165	115	136	NA	116
Spirit	NA	116	136	NA	105
Victory	132	139	118	NA	117

(Sent 6)
 20,142 - Juris
 21,121 - WRR
 20,222 - vic
 17,558 - Spirit
 20,717 - Spirit Ranger

Atka mackerel from observed hauls	542	542	542	543	543
	2000-A	2001-A	2000-B	2000-A	2001-A
Juris forgot them in the query					
Ranger	60	75	36	51	72
Warrior	77	68	35		47
Spirit	NA	76	32		43
Victory	58	88	37		52

Data Request for Vern Jackson

9/01
SS ✓**Subject: Data Request for Vern Jackson****Date: Fri, 07 Sep 2001 15:56:20 -0800****From: "Jessica Gharrett" <Jessica.Gharrett@noaa.gov>****Organization: NMFS - Restricted Access Management****To: Rance Morrison <rance.morrison@noaa.gov>****CC: Lori Iorg <Lori.Iorg@noaa.gov>**

Rance, you requested some data for Mr. Jackson, as follows. I also will FAX this to you and to Mr. Jackson c/o the Sitka number you provided for him, (907) 747-6307.

You must realize a few things about the LLP program to see why existing LLP program data will provide only an estimate of the information he seeks:

- (1) Interim licenses are those for which one or more endorsements, or the entire license existence, is still under challenge. That is, some of the "Interim" licenses will cease to exist after the appeals process has run its course (eventually).
- (2) LLP licenses are premised on the historical activity of a boat; but are issued to people. And those licenses do not name vessels.
- (3) LLP groundfish licenses have endorsements for areas but not species. Thus a license might be endorsed for the BS, AI (or both) subareas.
- (4) LLP licenses currently do not have gear endorsements. Thus, a groundfish license currently authorize LLP groundfish fishing with any gear legal in the endorsement areas.
- (5) LLP licenses have an MLOA (maximum length overall). This may be as much as 20% greater than the actual length of the vessel on whose history it was premised. Nevertheless, the MLOA is an indication of effort (if you assume that length is a fishing capacity or effort measure).

Note also that I use the term "Permanent" only to differentiate between those licenses which still have one or more license or endorsement claims pending "Interim" and those for which the license holder and NMFS agree on the nature of the license "Permanent".

As of today:

- (a). There are 357 groundfish LLP licenses for catcher vessels, MLOA greater than 60', endorsed for the BS and/or AI. Of these, 114 are Interim and 243 are "permanent".
- (b). There are 352 groundfish LLP licenses for catcher vessels, MLOA greater than 75', endorsed for the BS and/or AI. Of these, 113 are Interim and 239 are "permanent".
- (c) There are 5 groundfish LLP licenses for catcher vessels, MLOA greater than 60' and less than or equal to 75'', endorsed for the BS and/or AI. Of these, 1 is Interim and 4 are "permanent".

Jessica Gharrett <Jessica.Gharrett@noaa.gov>

Data Manager

NMFS - Restricted Access Management

(907) 586-7344

World Wildlife Fund
406 G Street, Suite 301
Anchorage, AK 99501

National Environmental Trust
1200 18th St. NW #500
Washington, DC 20036-2513

9/10/01
SL

David Benton
Chairman
North Pacific Fishery Management Council
605 West 4th Avenue, Suite 306
Anchorage, AK 99501

August 29, 2001

Dear Mr. Chairman,

As we are unable to attend the North Pacific Fishery Management Council's (Council) upcoming Sitka meeting in person, we are writing to convey to you our views on the recommendations being put forward from the Steller sea lion RPA Committee for your consideration. These recommendations emanate from the most recent RPA Committee August 23-24, 2001 meeting in Juneau.

First, the RPA Committee recommendations that have been submitted to the Council were specifically objected to by Dave Cline, Alan Parks and Gerry Leape. This was done because we are convinced their recommendations allow destructive fishing practices to expand back into critical habitats for Steller sea lions, including at sea foraging areas. For example, re-opening critical habitat in the Aleutian Islands for Pollock and Atka mackerel trawling will not only threaten Steller sea lions and their habitats, but also introduce trawling into coral habitats risking high bycatch of rockfish and other marine life. Furthermore, according to the NMFS scoring system, their recommendations will lead to continued decline - rather than recovery - of this endangered species.


Second, as the two environmental representatives on the RPA committee, we are extremely disappointed at the lack of consideration for any provisions of our proposal by the committee during this most recent meeting. We assumed that when the Council requested that NMFS analyze our proposal (Alternative 2) the intention of your request was that it be fully considered by the RPA committee in recommending any changes to their proposal. In addition, NMFS had scored our alternative as the only one that would result in a positive growth rate for endangered Steller sea lions. Simply put, if the Steller sea lion population does not experience a positive growth rate it will not recover from its current endangered status.

So, we were both surprised and disappointed when the RPA Committee was unwilling to consider incorporating any parts of our proposal as changes to its recommendations. As you consider how to proceed in your efforts to protect Steller sea lions, we urge you and the Council to choose our proposal as the best way to eliminate jeopardy for this endangered species and adverse modification of its critical habitats.

While we have serious concerns about the legality and propriety of releasing biological opinions under the Endangered Species Act for public comment, we will be submitting comments on both the biological opinion and the EIS within the defined comment periods. We believe that this new draft biological opinion falls short in several areas and provides insufficient data to justify the draft findings of "no jeopardy" and "no adverse modification".

We appreciate your consideration of our remarks.

Sincerely,



David Cline
Director,
WWF Alaska Field Office



Gerald Leape
Director, Marine Conservation Program
National Environmental Trust