Minutes: Seventh Meeting of the Alaska Scientific Review Group (2-4 June 1998)

I.1. Introduction

The seventh meeting of the Alaska Scientific Review Group (AKSRG) was held at the NMFS Regional Office facility in Juneau, Alaska from 2-4 June 1998. The purposes of the meeting included: 1) final review of revised 1997 Stock Assessment Reports for NMFS stocks; 2) final review of revised 1997 Stock Assessment Reports for FWS species; 3) in depth discussion of marine mammal-fishery interactions; and 4) discussion of NMFS and FWS management and research plans for 1998. Appendix 1 presents the list of participants, including participants invited to supplement the AKSRG's expertise regarding commercial fisheries in Alaska. Appendix 2 presents the adopted agenda. Appendix 3 lists the background papers that were distributed prior to the meeting or made available during the meeting. The meeting was chaired by Lloyd Lowry. Doug DeMaster agreed to be the rapporteur.

I.2. Adoption of Agenda

The agenda was adopted as shown in Appendix 2.

I.3. Recommended Changes to the Minutes from the 21-23 October 1997 meeting (meeting number 6)

Jan Straley asked that the list of potential biases attributed to her on pages 12-13 be changed to read as follows: "... 2) at the time the data were collected the sex ratio of whales on wintering areas was unknown, which is potentially problematic as a skewed sex ratio would bias the estimate (e.g., if the sex ratio was 3 males to 1 female, a mark-recapture estimate of abundance would underestimate abundance by 25%), and 3) the social structure (i.e., lack of independence of sightings) could not be determined using the available data."

It was agreed that the third line in paragraph 5 on page 15 be changed to read "Alaska. AKSRG members present agreed that the Southeast stock and the Southcentral stock division is".
It was further agreed that the second sentence on page 16 (paragraph 1) be replaced with "The AKSRG recommended that FWS staff discuss with the Alaska Sea Otter Commission the possible coordination of the boundary between the proposed Southcentral and Southeast Alaska stocks."

I.4. Other Business

Carl Hild noted that a meeting was being held this week in Anchorage to review the draft "Science Plan for the Bering Sea." Hild added that a copy of the draft plan can be found on the following web site: http:/www.pmel.noaa.gov/bering/pages/interagency. Finally Hild commented that he was interested in comments from any of the AKSRG members regarding a recent ARCUS

workshop.

II.1. FWS - General Comments

Joel Garlich-Miller reported that the FWS had published a Federal Register notice regarding the availability of Stock Assessment Reports (SAR) for the sea otter, walrus, and polar bear. The public comment period was scheduled to end on 3 June 1998. The primary changes to the FWS Stock Assessment Reports were that a proposal was made to manage sea otters as three separate stocks in Alaska and that new information on harvest levels for sea otters, polar bears, and walrus was added. As has been the practice at other AKSRG meetings, comments on SARs related to minor editorial changes would be passed directly to the author and not included in these minutes. Also, to accommodate a teleconference call with certain FWS staff, it was agreed that the sea otter discussion would follow the discussion of walrus and polar bear.

II.2. Walrus

Sue Hills, Caleb Pungowiyi, and Brendan Kelly led the review of this species. It was noted that the estimation of total mortality related to the subsistence harvest included a correction factor based on the results of the Marking and Tagging Recovery Program (MTRP). Several AKSRG members requested that FWS develop a manuscript regarding the use of this correction factor that included a discussion of the added variance in the estimate of total mortality related to the use of the correction factor. Kelly added that the section of the report on population trends should include the statement "reliable information on trends in abundance currently do not exist."

Lowry questioned whether there were adequate data to justify in the SAR the statement that the walrus population in Alaska was below its carrying capacity. Garlich-Miller responded that the available data included the following: 1) the mean age of the population, based on a sample of animals killed by native subsistence hunters, was lower now than it had been previously; 2) the percentage of mature females in the harvest that had produced a calf that previous spring was higher than previous years; and 3) the average age of sexual maturity was lower now than it had been in the 1980s. After some discussion regarding the difficulty in interpreting trends in life history parameters based on samples collected from harvested animals and the possibility of environmental changes confounding the interpretation of the data, the AKSRG concluded that the data are insufficient to conclude what the status of the walrus population is relative to its carrying capacity. The AKSRG also commented on the importance of getting reliable information on the Russian take of walrus, as this was a transboundary stock between the U.S. and Russia.

II.3. Polar Bear

II.3.1. Chukchi Sea stock of polar bear

Hild lead the discussion for the AKSRG. He noted that in general the written comments from the AKSRG's subgroup on polar bears had been incorporated into the draft SARs for polar

bears. Hills recommended that the section on stock identification should be formatted similar to that in the NMFS SARs, where the information both supporting and refuting a particular stock designation was presented using the criteria in Dizon et al. 1992. There was general support for this recommendation.

II.3.1. Beaufort Sea stock of polar bear

Milo Adkison questioned whether the approach used to estimate Nmin in the SAR was sufficiently conservative. Scott Schliebe (via teleconference) responded that the approach used was justified because of the high degree of confidence in the best estimate of abundance and based on an "in-house" report. Kelly responded that, in general, information not available in the form of a final report or a published paper was not to be used or referenced in a SAR. Lowry recommended that FWS amend the SAR to include a statement as to how the "public" could obtain a copy of the report.

The AKSRG recommended that a section on potential impacts of oil and gas operations on polar bears should be added to the SAR.

II.4. Sea Otter

Carol Gorbics (via teleconference) summarized the public comments that had been received to date. Most of the comments were from the Alaska Sea Otter Commission (ASOC) and included: 1) because sea otters are not incidentally taken in commercial fisheries, a SAR was not necessary for this species; 2) the available information on genetics was insufficient to justify the proposed stock boundaries; 3) the entire PBR process should not be applied to sea otters in Alaska, as the PBR process was intended to be used to manage commercial fishery-marine mammal interactions and not for the management of Alaska Native subsistence harvests of marine mammals; and 4) the stock boundary between southeast Alaska and central Alaska was invalid as hunters had observed sea otters moving across this putative boundary. In addition, the Minerals Management Service had asked that the SARs for southeast and southwest stocks of sea otters not include references to risk of oil and gas development, as this is only a problem for the central stock.

Pungowiyi expressed his support for the comments from the ASOC. He added that the number of sea otters in British Columbia should also be added to the estimate of abundance for sea otters. Craig Matkin responded that sea otters do not have a continuous distribution in southeast Alaska and British Columbia and could logically be managed separately. Gorbics added that she had received an estimate of abundance for sea otters in British Columbia, but had no mortality data to accompany the abundance estimate. She also noted that the population of sea otters in British Columbia was the result of translocating animals from Alaska. There was general agreement that FWS should include this information in the SAR.

Hild asked whether the FWS had considered using the ASOC's boundaries as stock boundaries for the development of the SARs. Gorbics responded that both the ASOC and the AKSRG had recommended against such an action.

Pungowiyi asked whether the reported population trends by stock where really local trends. He noted, for example, there was recent information that suggested that sea otter numbers in the vicinity of several Aleutian Islands had declined, but that no such data were available for the entire area. Gorbics responded that the information necessary to assess trends in abundance along the Aleutian Islands as a whole was currently not available. Kelly asked whether there was any evidence of localized declines of sea otters in southeast Alaska. Gorbics responded that there were no such data.

Matt Kookesh supported earlier comments by Pungowiyi that the data presented in the SAR were insufficient to support the adoption of three separate stocks. After considerable discussion, the AKSRG agreed to the following: 1) the sections in the SARs on stock identification should be expanded to include appropriate caveats; 2) the AKSRG minutes could be used as a reference for the stock boundary between the putative southeast and southcentral stocks, but not for the southcentral and southwest stock boundary; 3) the comment that otters have been observed moving across boundary lines for putative stocks by Alaskan Native subsistence hunters should be added to the text; and 4) a comment that otters in southeast Alaska were the result of a translocation of sea otters from the Aleutian Islands and Prince William Sound should be added.

The AKSRG also noted that several of the comments included in all three SARs are not appropriate for all of them (e.g., risk from oil and gas development, removal of animals for public display) and that for the southeast Alaska stock mention of risks due to tourism should be added. Gorbics agreed to try to incorporate those suggestions into the revised SARs.

Kelly added that he was very concerned regarding the lack of information on interactions between commercial fisheries and sea otters. He recommended that FWS add a statement that the necessary data are not available and that recommendations on what needed to be done to gather those data be included in the SAR. Gorbics responded that all of the available information to date indicated that the level of interaction between commercial fisheries and sea otters was negligible, although the potential for a significant interaction exists.

The AKSRG also agreed that FWS should revise the SARs for sea otters to include: 1) a section on habitat concerns (e.g., effects of El Nino, risk of an oil spill, indirect effects of shellfish fisheries); 2) references to the existing co-management agreement; and 3) a fix for references to Credle et al. similar to what was done in the in the SARs prepared by NMFS.

Regarding discussions on the southwest stock of sea otters, Gorbics noted that the available information on declines indicates localized depletions on the order of 70% over the last 6 years. Hild recommended using separate RFs for the sea otters along the Alaskan Peninsula and the Aleutian Islands. Also, for this stock the section on habitat concerns should include: 1) potential impact of killer whale predation; 2) relatively high concentrations of PCBs; 3) potential overshoot of carrying capacity (at least locally); and 4) potential impact of large scale weather patterns (e.g., El Nino).

Finally, Gorbics noted that the FWS had approved the joint publication of their SARs with those of NMFS. The AKSRG expressed its appreciation to FWS for their efforts to produce a joint publication for all marine mammal stocks in Alaska. The AKSRG also thanked Gorbics for her efforts to circulate all of the new papers and manuscripts that were use in the revision of the sea otter SARs.

III. Future plans for FWS Research and Management

III.1. Marking, Tagging, and Reporting Programs

Scott Schliebe (via teleconference) reported that FWS was intending to expand the MTRP with the goal of reducing the number of unreported takes to levels approaching zero (note: the current level of unreported takes was estimated at 7% of the total harvest).

Regarding sea otters, Gorbics reported that the MTRP program would continue, as in the past. She added that a biomonitoring program, which had been implemented several years ago, would also continue with the objectives of collecting information on morphometrics and contaminant levels, and samples for genetic analysis.

Garlich-Miller reported that the MTRP program for walrus would also continue. He noted that in some villages (e.g., Gambell) village residents are employed to run the program locally. In 1999, as possible, the MTRP program will be expanded to additional villages.

III.2. Co-management

In FY98, $90K was made available to the Nanuuq Commission. Part of those funds were to be used to support a study documenting Traditional Ecological Knowledge (TEK) from the Chukotka Peninsula in cooperation with the National Park Service. Regarding support for the ASOC, Gorbics noted that funding had been available in FY97 for the following activities: 1) biomonitoring; 2) joint U.S. - Russia workshop; 3) TEK study on distribution; 4) harvest monitoring; and 5) development of local plans and ordinances. In FY98, $70K was available to support biomonitoring, a small boat survey, and the development of a local management plan. In FY98, the FWS intended to provide $80K to the Eskimo Walrus Commission. These funds were to be used to support co-management activities, a Native policy on harvest levels, actions

associated with the bilateral agreement between the U.S. and Russia, and the development of a cooperative enforcement agreement.

Pungowiyi noted that the Native community had requested that its Congressional delegation add an additional $250K to support co-management activities for the three FWS species.

III.3. Population Assessment

Lowry commented that the focus of this discussion should be on what FWS intended to do over the next five years regarding the assessment of the status of populations of polar bear, walrus and sea otter in Alaska. Garlich-Miller responded that the Service's two main problems with planning assessment oriented research were the lack of funding in general and the lack of assurances regarding funding availability from year to year. He added that his office had recently developed several initiatives to increase the base funding of the marine mammal program in Alaska, although the likelihood of actually being awarded those increases in the current fiscal environment was not good. Nonetheless, the FWS had scheduled the following activities over the next five years: 1) joint U.S.-Russia polar bear den surveys in the spring of 1999; 2) U.S. Geological Survey (USGS) surveys of sea otters in Prince William Sound in the summer of 1998 and winter of 1998/1999; 3) surveys to determine sea otter abundance in the Aleutian Islands and southeast Alaska, in whatever year funding is available; and 4) a survey to determine the age and sex composition of the walrus population along the ice edge in the fall, whenever funding is available.

III. 4. Walrus Research Needs

Garlich-Miller noted that research needed by the FWS is supposed to be conducted by the USGS. However, he added that routine monitoring activities were not considered research and were therefore the responsibility of the FWS. Garlich-Miller also commented that the current walrus monitoring program of the FWS was the monitoring of the four major terrestrial haulouts in Alaska (Round Island, Cape Peirce, Cape Seniavin, and Cape Newenham).

Kelly asked whether the Service had plans for research that would lead to an abundance estimate for walrus. Garlich-Miller responded that the Service recognized the need for an abundance estimate, but the techniques to produce such an estimate where either not well developed or prohibitively expensive. Therefore, the Service currently viewed the following four research activities as high priority: 1) improve the estimate of Rmax in the PBR formula; 2) improve annual estimates of total mortality due to Native subsistence hunting (in Alaska and Russia); 3) develop techniques to determine trends in abundance; and 4) finalize the decision on whether to conduct another range wide survey to estimate abundance.

DeMaster commented that the reference to the 8% figure for Rmax in the draft SAR should be

changed from the minutes of previous meetings of the AKSRG to a FWS personal communication or another document. Garlich-Miller agreed to make this change. DeMaster added that the approach described in a recent paper by Caswell et al. for estimating Rmax for harbor porpoise should be considered for walrus.

Kelly questioned whether index counts of male haulouts over time constituted a valid index of abundance for the population. Garlich-Miller responded that he considered the index valid and certainly better than no trend data at all. DeMaster commented that the International Whaling Commission had adopted a policy of not managing large whale populations based only on trend information and harvest monitoring data. Rather, their management strategy was based on harvest monitoring, periodic (e.g., once every eight years) estimation of absolute abundance, and a conservative estimate of maximum productivity. This conclusion was based on the results of population simulations, which indicated that a management strategy based only on trends would lead to standard management objectives not being met at an unacceptably high rate. Kookesh commented that the harvest monitoring programs were very important to maintain as they were one of the few management related programs that included the Native hunters. There was general agreement among AKSRG members that it is a high priority for the harvest monitoring programs to be continued.

Hills questioned what the base funding program was for walrus and how it was allocated to various management related activities. Garlich-Miller responded that all of the current base operating budget for walrus was used to support the harvest monitoring program. He was not able to address the operating budget of the USGS regarding walrus. However, he added that currently the USGS's research on walrus was focused on providing information on diving behavior via satellite telemetry and on foraging ecology (e.g., dietary studies).

After some discussion, the AKSRG noted that it was very difficult to develop meaningful recommendations regarding research on walrus without the participation of USGS researchers at the AKSRG meetings. Therefore, the AKSRG recommended that USGS researchers participate in future AKSRG meetings, where issues related to walrus (and the other two FWS species) were considered a priority discussion topic.

III. 6. Schedule for Future Stock Assessment Reports

Garlic-Miller noted that the SARs for all three FWS species were revised in FY1998. He added that if there were no additional data in the next three years that would lead to a change in the classification of the stocks, the SARs would not be revised for a period of three years. After some discussion, the AKSRG noted that it was comfortable with the process by which the FWS would make an in-house determination as to whether the SARs for any of the stocks should be revised. Where such an evaluation was made, it was agreed that the FWS staff would work with

the chair of the AKSRG in scheduling discussions related to proposed revisions at subsequent meetings of the AKSRG. Pungowiyi commented that recent evidence supported the concept that the carrying capacity for species like walrus was not constant and, therefore, assumptions regarding Rmax should be periodically re-evaluated.

IV. NMFS Species

DeMaster commented that the NMFS has not finalized the Federal Register notice announcing the availability of the draft revised SARs for Alaskan stocks of marine mammals. As this notice is necessary to start the 90 day public comment period, DeMaster noted that while he expected the FR notice to be published shortly, the public comment period would not be over before September 1998. He agreed to send AKSRG members a summary of public comments as was done before. Any member who wanted to see all or individual comments could of course do so.

V.1. Steller sea lion

IV.1.1. Western stock

Hill summarized the changes that were made to the SAR for the western stock of Steller sea lion. John Gauvin asked whether the index counts could be summarized by the areas used to manage the Bering Sea-Aleutian Island (BSAI) groundfish fishery. Lowry responded that while that was possible, because of the small number of rookeries per area, the CV's would be considerably larger than those currently reported in the SARs. Adkison commented that he was not convinced that the CV's for the index counts accurately reflected the true uncertainty in the counts. For example, he noted that the estimated CV for the index counts did not incorporate the variance associated with the correction factors for either the proportion of non-pups hauled or the proportion of the population that were pups. There was general agreement among AKSRG members that the calculated Nmin for this stock was not adequately conservative. It was further recommended by Lowry, and agreed by the AKSRG, that the recent workshop report on Steller sea lions, which discussed this issue in part, be provided to each of the AKSRG members.

Beth Mathews questioned why the harvest data from 1996 were not included in the draft revised SAR. Steve Zimmerman responded that, while ADFG had produced a draft report on the 1996 harvest, the estimated number of harvested animals at the Pribilof Islands was in dispute.

Brendan Kelly recommended, and the AKSRG agreed, that a statement should be added to all of the SARs regarding the depleted status under the MMPA of all stocks listed as threatened or endangered under the ESA.

IV.1.2. Eastern stock

No changes were recommended, other than minor editorial comments.

IV. 2. Northern fur seal

Hill summarized the changes in the SAR for northern fur seals. Hild questioned whether mortality associated with entanglement in "ghost nets" (i.e., discarded or lost pieces of fishing net, line, or other types of gear) should be included in the estimate of incidental mortality. Lowry responded that reliable estimates of mortality associated with entanglement were not available and that not all of the debris in which fur seals were entangled were the result of commercial fishing. Pungowiyi commented that while not associated directly with an active fishery, this form of mortality could be associated with fishery interactions. After some discussion, it was agreed that this type of mortality should not be included in table of estimated incidental mortality.

Pungowiyi also recommended that NMFS consider delisting this stock of fur seal as depleted under the MMPA because of the stability in the pup counts over the last decade and the likely change in the carrying capacity for this stock associated with recent environmental regime shifts. Zimmerman responded that at present it was not possible to estimate the current carrying capacity for this stock. He added that based on pup counts the current population was less than 50% of the historic maximum.

IV. 3. Harbor seal

Lowry recommended and it was agreed that the discussion of the memo from Dave Withrow (NMML) regarding how the CV of the abundance estimate was calculated be deferred to the agenda item on future research. Kookesh recommended and it was agreed that the text for all of the stocks of harbor seal (and Steller sea lion) be clarified as to what fishery specific data (including sport fisheries) were available to indicate the extent to which harbor seals interact with those fisheries.

IV. 4. Beluga whale

IV.4.1. Cook Inlet stock

Lowry summarized the recent history of how estimates of subsistence harvest levels had been derived. There was agreement that past estimates based on household surveys alone were likely not accurate. Efforts to survey hunters directly would likely lead to less negative bias in the estimate of harvest levels. Lowry also summarized the AKSRG's position after the last several AKSRG meetings, which included the need for NMFS to start a dialog with involved Native groups regarding the possibility of listing this stock as threatened under the ESA. If successfully implemented, such an action could allow NMFS to manage the harvest of Cook Inlet belugas.

It was noted that the AKSRG had recommended that NMFS: 1) conduct annual surveys to estimate abundance and to determine trends in abundance; 2) initiate a system similar to that adopted by the FWS for walrus, polar bear, and sea otter, where reporting of animals taken for subsistence is made mandatory; and 3) NMFS should change the classification of Anchorage as a

Native village to allow NMFS to stop the commercial sale of muktuk in the Anchorage area. Kookesh commented that the last recommendation was developed at a meeting where neither Pungowiyi nor he were in attendance. Further, he wanted it noted in the minutes that he did not support such a recommendation. Pungowiyi noted his agreement with Kookesh's statement. Kookesh added that it was important for NMFS to work cooperatively with the Native community and the hunters in the Anchorage area and that NMFS should not take the lead in such management actions. After some discussion, the AKSRG agreed that as a general principle their recommendations to NMFS should focus on what needs to be done (e.g., reduce the number of belugas being killed) rather than how things should be done (e.g., prohibiting sales of muktuk).

Zimmerman responded that regarding the initiation of "marking, tagging, reporting" regulations the priority objective of the NMFS Alaska Region was to reduce the number of Cook Inlet beluga whales harvested annually by subsistence hunters, and establishing marking, tagging, reporting regulations for Cook Inlet belugas is not a current priority. This decision was based on the premise that it would be more difficult to both reduce the harvest and implement marking, tagging, reporting regulations than it would be to try to only reduce the size of the harvest. Lowry responded to Zimmerman's comments that the information from a marking, tagging, reporting program would greatly improve the estimate of the number of animals harvested annually, and that information that would become available on the age and sex structure of the harvest is critical to predicting the impact of the harvest on the population.

Craig Matkin noted that the Cook Inlet population was small (i.e., less than 1,000 animals) and that allowing the current level of Native subsistence harvest to continue at its current level (e.g., greater than 50 animals per year) would cause the population to decline and potentially become extirpated in this area. He added that the AKSRG had an obligation to serve as a conduit for information from the general public to NMFS and from NMFS to the general public. There was general agreement that, while no AKSRG member was responsible to (or for) any particular constituency, AKSRG members should attempt to discuss this issue with a wide spectrum of the general public.

IV.5. Killer Whale

It was noted that the recommended changes from the last meeting of the AKSRG had been incorporated into the draft revised SAR. Denby Lloyd asked why the recovery factor for both stocks of this species was 0.5 rather than 1.0, as he thought the population was within its optimum sustainable population range. Matkin responded that the data necessary to make such a determination were not available, and likely would not be available in the foreseeable future. DeMaster added that an RF of 0.5 was considered appropriate for stocks where there was uncertainty regarding stock structure (such as killer whales).

IV. 6. Sperm Whale

There was general agreement that references on the population size of sperm whales in the North Pacific and on Rmax reported in Reeves and Whitehead were not based on peer-reviewed, published studies and should therefore be excluded from the SAR at this time. There was also agreement to add references from the 1998 IWC Scientific Committee meeting on the abundance of sperm whales in the North Pacific. Finally, DeMaster noted that at this year's IWC Scientific Committee meeting a paper had been tabled on the falsification of commercial whaling records by the government of Japan. It was agreed that the section on other mortality should be revised to include this reference.

IV. 7. Humpback Whale

Hill reported that a recent paper (Moezucca et al. 1998) on humpback whale entanglements was inaccurate regarding North Pacific humpback whales, based on a conversation Hill had recently had with one of the paper's co-authors, Gene Nitta (NMFS Southwest Region, Honolulu). There was agreement to add the entanglement information along with Nitta's caveats to the SAR.

IV. 8. Fin Whale

DeMaster commented that a recent in-house paper by K. Laidre (University of Washington) and S. Mizroch (NMFS NMML) included a summary of all fin whale sightings in the Platform of Opportunities Program database. Those data had recently been entered into a GIS database. Anyone interested in receiving a copy of the paper can request one from DeMaster. There were no substantive changes recommended for the SAR.

IV. 9. Bowhead whale

Hild questioned whether there was new information presented at this year's IWC Scientific Committee meeting in Oman. DeMaster responded that the assessment of the status of the Bering-Chukchi-Beaufort stock of bowhead whales supported last year's action of the IWC to accept a five year quota. He added that one of the papers presented at the Scientific Committee suggested that earlier studies which speculated that bowhead whales may live in excess of 100 years were likely correct. There were not substantive recommendations to change the SAR.

IV.10. Co-management

Fadely lead the discussion regarding the NMFS co-management program. He noted that the "umbrella agreement" between IPCoMM, USFWS, USGS, and NMFS was signed in August 1997. He added that subsequent to the signing of the umbrella agreement, cooperative agreements for the purpose of co-managing the following species are in the process of being developed: northern fur seal, harbor seal, Cook Inlet beluga whale, all other stocks of beluga whale, and Steller sea lion.

Lowry responded that the single biggest conservation issue at the moment regarding marine mammals in Alaska was the harvest level of Cook Inlet beluga whales (see section on Cook Inlet beluga whales). The situation is made all the more difficult due to the lack of good information on annual harvest levels and the rate of struck and lost. Kookesh recommended, and it was supported by the entire AKSRG, that NMFS and the Cook Inlet Marine Mammal Council should develop a matrix of actions that specified what would happen if the population were to decrease (or increase) over the next five years. The goal would be to get Native support for any restrictions on hunting that might be necessary, thereby avoiding the need for federally enforced restrictions.

The AKSRG agreed that at its next meeting specific emphasis should be given to Cook Inlet belugas, and that an effort should be made to have local Native hunters participate.

V. Overview of Alaska commercial fisheries

Kate Wynne summarized her objectives in lining up speakers from NMFS, ADFG, and the commercial fishing industry and the observer community as: 1) to familiarize AKSRG members with the commercial fisheries in Alaska and how they are managed; 2) to review existing observer programs and databases regarding commercial fishing in Alaska; and 3) to develop a list of data needs and recommendations regarding future activities.

V.1. Federally managed fisheries

Andy Smoker (NMFS Alaska Region) led the discussion of Federally managed fisheries. A copy of his handouts, which summarize the information he presented, are included in Appendix 4. He noted that in terms of biomass landed the Bering Sea/Aleutian Islands (BSAI) groundfish fishery was approximately nine times the size of the Gulf of Alaska (GOA) groundfish fishery. He added that other differences between these two fisheries are the larger percentage of catcher/processor vessels, and larger vessels in general, in the BSAI fishery. Regarding protected species (e.g., halibut, herring, king crab), Smoker pointed out that several of the groundfish fisheries were closed prior to reaching their fishery-specific total allowable catch (TAC) because the limits for one or more species of protected species had been reached.

Smoker also reviewed the process by which the North Pacific Fisheries Management Council (NPFMC) makes recommendations to NMFS regarding species-specific TACs. This process involves input from scientists at the Alaska Fisheries Science Center, scientists on the NPFMC Scientific and Statistical Committee (SSC), and the members of the NPFMC Advisory Panel. One key point raised in the discussion of this process was the "horse trading" involved among the various fishery representatives in allocating the quota for protected species among various fisheries, given the existing pattern of seasonal and spatial closures.

Regarding reporting requirements, Smoker noted that observers on commercial fishing vessels transmit data to the NMFS Alaska Region on a weekly basis, as do the processors.

V.2. State managed fisheries

Herman Savikko led the discussion regarding State managed fisheries. Such fisheries occur within three miles of the coast of Alaska and include the following target species (and species complexes): 1) salmon, 2) herring, 3) crab, and 4) groundfish. He noted that Alaska was the only state which constitutionally requires fisheries to be managed on a sustained yield basis. All of the State fisheries are managed based on regulations made by the Alaska Board of Fisheries (ABF). The ABF includes seven members, who are appointed by the Governor for three year terms. The ABF establishes management plans for each fishery by setting take limits and seasonal and spatial closures, as well as establishing escapement goals for certain fisheries (e.g., salmon). These management plans are enforced by Area Offices of the Alaska Department of Fish and Game. There are 24 such area offices in Alaska.

Salmon represent the largest and most valuable fishery in the State of Alaska. Since 1975, salmon fisheries have been managed under a limited entry system. In most years, the number of salmon landed throughout the state for all fisheries exceeds 100 million fish. The value of these fish annually is approximately $500 million.

The herring fishery in Alaska has an annual value of approximately $30 million and an average catch of 50,000 tons. The roe fishery extends from late March to late June. In the pound fishery for herring roe, sack roe is typically worth $250 per ton, while roe on kelp is worth $35 per pound.

The shellfish fishery in Alaska is valued at $225 million per year. This fishery takes place primarily in the southeast and western parts of the State. The target species include snow crab, red, brown, and blue king crab, Dungeness crab, and various species of shrimp, clams, and other invertebrates. Total crab landings per year are approximately 150 million pounds.

The groundfish fishery in State waters targets sablefish, Pacific cod, and other species of groundfish (e.g., pollock). The value of the catch ranges between $25 and $40 million annually.

Scott Hill questioned whether the pair-trawling fishery was still extant in Alaska. Savikko responded that this fishery was active in Prince William Sound in the 1980s for herring, but was for all practical purposes now inactive.

The question arose regarding the nature and magnitude of subsistence and personal use fisheries in Alaska. Savikko noted that these fisheries occurred primarily in western Alaska (e.g., the

Yukon and Kuskokwim Rivers). He added that the Federal government may soon be taking over the management of such fisheries on Federal lands.

V. 3. Federally managed observer programs

V.3.1. North Pacific groundfish observer program

Bill Karp (Alaska Fisheries Science Center) led the discussion on this topic. Karp noted that an observer program for this fishery has been legally mandated since 1990. The goal of the program was to: 1) estimate catch and bycatch quantity and species composition; 2) document marine mammal-fishery interactions; 3) estimate various parameters for species-specific stock assessment models; 4) support ecosystem studies; and 5) address compliance concerns.

Observer coverage in the North Pacific groundfish fishery varies by size of vessel. That is, all vessels over 125 ft in length are observed, while only 30% of vessels between 60 and 124 ft in length are observed. This program is one of the largest observer programs in the world. Over 200 person-years of coverage are contracted for annually, which allows approximately 400 vessels per year to be observed. Regarding the cost of the program, Karp noted that NMFS pays about $2,000,000 of the $12,000,000 total cost, with the industry paying the rest through indirect charges (e.g., landing fees). In terms of cost per day per observer, an average rate of $260 has been estimated.

The primary job of the observer is to monitor the catch and determine its species composition for both target and protected species. In addition, observer data are used to evaluate the nature and magnitude of interactions between groundfish fisheries and marine mammals. These data include information on rates of interactions, collection of biological samples (e.g., teeth from Steller sea lions and northern fur seals), and collection of photographs of certain species of cetaceans (e.g., killer whale, humpback whale).

Karp summarized a list of concerns regarding the data collected by observers on the commercial groundfish fishery in Alaska: 1) uncertainty in estimating total fishing effort by stratum; 2) uncertainty in estimating the size of the catch on individual sets; 3) inability of observers to observe the entire capture process (i.e., from net retrieval to fish put in the hold) and the potential for fishers to discard unwanted catch; 4) the difficulty of obtaining a representative sample from a large, diverse (spatially and temporally) fleet; 5) potential conflicts of interest, given observers are contracted by the industry, not the government; and 6) potential conflicts among legal mandates established by the MMPA, ESA, and Magnuson-Stevens Fisheries Conservation and Management Act. The implications of these concerns were discussed briefly. It was noted that much of the uncertainty in the observer data is not incorporated into the estimation of bycatch of marine mammals. There is insufficient information at present to determine the magnitude of the error that is unaccounted for in the estimation of marine mammal mortality. Similarly, some of the

issues listed above could also lead to negative bias in the estimation of marine mammal mortality, but the magnitude of any such bias could not be estimated at this time.

V.3.2. Observer programs- Category II fisheries

Brian Fadely (NMFS Alaska Region) led the discussion on this topic. Fadely noted that there were 13 Category II fisheries in Alaska, none of which were observed currently (see Hill et al. 1997 for list of Category II fisheries in Alaska). He then summarized a NMFS proposal to observe nine of those fisheries over a four to six year period starting in 1999. The program would be funded by the NMFS Office of Protected Resources and was projected to cost $1,000,000 to $1,500,000 per year for the three year study period. The program was designed to address the question of whether the PBR for a particular stock of marine mammals was being exceeded by a particular fishery. Responsibilities under this program would be assigned as follows: NMFS Alaska Region - program coordination, NMFS NMML- data analysis, unspecified contractor(s)- observer training, observer employment, data reporting and editing, liaison with industry and government, and scientific coordination. For most fisheries, proposed rates of coverage were less than 5% per year. Fadely noted that the following issues would have to be resolved: 1) how to estimate fishing effort in each observed fishery; 2) how to secure the necessary funding over the entire four to six year period; 3) observer safety; and 4) observer placement.

V.4. Other data

Fadely led the discussion on this topic. He reported that under the Marine Mammal Exemption Program (1988-1994) fishermen in Category I or II fisheries were required to submit logbooks annually, which summarized marine mammal interactions. After the reauthorization of the MMPA in 1994, logbooks were not required, rather fishermen were only required to report any incidental mortality or serious injury. Based on logbook data from 1990 and 1991, there were 329 marine mammal mortalities or serious injuries from the 13 Category II fisheries in Alaska. However, in recent years under the self-reporting system for mortalities and serious injuries only, very few reports from these same 13 fisheries have been received. This disparity suggests that the current use of self-reports to estimate marine mammal mortality and serious injury is likely to lead to underestimates of annual kills. A summary of Fadely's results are presented in appendix 5.

Gauvin commented that the severity of the apparent decline in annual removals based on logbook data versus self-reports was surprising. He asked Fadely if the industry had been made aware of these findings. Fadely responded that the data had only recently been summarized for this meeting, and welcomed any suggestions regarding how to get such information to the fleet. He added that the decision to seek funding for an observer program for Category II fisheries in Alaska was in part based on the lack of self-reports from Category II fisheries over the last three years.

V.5. Stranding program in Alaska

Kaja Brix (NMFS Alaska Region) led the discussion of this topic. To introduce the topic, Brix noted that each Region within NMFS had established a network to respond to marine mammal strandings. However, because of the size of the coastline in Alaska and the relatively low density of humans along this coastline, the stranding network in Alaska has had the least coverage of any of the five regions and has been for the most part an opportunistic program.

However, the Region had recently undertaken the responsibility for generating a database for stranding reports. While the existing database is far from complete, she noted that from 1984 to the present, 555 stranding events had been entered into the database. Of these, 18 resulted from shooting, 23 from fishery interactions, and 10 from vessel collisions (e.g., 2 gray whales, 1 sperm whale, and 1 humpback whale). Efforts are currently underway to compile additional stranding reports from the past and incorporate those data into the Region's database. There was general agreement among the AKSRG members that this activity was important and should be undertaken as soon as possible. Concern was also raised regarding the degree to which all available data would be entered into the database, as some reports of strandings from AKSRG members sent to the Region had apparently not been entered.

After some discussion, it was agreed that: 1) because of the difficulty in detecting whether a stranded animal died as a result of shooting, comments or information should be added to such records as possible to clarify the cause of death; 2) animals entangled in fishing gear or marine debris, and subsequently released alive, should not be included in this database; 3) every effort should be made to obtain stranding records that were previously sent to the Smithsonian Institution or the University of Alaska and to enter these into the database; 4) until all of the known information on stranding reports is entered into the NMFS Alaska Regional Office (AKR) database, the database should be considered preliminary; and 5) efforts should be expanded to inform the general public that NMFS is interested in receiving reports regarding stranded marine mammals in Alaska. Wynne added that because stranding data are reported in the SARs and used to classify stocks and fisheries, more attention needs to be paid to getting as much information as possible from stranding data. It was also agreed that it would be inappropriate for NMFS to assign all reported entanglements of northern fur seals, where 40%-65% of entanglements are in net fragments from trawl fisheries, as mortalities caused by the trawl fisheries in Alaska. This decision was based on the following: 1) some unknown fraction of animals entangled in such debris extricate themselves; 2) because debris can persist in the ocean, it isn't possible to assign a net fragment to a particular fishery or a particular year; and 3) some unknown fraction of the net debris is generated by foreign fisheries outside of the U.S. EEZ.

VI. Marine Mammal - Fishery Interactions

Matkin led the discussion on the interaction between killer whales and the sablefish

longline fishery in Alaska. To date, reports of interactions have been from both fisheries in Prince William Sound (PWS) and in the Bering Sea (BS). In PWS, animals from the AB pod learned to pick fish off the hooks in the 1980s. In 1985/1986 reports of fishermen trying to deter killer whale predation on caught sablefish by shooting were common. In the BS, reports of such interactions date back to the 1960s. With the introduction of Individual Fishery Quotas in recent years the magnitude of this problem has increased because the fishing season is longer, there are fewer boats fishing at any particular time, and the whales can focus on those boats.

Matkin also noted that this type of fishery interaction could not be monitored with an observer program, unless the observer program had a coverage rate approaching 100%. Mitigation efforts to date have included: 1) moving fishing gear to different areas (mostly unsuccessful); 2) acoustic deterrents; 3) non-acoustic deterrents; 4) cutting off gear and leaving the area; and 5) use of different gear to catch sablefish (e.g., use pots).

Hill commented that data on such interactions were recorded by U.S. observers on form 10U.S. For example, using information from 15,542 observed sets in 1997 in various long line fisheries in Alaska, there were 152 reports of predation on catch by killer whales or approximately 1% of all observed sets. Hill added that a published paper by Yano and Dahlheim summarizes killer whale - fishery interactions in the North Pacific between 1980 and 1989. In general, the same area of interactions observed in the 1980s are still areas of interactions in the late 1990s.

Hill reported on sperm whale - longline fishery interactions in Alaska. He noted that a special project was recently initiated to evaluate the extent to which sperm whales interact with long line fisheries in Alaska. As part of this program, 137 longline sets were observed in the BS and GOA for sperm whale interactions. Sperm whales were sighted during 52 sets and were reported to interact with fishing operations on 34 of these sets. Interactions were most commonly reported in three specific areas (i.e., Middleton Island area, Pomplona Spur, and west of Sitka). A preliminary analysis of the catch rates of groundfish with and without sperm whales in the vicinity indicated that the presence of sperm whales reduced catches from 1.0 tons caught/ 1000 hooks to 0.7 tons caught/1000 hooks. Hill concluded by noting that the special observer project on sperm whales was being extended a second year.

VII. Enforcement Issues

Jeff Passer led the discussion regarding enforcement of the MMPA in Alaska. He noted that enforcement of the MMPA in Alaska was not considered a priority activity by NMFS. Rather enforcement issues related to fishery compliance were given the highest priority. Further exacerbating the situation was the low number of enforcement officers in Alaska (seven special agents and seven enforcement officers). In response to a question from Jan Straley, Passer noted that efforts to educate the public regarding NMFS regulations and safety issues were underway.

A question arose regarding cooperative enforcement efforts with the U.S. FWS. Passer responded that such exercises were relatively rare in Alaska. In response to a question from Wynne regarding the allocation and placement of enforcement efforts, Passer noted that enforcement resources could be directed at specific areas at specific times based on a specific need. Wynne responded that in some areas, just the presence of an enforcement officer would increase compliance.

VIII. By-Catch Mitigation

John Gauvin led the discussion of this agenda item. He demonstrated a computer software package that has been developed to identify areas of commercial fishing that were observed to have unusually high by-catch rates (see paper by Gauvin et al. 1993, Alaska Sea Grant publication). This information was then used by the industry to direct commercial vessels to areas where bycatch rates during that particular time of the year were known to be lower. Gauvin recommended that a similar approach could be developed for mitigating marine mammal-fishery interactions. The advantages of this system were that it was voluntary within the industry and was based on real-time information via a satellite-linked communication system. There was general agreement among AKSRG members that software of this type could prove extremely valuable to FWS and NMFS and that implementation of such programs should be considered in the future, as part of a suite of methods to mitigate fishery interactions.

NMFS Future Research and Management

IX 1. Observer programs

There was general agreement among AKSRG members that NMFS should implement an observer program on category II fisheries in Alaska. However, based on its concern regarding Cook Inlet beluga whales, it was recommended that the first year of any such program should be directed at the Gulf of Alaska (i.e., Cook Inlet and perhaps Kodiak) rather than southeast Alaska.

Wynne recommended and it was subsequently agreed that NMFS should focus additional enforcement and educational efforts in areas known to be "hot spots" for marine mammal fishery interactions (e.g., Bristol Bay, Yakatat). Gauvin noted that for enforcement efforts to be effective they must be developed in such a way to have a specified period of operation, as well as having a reasonable likelihood that any associated legal actions would be successful. It was also agreed that programs such as beach surveys for stranded marine mammal carcasses can be effective in maintaining a NMFS presence in areas known for fishery interactions.

Wynne also recommended that NMFS increase efforts to train local biologists and managers in methods for disentangling animals entangled in fishing gear or marine debris. One approach would be to contract John Lien to lead one or more sessions in Alaska regarding methods for disentangling large whales. It was also noted that such efforts were greatly enhanced by having

the necessary equipment ready to use at several sites around the State.

Several AKSRG members recommended that NMFS adopt a system of notifying fishers of their need to file self-reports regarding interactions with marine mammals that lead to a marine mammal mortality. A system of this type occurs in the CA/OR driftnet fishery, where the Southwest Regional Office of NMFS contacts fishers if self-reports were not filed that should have been, based on data collected by randomly placed observers.

Finally, it was recommended that NMFS undertake an analysis of the efficiency of self-reports in Alaska and other Regions. NMFS should also evaluate the effectiveness of the Southwest Region system for promoting self-reports by fishers.

IX. 2. Co-management

Zimmerman noted that the Alaska Regional Office had requested $1,500,000 for co-management programs for the FY99 budget, but the request was not approved by DOC as part of the official FY99 budget proposal from the President to Congress. Also, as mentioned earlier in the meeting, an agreement among IPCoMM, FWS, USGS, and NMFS was reached regarding the process by which species or range specific co-management agreements would be developed. It has been referred to as the "umbrella" agreement within the agencies. It was also pointed out that the agreement directs IPCoMM and the agencies to establish two panels (one for species managed by the FWS; one for the species managed by NMFS) for the following purposes: 1) develop a protocol and timetable for the application, review, and awarding of Section 119 funds (MMPA), 2) establish co-management priorities, 3) establish criteria to evaluate proposals, and 4) evaluate proposals for funding under Section 119.

Zimmerman also reported that NMFS had contracted with the Alaska Native Harbor Seal Commission for the purpose of establishing a team to draft a harbor seal co-management agreement with NMFS. He added that NMFS is working with the Cook Inlet Marine Mammal Council on a co-management agreement for Cook Inlet belugas. Finally, Zimmerman commented that a co-management agreement for northern fur seals was not considered a high priority by the agency at this time. Nonetheless, efforts were underway to develop such a plan.

Regarding the development of a co-management agreement for Steller sea lions in Alaska, Zimmerman noted that there have been some discussions about a Steller sea lion co-management agreement with representatives of Alaska Native hunters in the Aleutian Islands and Pribilofs. Currently it isn't clear whether there will be a regional or statewide co-management agreement.

IX. 3. Population estimation

DeMaster summarized future NMFS research in Alaska as follows: 1) the second (1998)

and third (1998) small cetacean surveys in Alaska would be completed as planned, 2) harbor seal abundance surveys in southern southeast Alaska would be carried out in 1998, 3) a range wide survey for Steller sea lions would be completed in 1998, 4) northern fur seal pup counts at the Pribilofs would be conducted in 1998, 5) ringed seal surveys were currently planned for 1999 and 2000, which would include research on correction factors for estimating total abundance, 6) aerial surveys to locate and photograph northern right whales would be conducted in July 1998 in the SE Bering Sea, and 7) photo-identification studies on killer whales in southeast Alaska would be conducted in June and September of 1998.

IX. 4. Other research

In addition to the above mentioned studies to estimate abundance, the following studies will also carried out in FY99: 1) continuation of harbor seal population genetic studies to evaluate the degree to which low levels of exchange between putative populations can confound the interpretation of standard genetic analyzes, 2) continuation of support for the North Pacific Humpback Whale Fluke Collection, where data from cooperating research programs were being used to estimate calf mortality and rates of reproduction, and 3) a workshop on the status of the eastern North Pacific stock of gray whales will be held in the early summer of 1998, which is required under the ESA as part of the delisting process (i.e., 5 years since delisting in June 1994).

X. New Members

Caleb Pungowiyi informed the AKSRG that he was stepping down as an AKSRG member due to increased commitments to other organizations. Denby Lloyd informed the AKSRG that he had accepted a position with the Alaska Department of Fish and Game to coordinate research on herring and salmon in Kodiak. Lloyd added that he was willing to continue serving on the AKSRG, but recognized that his initial appointment had at least in part been due to his direct association with commercial fishing organizations. A discussion regarding the optimal composition of the AKSRG resulted in the conclusion that the current composition, given the limited size of the AKSRG, was reasonable. It was recommended that Charlie Johnson be nominated to replace Pungowiyi. It was further decided that if Johnson was unable to serve at this time, Flore Lekanof would be recommended. After some discussion, it was agreed that Lloyd's expertise on technical issues related to commercial fisheries and his biological expertise on marine mammals (e.g, northern fur seal) were such that his continued participation as an AKSRG member was desirable. .

XI. Recommendations of the AKSRG

DeMaster agreed to create a list of all recommendations made by the AKSRG based on the written minutes of the meeting, and to attach the list to the minutes as a separate appendix (see appendix 6). The AKSRG agreed that the "high profile" recommendations of the AKSRG should be consolidated into a letter or letters from the Chair to the NMFS and FWS Regional

Directors.

Adkison raised the issue of how many issues could be reasonably dealt with during a two and a half day meeting. After some discussion, it was agreed that no more than two major issues should be scheduled for discussion at any given meeting of the AKSRG.

XII. Close of Meeting

The meeting adjourned at noon on 4 June 1998.

Appendix 1. List of Participants.

AKSRG members - M. Adkison, J. Gauvin, C. Hild, S. Hills, B. Kelly, M. Kookesh, D. Lloyd, L. Lowry, B. Mathews, C. Matkin, C. Pungowiyi, J. Straley, and K. Wynne.

NMFS staff: K. Brix, D. DeMaster, B. Fadely, S. Hill, S. Zimmerman

FWS staff: J. Garlich-Miller.

Invited Participants: Chris Gabriele (Glacier Bay NPS), Bill Karp (NMFS), Mandy Merklein, Jeff Passer (NMFS)

Appendix 2. Final Agenda.

Agenda: Alaska Scientific Review Group Meeting

2-4 June 1998
NMFS Alaska Regional Office
Federal Building, Room 445
709 West 9th Street
Juneau, AK

Purpose: 1. Final review of revised 1997 Stock Assessment Reports for NMFS stocks
2. Final review of revised 1997 Stock Assessment Reports for FWS species
3. In depth discussion of marine mammal-fishery interactions
4. Discuss NMFS and FWS management and research plans for 1998

Materials needed: 1. Public review drafts of 1997 Stock Assessment Reports (NMFS and FWS)
2. Background documents supplied by Scott Hill in 5/11/98 mailing
3. Background documents to be mailed out by USFWS

2 June 1998--Tuesday

9:00 am Introductory business
1. Introductions
2. Review and approve agenda
3. Minutes from October 1997 AKSRG meeting
4. Other business (e.g., travel vouchers)

9:30 am Final review of draft 1997 FWS SARs
1. Polar bear
2. Pacific walrus
3. Sea otter

10:30 am Plans for FWS marine mammal program activities
1. Subsistence harvest monitoring
2. Co-management with Alaska Natives
3. Population assessments
4. Walrus research needs
5. Other research
6. Schedule for future Stock Assessment Reports

12:15 pm Break for lunch

1:30 pm Final review of draft 1997 NMFS SARs

1. Steller sea lion
2. Northern fur seal
3. Harbor seal
4. Beluga, Cook Inlet
5. Killer whale
6. Sperm whale
7. Humpback whale
8. Fin whale
9. Right whale
10. Bowhead whale

3 June 1998--Wednesday

Presentations: existing and future data on MM-fishery interactions in Alaska

Alaskan fisheries: brief overview of where, when, how (effort, gear, management regime)

8:30 am 1. Federal fisheries (Andy Smoker, NMFS Inseason Mgt, Sustainable Fisheries Div.)
9:00 am 2. State fisheries (Herman Savikko, ADFG, Commercial Fisheries Div.)

Incidental take: overview, take estimates, coverage, age of data, limits and comfort level

1. Observer Programs
9:30 am a. Groundfish observer program (Bill Karp)
10:15 am b. Salmon fisheries observer programs - past and future (Brian Fadely)
2. Other data sets
10:45 am a. Logbook data (1989-93) and Fisher self-reports (1993 on) (Brian Fadely)
10:55 am b. Stranding reports (incl new definitions of serious injury) (Kaja Brix)
11:05 am c. Wynne and Merklein survey (Kate or Mandy)

Intentional take / Deterrence: brief summary of interactions, quantifiable?, avoidable?

11:15 am 1. Killer whale - longline (Craig Matkin/Scott Hill)
11:25 am 2. Sperm whale-longline (Scott Hill)
11:35 am 3. Pinniped - gillnet/troll/hatchery (Kate/Jan/Kaja ?)
11:45 am 4. NMFS enforcement role, budget for MMs, etc. (overview by NMFS Enforcement person)

12:15 pm Break for lunch

SRG discussion: concerns re: existing and future data, plans, and needs

1:30 pm Sea State program for avoiding prohibited species catch (John Gauvin)

1:50 pm Data adequacy/weakness?
1. species / fisheries / areas of concern
2. age of data, using 5-year mean
3. % coverage, comfort level (CVs on take estimates) vs. cost

3:15 pm Identify priorities, goals, and recommendations
1. derive statistically reliable fishery-related mortality estimates (for SAR): how?
2. gross assessment / monitoring of trends and problem areas carcass surveys, etc?
3. fix problems or quantify them ?
4. reduce intentional mortality: enforcement, develop non-lethal deterrents, outreach?
5. reduce incidental take frequency and impact of entanglement: understand entanglement, increase disentanglement efforts ?

4 June 1998-Thursday

8:30 am Plans for NMFS marine mammal program activities
1. Incidental take monitoring programs
2. Subsistence harvest monitoring
3. Co-management with Alaska Natives
4. Population assessments
5. Harbor seal genetics
6. Other research

10:00 am SRG discussion and recommendations
1. Scale of management units for SARs and regulating incidental take
2. Management needs
3. Research needs

11:15 am Development of 1998 NMFS Stock Assessment Reports
1. Species (strategic stocks plus beluga, beaked whales, gray whale?)
2. Schedule

11:30 am Next SRG meeting
1. Time and place
2. Topics
3. Need for joint meeting with other SRGs?

12:00 pm Adjourn

Appendix 3. **Background Documents for the June 2-4 1998 Alaska SRG Meeting**

Gauvin, J. R., K. Haflinger, and M. Nerini. 1996. Implementation of a voluntary bycatch avoidance program in the flatfish fisheries of the eastern Bering Sea. Pp. 79-85, *in* Solving bycatch: considerations for today and tomorrow. Alaska Sea Grant College Program Rept. No. 96-03, Univ. of Alaska, Fairbanks.

Hill, P. S. and E. Mitchell. 1998. Sperm whale interactions with longline vessels in Alaska waters during 1997. Unpubl. Rep. 14pp. (Available National Marine Mammal Laboratory, 7600 Sand Point Way NE, Seattle, WA 98115)

Matkin, C. 1996. Killer whale (*Orcinus orca*) interactions with sablefish longline fisheries in Alaska. North Gulf Oceanic Society, P.O. Box 15244, Homer, AK. Unpubl. Rep. 9pp.

Mazzuca, L., S. Atkinson, and E. Nitta. 1998. Deaths and entanglements of humpback whales, *Megaptera novaeangliae*, in the main Hawaiian Islands, 1972-1996. Pacific Science 52 (1): 1-13.

Witherell, D. and L. Roberts. 1996. Regulatory closure areas for the groundfish fisheries in the Bering Sea and Aleutian Islands. North Pacific Fishery Management Council, 605 West 4th Ave., Anchorage, AK 99501. 17pp.

Withrow, D., A. York, and P. Boveng. 1998. Coefficient of variation of correction factors for counts of Alaskan harbor seals. Unpubl. Rep. 3pp. (Available National Marine Mammal Laboratory, 7600 Sand Point Way NE, Seattle WA, 98115)

Wynne, K. M. and M. M. Merklein. 1996 Marine mammal observer program design considerations: a survey of eight Alaskan small-boat fisheries. Univ. of Alaska Sea Grant, Marine Advisory Program. 900 Trident Way, Kodiak, AK 99615. 35pp.

Additional Documents:

1) 1989-1997 Killer whale interaction records in the Alaska Groundfish Observer Program database (from form 10US). 3pp.

2) 1997 Observer Program database haul positions for the trawl, longline, and pot fisheries. 3pp.

3) 1973-1996 Total number of hauls per 5km by 5km areas based on groundfish fishery observer

data. 3pp. (Adapted from Fritz, L. W., A. Greig, and R. F. Reuter. 1998. Catch-per-unit-effort, length, and depth distributions of major groundfish and bycatch species in the Bering Sea, Aleutian Islands, and Gulf of Alaska regions based on groundfish fishery observer data. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-AFSC-88. 179pp.)

U. S. Fish and Wildlife Service Documents

Doroff, A. M. and C. S. Gorbics. 1998. Sea otter surveys of Yakutat Bay and adjacent Gulf of Alaska coastal areas - Cape Hinchinbrook to Cape Spencer 1995-1996. U.S. Fish and Wildlife Serv., Marine Mammals Management, 1011 Tudor Rd., Anchorage, AK 99503.

Gorbics, C. S., J. L. Garlich-Miller, and S. L. Schliebe. 1998. Draft Alaska marine mammal stock assessments 1998: sea otters, polar bears, and walrus. Unpubl. Rep. 45pp. (Available U.S. Fish and Wildlife Serv., Marine Mammals Management, 1011 Tudor Rd., Anchorage, AK 99503).

Gorbics, C. S., A.M. Doroff, and D. B. Burn. 1998. Aerial sea otter survey, Kodiak Archipeligo - 1994. Draft Rep. 25pp. (Available U.S. Fish and Wildlife Serv., Marine Mammals Management, 1011 Tudor Rd., Anchorage, AK 99503).

Appendix 4. Handouts from Andy Smoker's presentation

1996 North Pacific Fisheries
Exvessel Value in Millions of Dollars

Herring	44.8
Halibut	74.2
Shellfish	179.2
Salmon	346.5
Groundfish	538.4
Total	1,179.1

1996 Number of Groundfish Vessels by Catcher Type and Gear

	Gulf of Alaska	Bering Sea Aleutian Islands
Catcher		
Hook & line	1,234	122
Pot	148	95
Trawl	164	131
All gear	1,451	340
Catcher / Processors		
Hook & line	28	44
Pot	4	14
Trawl	37	62
All gear	64	114

1996 Groundfish Catch off Alaska by Area, Processor Category

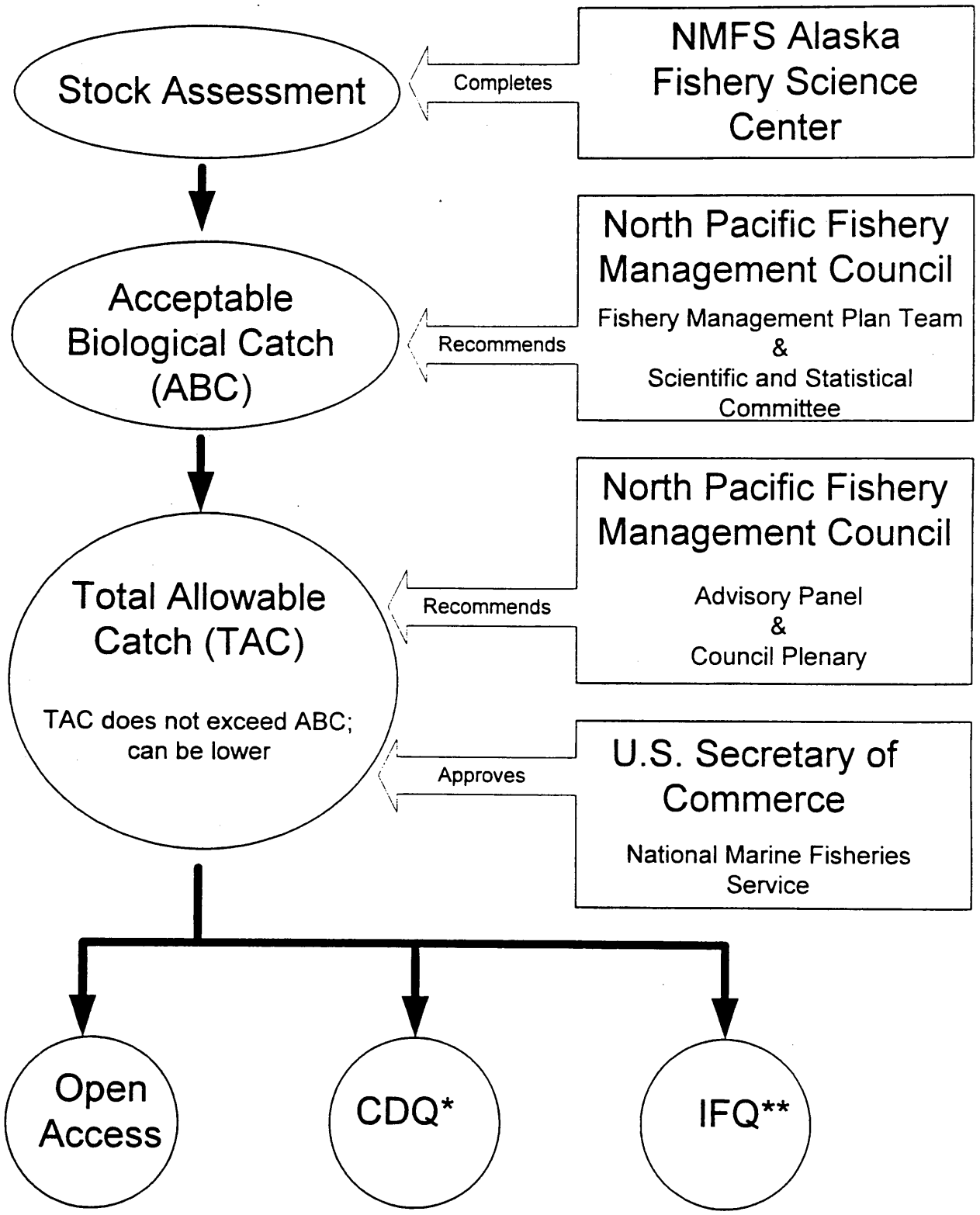
in 1,000 metric tons

	Gulf of Alaska	Bering Sea Aleutian Islands	Total:
At -sea	60	1386	1446
On-shore	145	463	608
Total:	205	1849	2054

1996 Number of Groundfish Vessels by Area, Length, Type, and Gear

	Gulf of Alaska				Bering Sea & Aleutian Islands			
vessel length in feet	< 60	60 - 124	125 - 230	> 230	< 60	60 - 124	125 - 230	> 230
Catcher								
fixed	1116	179	7	0	64	125	17	0
trawl	63	82	17	0	6	91	31	0
all gear	1147	245	24	0	69	216	47	0
Catcher/processor								
fixed	4	13	11	0	1	21	32	0
trawl	0	7	28	2	0	7	34	21
all gear	4	17	39	2	1	24	65	21

Annual Groundfish Quota Specification



* Community Development Quota Fishery for Pollock -- being expanded to all species of groundfish

** Individual Fishing Quota Fishery for Sablefish and Pacific halibut -- longline gear only

Bering Sea and Aleutian Islands Groundfish Quota Categories

Pollock	*Theragra chalcogramma*
Pacific Cod	*Gadus macrocephalus*
Atka Mackerel	*Pleurogrammus monopterygius*
Sablefish	*Anoplopoma fimbria*
Greenland Turbot	*Reinhardtius hippoglossoides*
Arrowtooth Flounder	*Atheresthes stomias*
Flathead Sole	*Hippoglossoides elassodon*
Rock Sole	*Lepidopsetta bilineata*
Yellowfin Sole	*Limanda aspera*
Other Flatfish	All flatfish not otherwise identified, except Pacific halibut, *Hippoglossus stenolepis*
Pacific Ocean Perch	*Sebastes alutus*
Other Red Rockfish	*Sebastes borealis*, *S. aleutianus*, *S. zacentrus*, and *S. polyspinis*
Sharpchin/Northern	*Sebastes zacentrus*, and *S. polyspinis*
Shortraker/Rougheye	*Sebastes borealis*, and *S. aleutianus*
Other Rockfish	All species of genus *Sebastes* except *S. alutus*, *S. borealis*, *S. aleutianus*, *S. zacentrus*, and *S. polyspinis*
Squid	All decapods
Other Species	An arbitrary category of groundfish species, including sculpins, sharks, skates, eulachon, smelts, capelin, and octopus.

Bering Sea and Aleutian Islands Groundfish Fishery

Prohibited Species

Retention of the following species is prohibited in the groundfish fishery. The fish cannot be sold, and in most cases must be immediately discarded, or, if still alive, immediately released. Salmon delivered to processors in unsorted catch may be processed for donation to food bank (charity) programs.

Pacific Halibut	*Hippoglossus stenolepis*
All species of Pacific Salmon and Steelhead	*Oncorhynchus spp.*
All species of King and Tanner Crab	
Pacific Herring	*Clupea harengus*

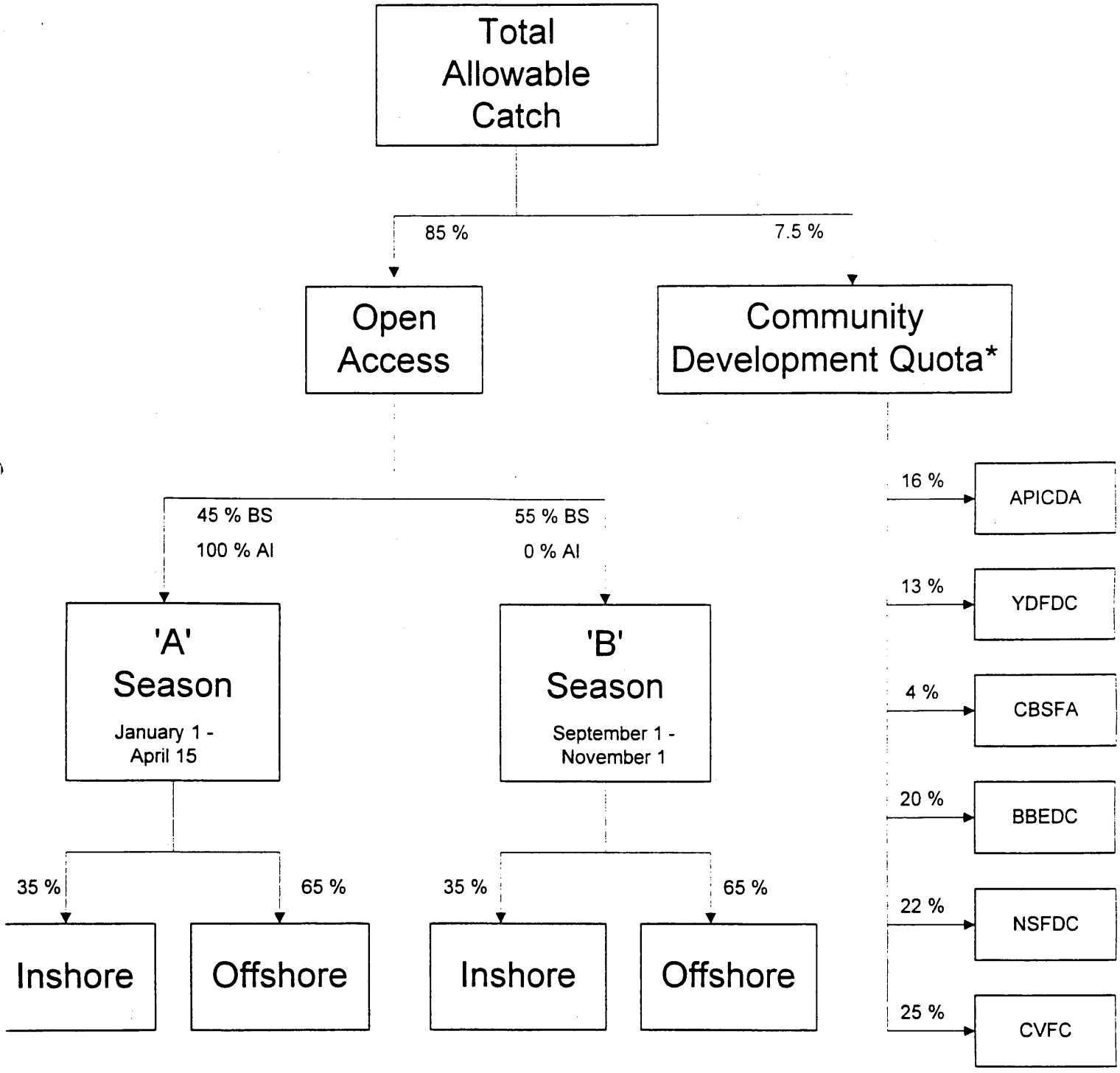
TABLE 1.-- 1998 ACCEPTABLE BIOLOGICAL CATCH (ABC), TOTAL ALLOWABLE CATCH (TAC), INITIAL TAC (ITAC), CDQ RESERVE ALLOCATION AND OVERFISHING LEVELS OF GROUNDFISH IN THE BERING SEA AND ALEUTIAN ISLANDS AREA[1]

Species	Area	ABC	TAC	ITAC[2,3]	CDQ reserve	Overfishing level
Pollock	Bering Sea (BS)	1,110,000	1,110,000	943,500	83,250	2,060,000
	Aleutian Islands (AI)	23,800	23,800	20,230	1,785	31,700
	Bogoslof District	6,410	1,000	850	75	8,750
Pacific cod	BSAI	210,000	210,000	178,500	15,750	336,000
Sablefish[4]	BS	1,300	1,300	553	179	2,160
	AI	1,380	1,380	293	233	2,230
Atka mackerel[5]	Total	64,300	64,300	54,655	4,823	134,000
	Western AI	27,000	27,000	22,950	2,025	.....
	Central AI	22,400	22,400	19,040	1,680	.....
	Eastern AI/BS	14,900	14,900	12,665	1,118	.....
Yellowfin sole	BSAI	220,000	220,000	187,000	16,500	314,000
Rock sole	BSAI	312,000	100,000	85,000	7,500	449,000
Greenland turbot	Total	15,000	15,000	12,750	1,125	22,300
	BS	.....	10,050	8,543	754	.....
	AI	.....	4,950	4,208	371	.....
Arrowtooth flounder	BSAI	147,000	16,000	13,600	1,200	230,000
Flathead sole	BSAI	132,000	100,000	85,000	7,500	190,000
Other flatfish[6]	BSAI	164,000	89,434	76,019	6,708	253,000
Pacific ocean perch	BS	1,400	1,400	1,190	105	3,300
	AI Total	12,100	12,100	10,285	908	20,700
	Western AI	5,580	5,580	4,743	419	.....
	Central AI	3,450	3,450	2,933	259	.....
	Eastern AI	3,070	3,070	2,610	230	.....
Other red rockfish[7]	BS	267	267	227	20	356
Sharpchin/Northern	AI	4,230	4,230	3,596	317	5,640
Shortraker/rougheye	AI	965	965	820	72	1,290
Other rockfish[8]	BS	369	369	314	28	492
	AI	685	685	582	51	913
Squid	BSAI	1,970	1,970	1,675	148	2,620
Other species[9]	BSAI	25,800	25,800	21,930	1,935	134,000
TOTAL		2,454,976	2,000,000	1,698,568	150,211	4,202,451

TABLE 6.--1998 PROHIBITED SPECIES BYCATCH ALLOWANCES FOR THE BSAI TRAWL AND NON-TRAWL FISHERIES

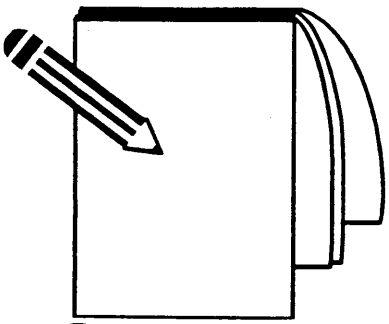
	Prohibited Species and Zone					
	Halibut Mortality (mt)	Herring (mt)	Red King Crab (animals)	C. opilio (animals)	C. bairdi (animals)	
TRAWL FISHERIES	BSAI	BSAI	Zone 1	COBLZ[1]	Zone 1	Zone 2
Yellowfin sole	930	248	9,250		255,592	990,675
Jan. 20-Mar. 31	264					
Apr. 1-May 10	194					
May 11-Aug. 14	93					
Aug. 15-Dec. 31	379					
Rocksole/oth.flat/flat sole[2]	735	20	45,094		273,848	330,225
Jan. 20-Mar. 29	449					
Mar. 30-June 30	120					
July 1-Dec. 31	167					
Turbot/sablefish/arrowtooth[3]	.....	.....	.....		.....	.....
Rockfish	69	7	.....		.....	6,475
Jan. 1-June 30	0	0	.....		.....	.....
July 1-Dec. 31	69	7	.....		.....	.....
Pacific cod	1,434	20	6,938		123,232	180,375
Midwater pollock[4]	.....	1,146	.....		.....	.....
Pollock/Atka/other[5]	324	143	6,938		41,077	434,750
Jan. 20-Apr. 15	278					
Apr. 16-Dec 31	46					
RKC savings subarea[6]			24,281			
TOTAL TRAWL PSC	3,492	1,585	92,500	4,304,950	693,750	1,942,500
NON-TRAWL FISHERIES						
Pacific cod	777					
Jan. 1-Apr. 30	458					
May 1-Sep. 14	37					
Sep. 14-Dec. 31	282					
Other non-trawl	56					
Groundfish pot & jig	exempt					
Sablefish hook & line	exempt					
TOTAL NON-TRAWL	833					
PSQ RESERVE[7]	351	129	7,500	349,050	56,250	157,500

Bering Sea and Aleutian Islands 1997 Pollock Allocations

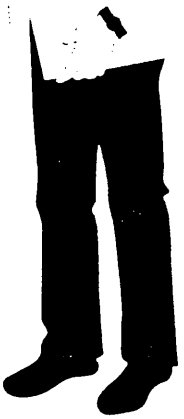


* No more than 45 percent of a 1997 CDQ Bering Sea pollock allocation may be harvested during the pollock roe season, January 1 through April 15. Up to 100 percent of a 1997 CDQ Aleutian Islands or Bogoslof District pollock allocation may be harvested during this time period.

Bering Sea and Aleutian Islands Groundfish Catch Monitoring and Accounting System

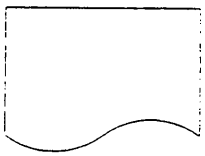


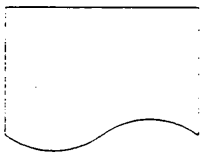
Daily Logbook



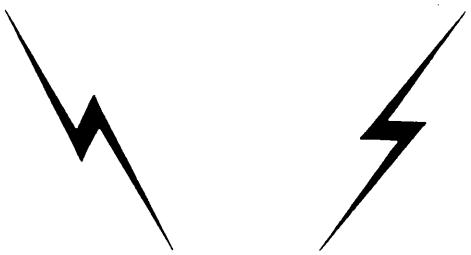
Observer

Weekly Production Report





Weekly Observer Report



National Marine Fisheries Service Alaska Region

Groundfish Observers

Groundfish Observers are:

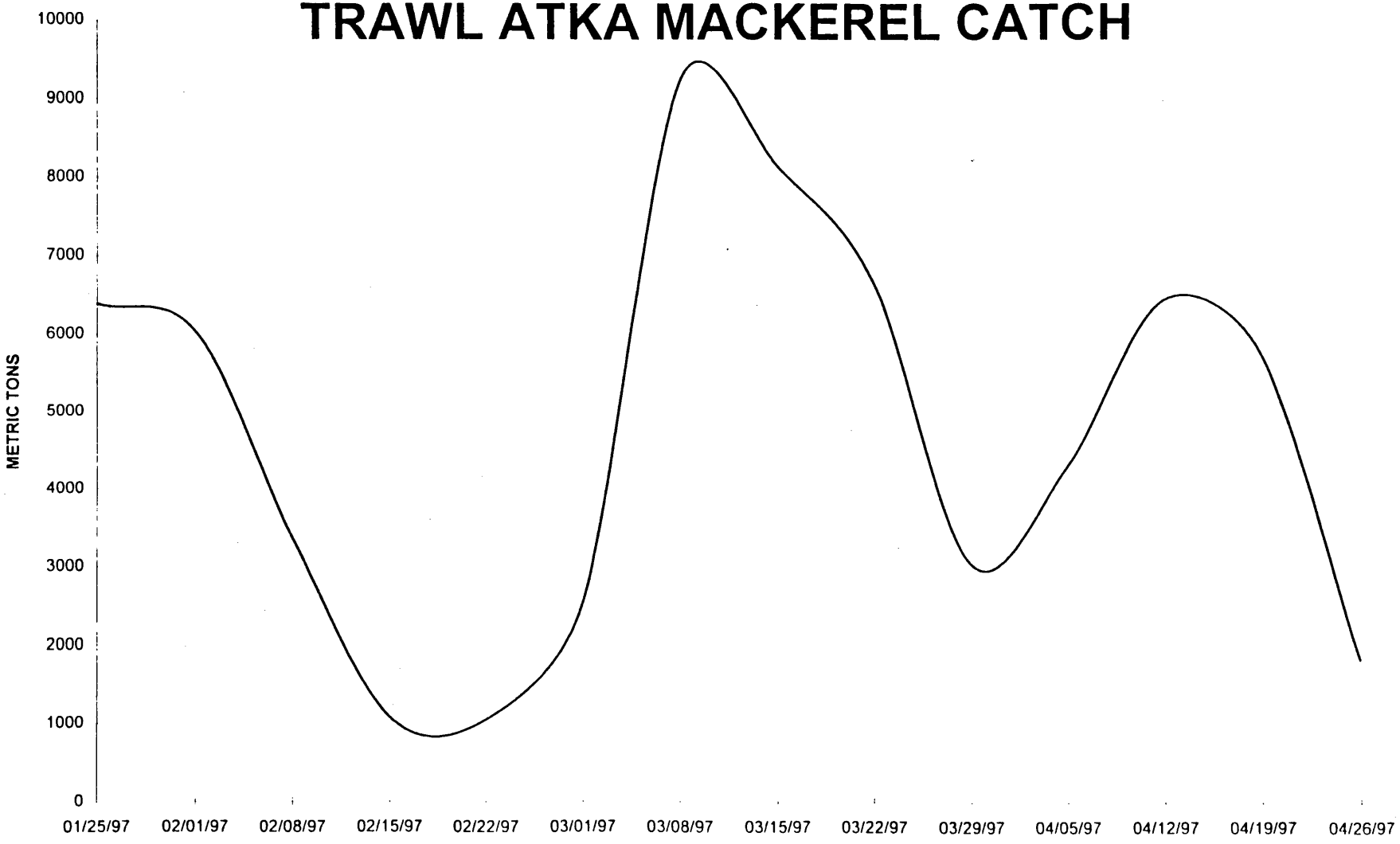
- Trained and certified by NMFS Alaska Fishery Science Center
- Deployed during 100% of fishing days on vessels 125 feet in length or larger
- Deployed during 30% of fishing days on vessels 60 to 124 feet in length
- Paid for by the vessel

Groundfish Observers

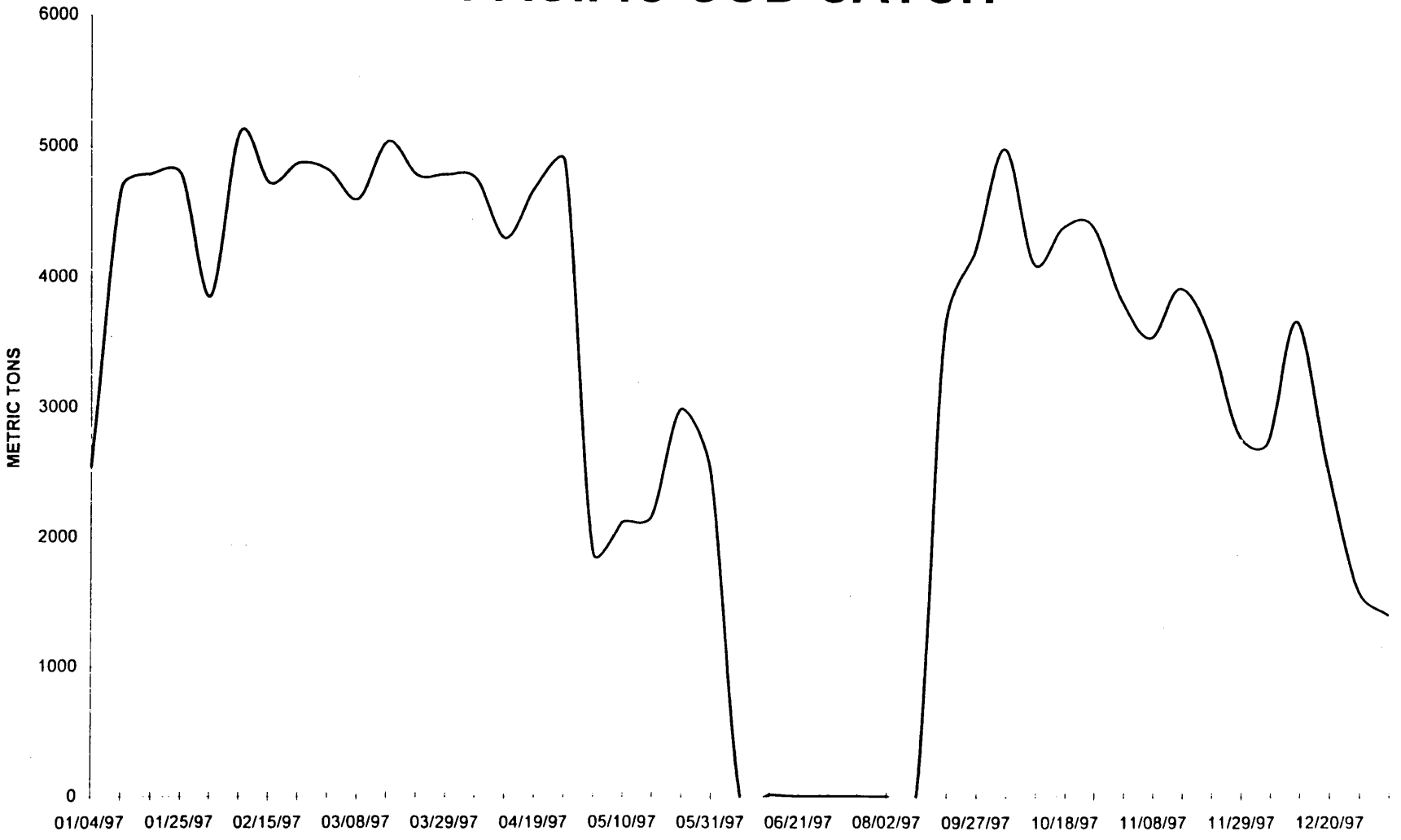
Groundfish Observers collect data including:

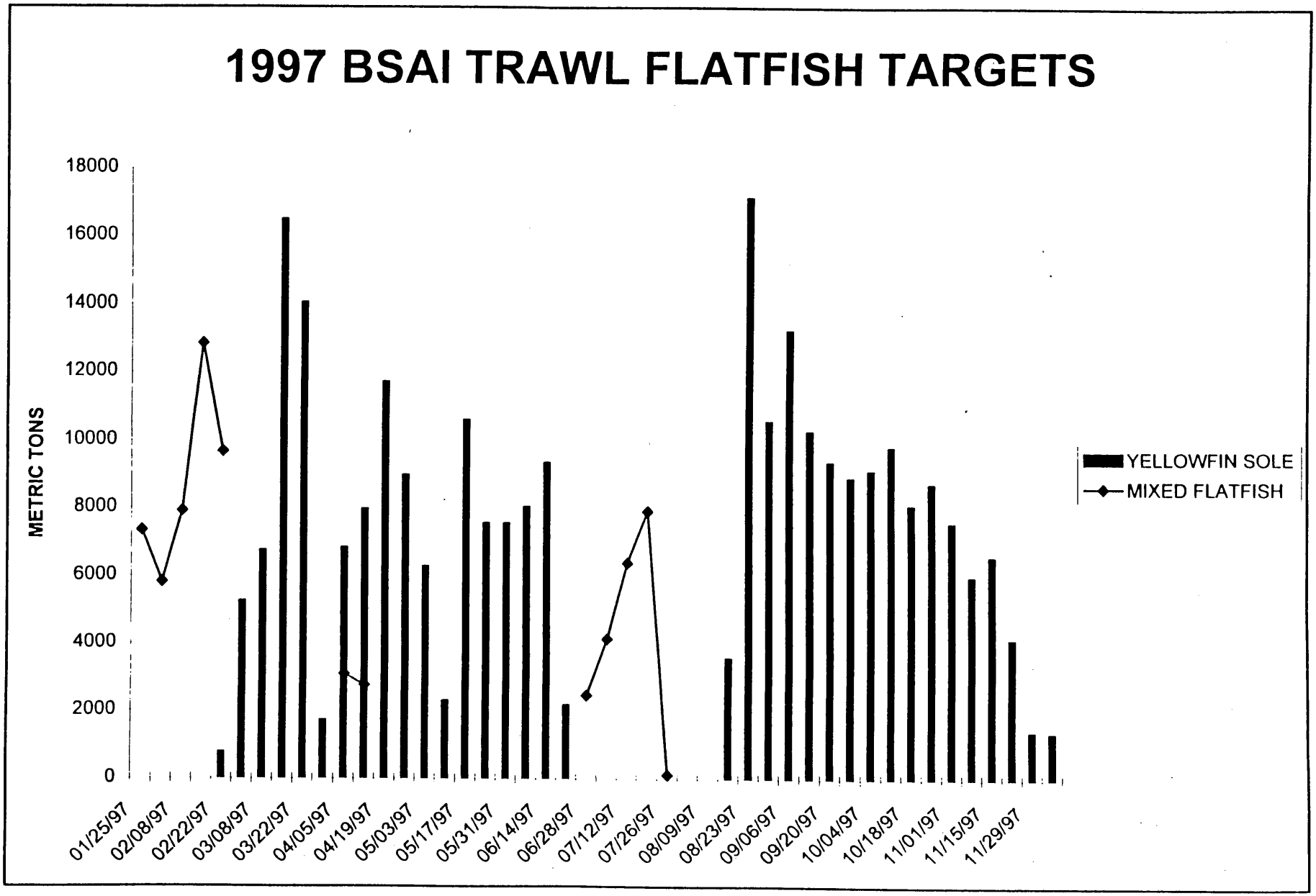
- Total catch weight estimates for each haul or set
- Species composition sampling of catch
- Biological Data (sex, size, etc)
- Marine Mammal interactions

1997 ALEUTIAN ISLANDS
TRAWL ATKA MACKEREL CATCH

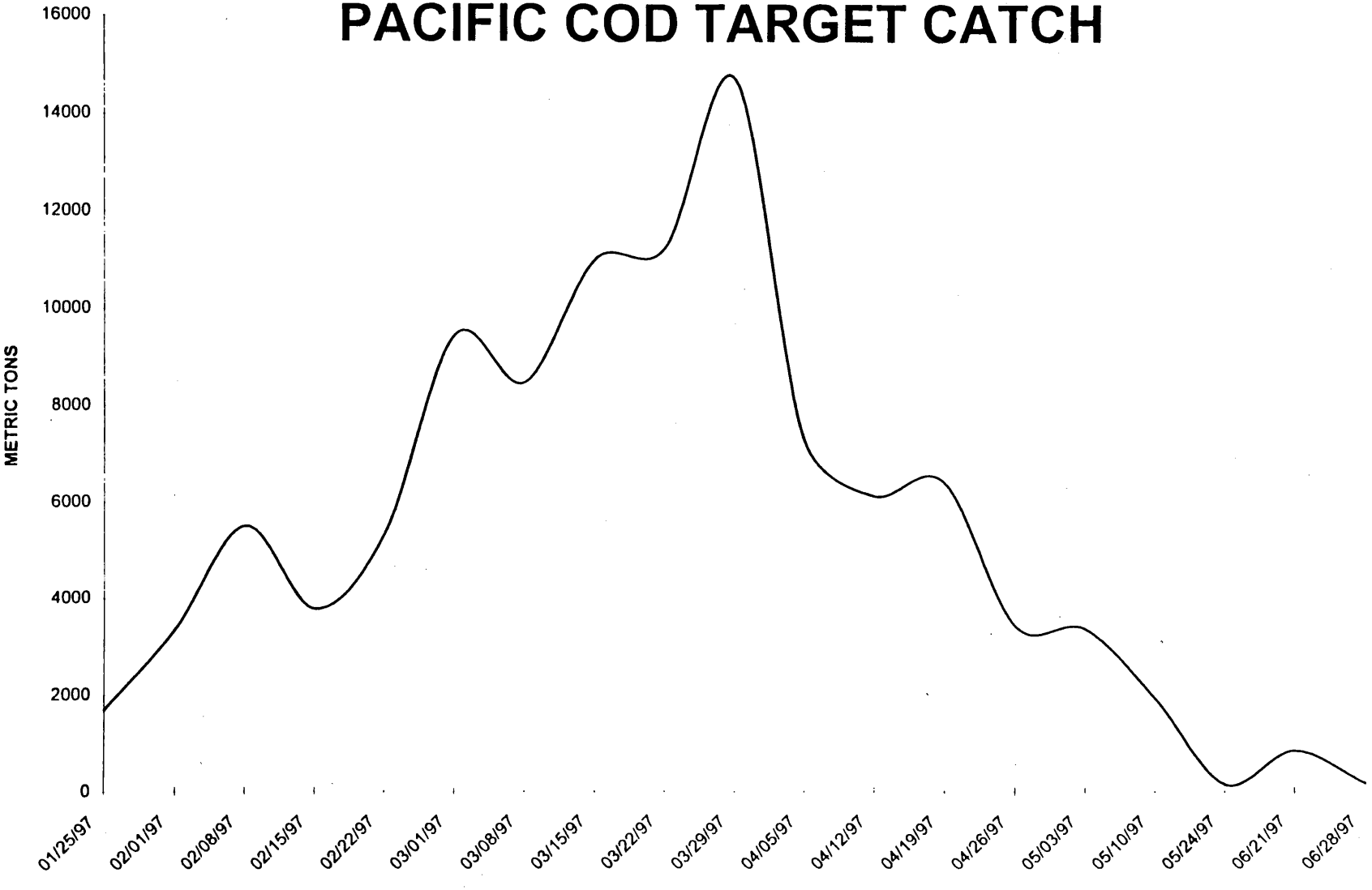


1997 BSAI HOOK-AND-LINE PACIFIC COD CATCH

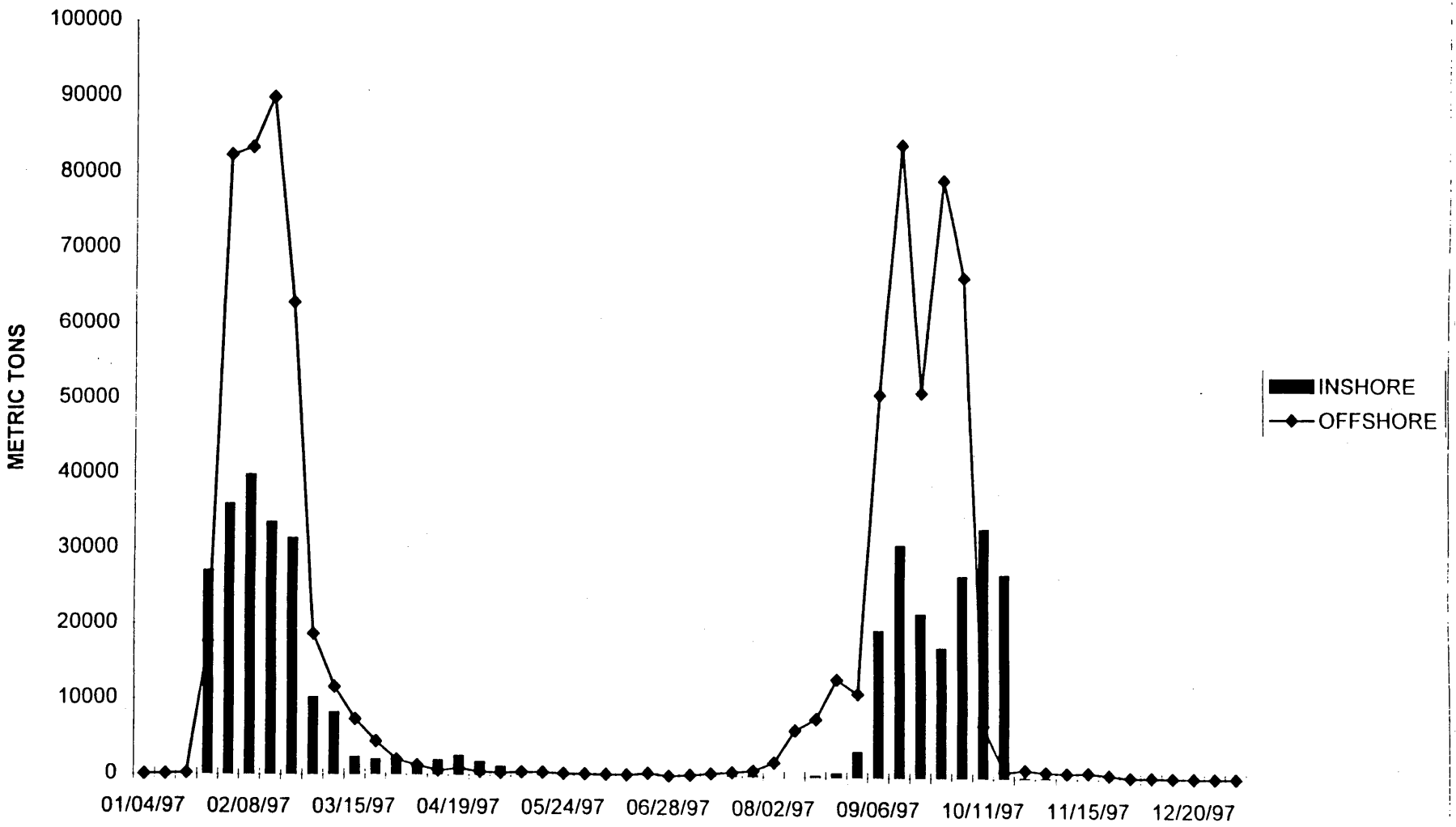



1997 BSAI TRAWL FLATFISH TARGETS
METRIC TONS
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
01/25/97
02/08/97
02/22/97
03/08/97
03/22/97
04/05/97
04/19/97
05/03/97
05/17/97
05/31/97
06/14/97
06/28/97
07/12/97
07/26/97
08/09/97
08/23/97
09/06/97
09/20/97
10/04/97
10/18/97
11/01/97
11/15/97
11/29/97
YELLOWFIN SOLE
MIXED FLATFISH

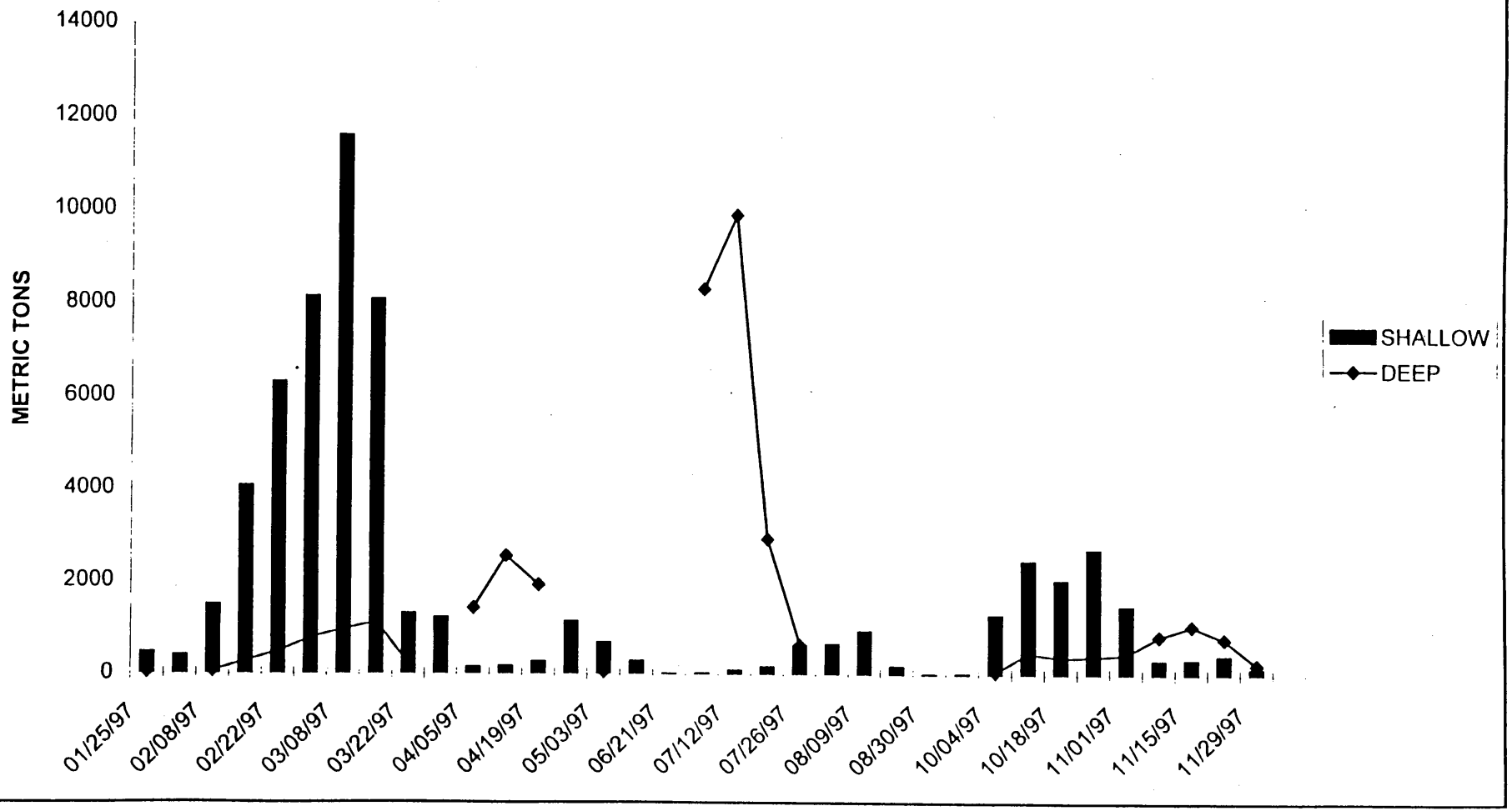
1997 BSAI TRAWL
PACIFIC COD TARGET CATCH



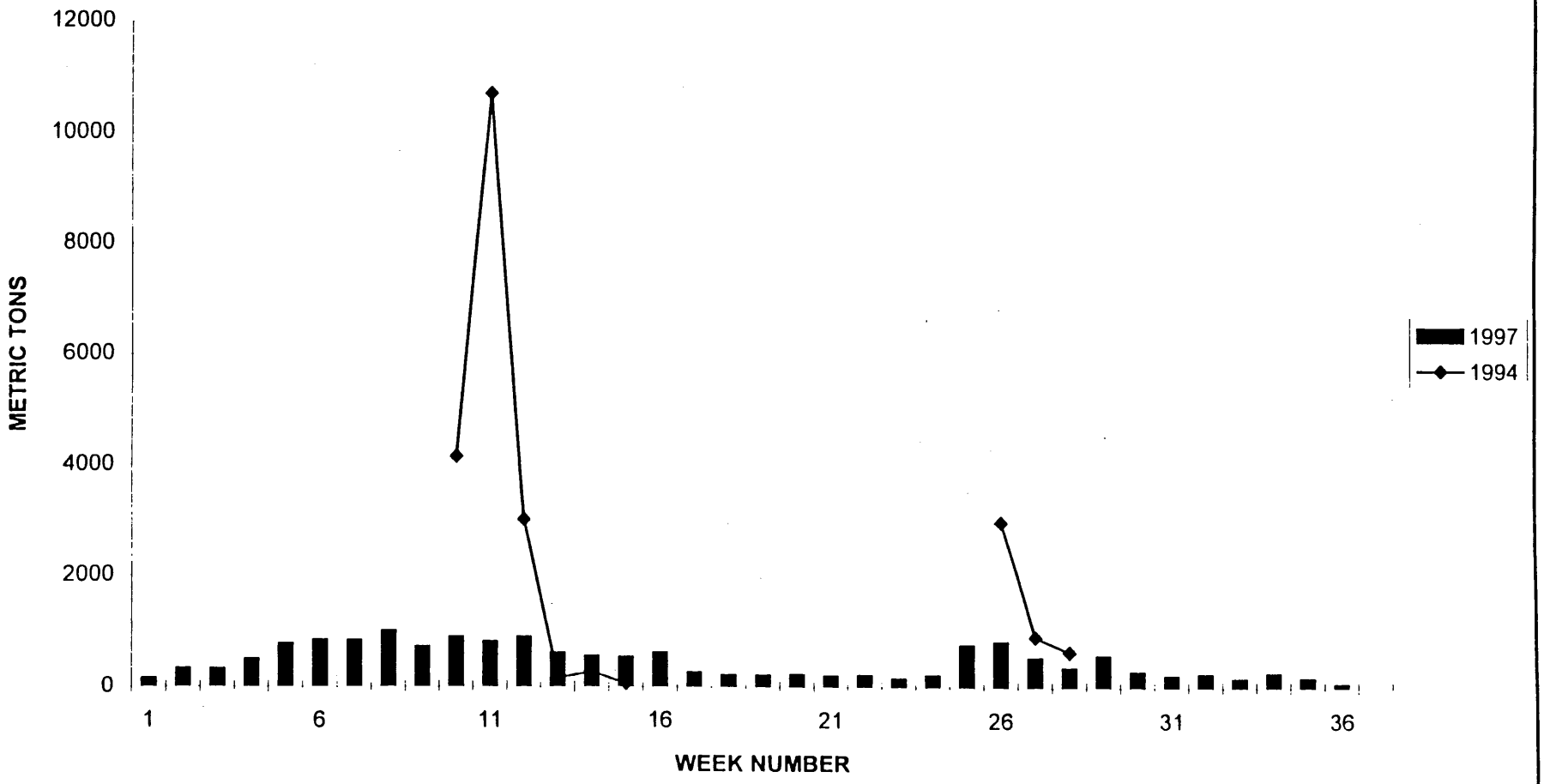
1997 BSAI TRAWL POLLOCK CATCH



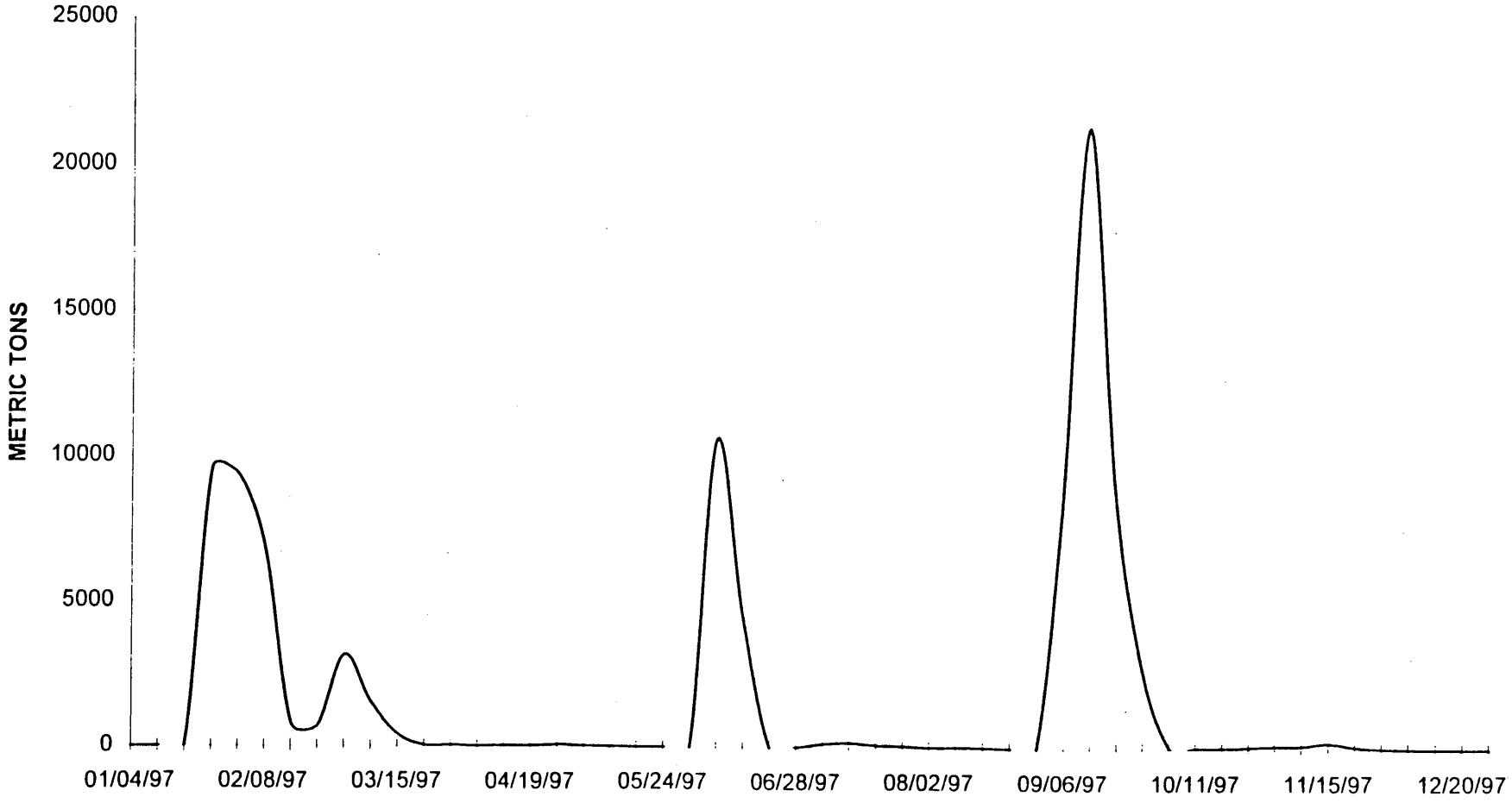
1997 GOA TRAWL CATCH WITHOUT POLLOCK TARGETS



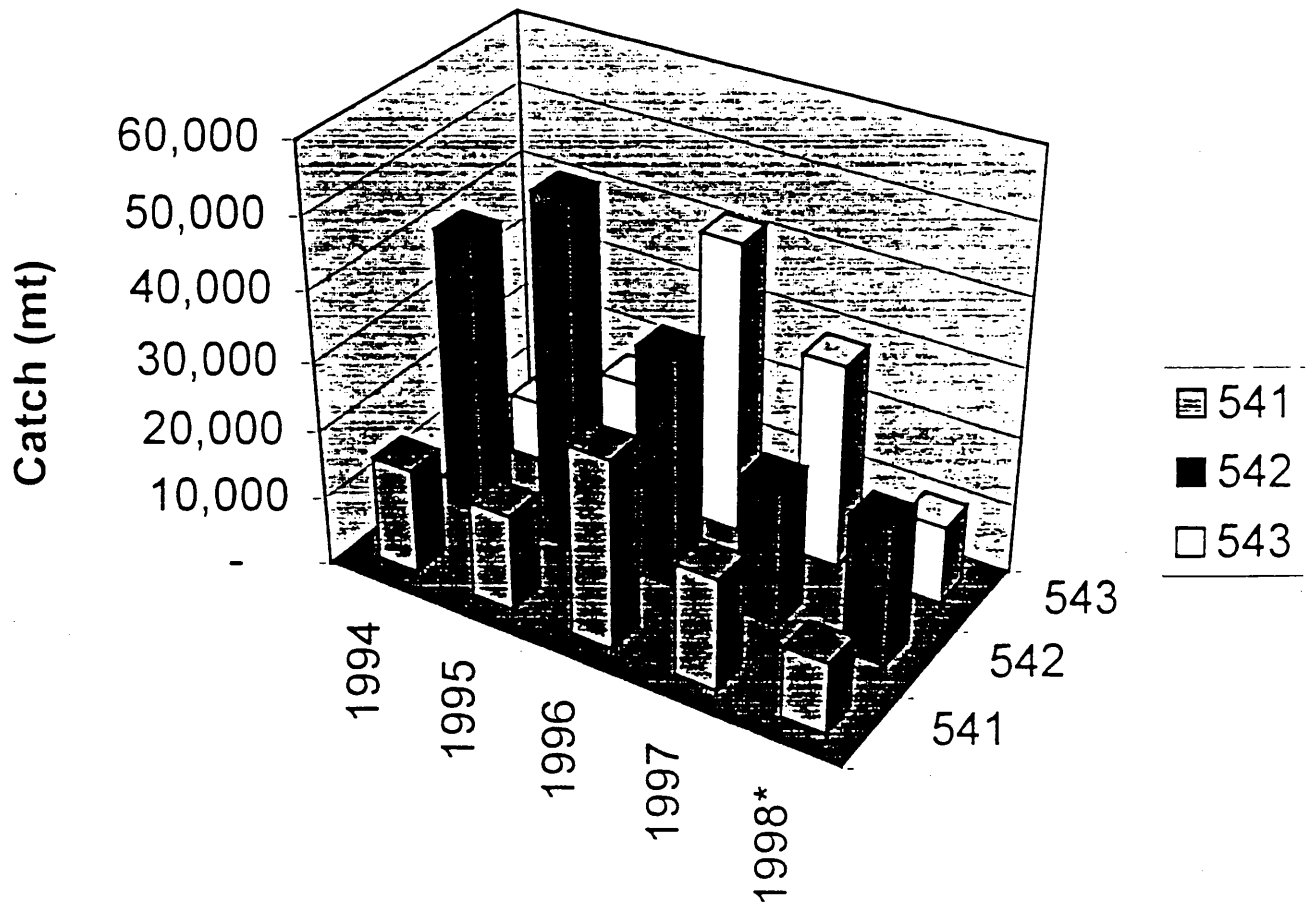
1997 VS 1994 LONGLINE SABLEFISH FISHERY



1997 GOA TRAWL POLLOCK CATCH
INSHORE COMPONENT



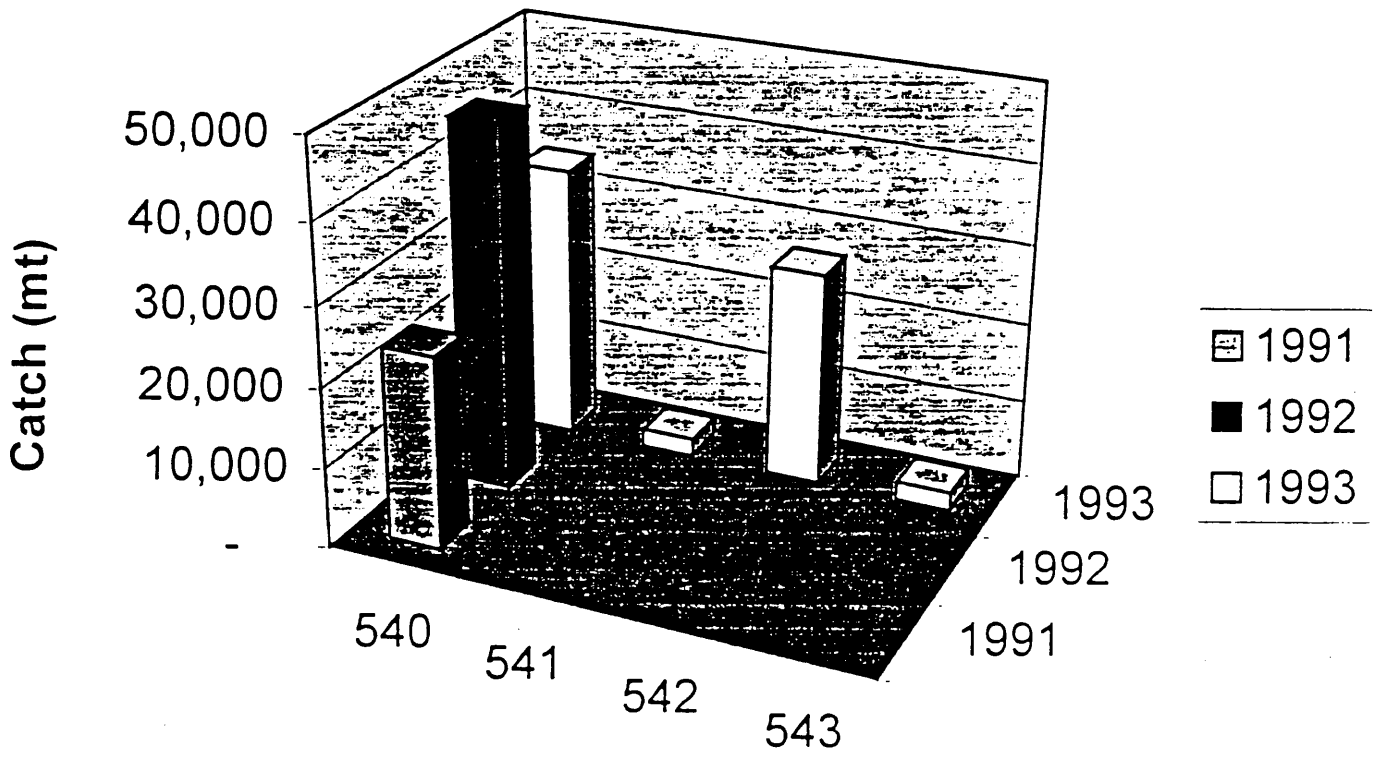
1994-1998 Atka Mackerel Fishery by Reporting Area



	1994	1995	1996	1997	1998*
541	15,258	13,861	27,389	16,138	10,162
542	41,004	50,386	33,523	19,990	19,758
543	8,923	16,967	42,246	29,537	11,111
Total	65,184	81,214	103,158	65,665	41,031

* 1998 data is current through 5/23/98

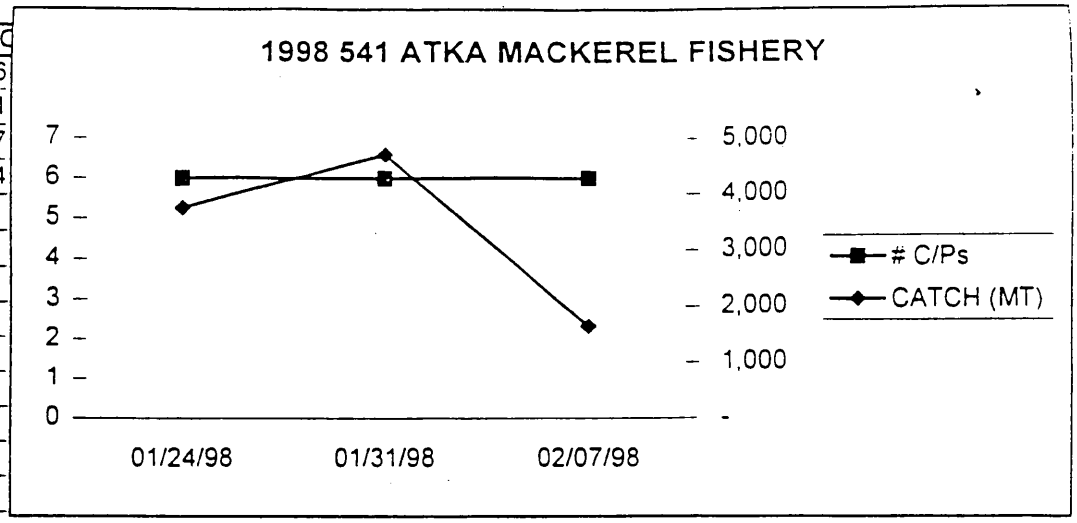
1991-1993 Atka Mackerel Fishery
Catch by Reporting Area



	1991	1992	1993
540	24,140	45,937	34,459
541			2,209
542			26,902
543			2,236
Total	24,140	45,937	65,805

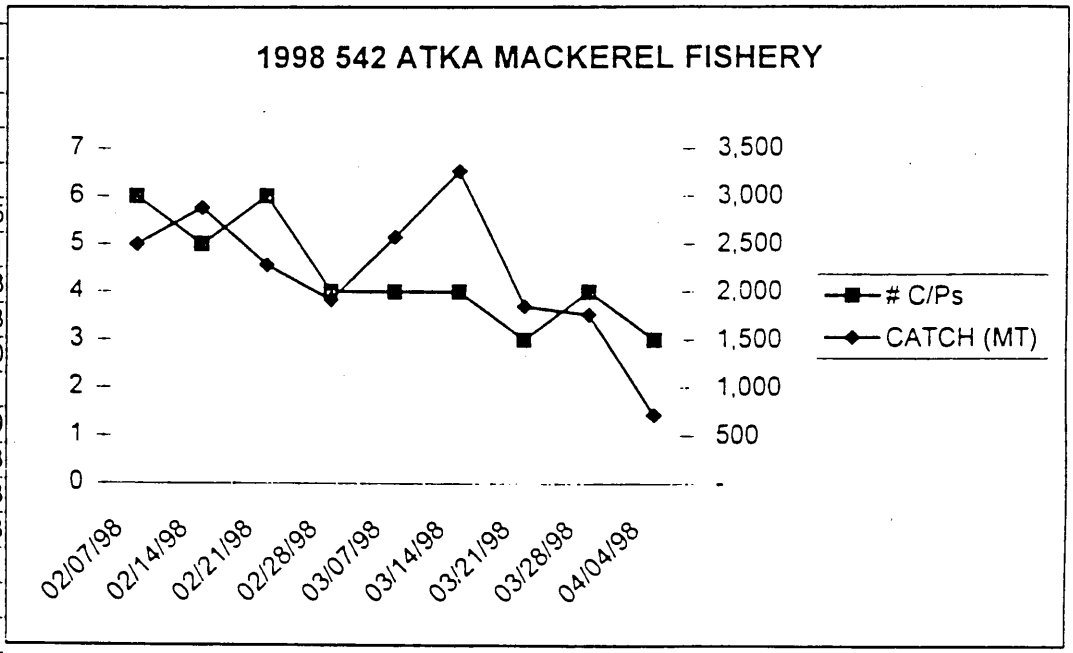
541

WED	untOf	OfSumOfTC
01/24/98	6	3,756
01/31/98	6	4,711
02/07/98	6	1,637
		10,104



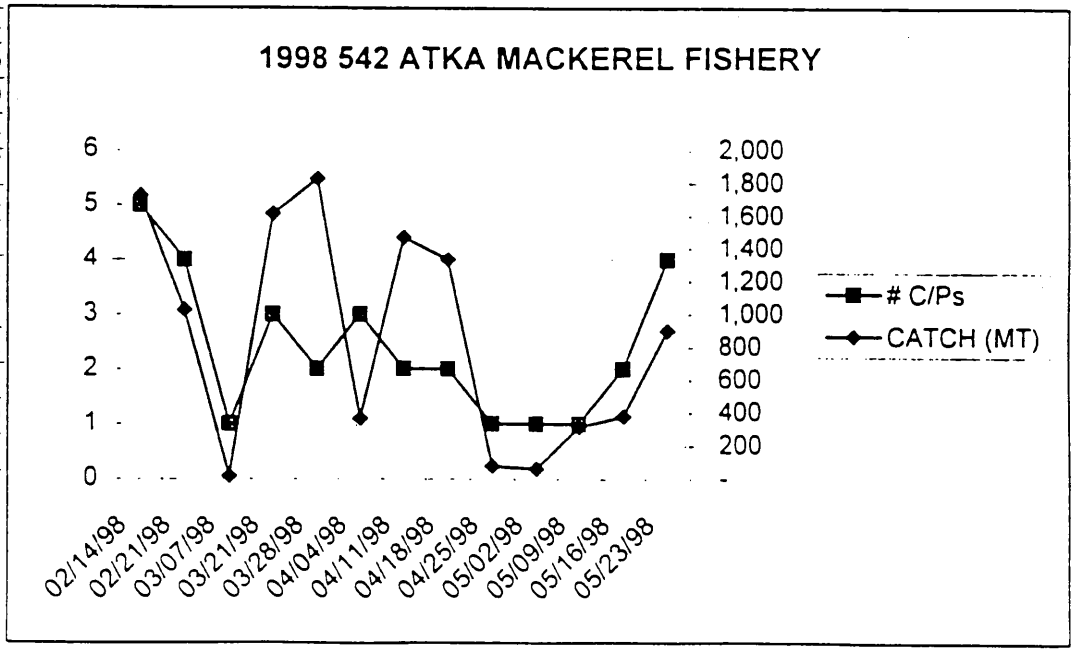
542

02/07/98	6	2,495
02/14/98	5	2,881
02/21/98	6	2,278
02/28/98	4	1,913
03/07/98	4	2,570
03/14/98	4	3,261
03/21/98	3	1,849
03/28/98	4	1,763
04/04/98	3	713
		19,723



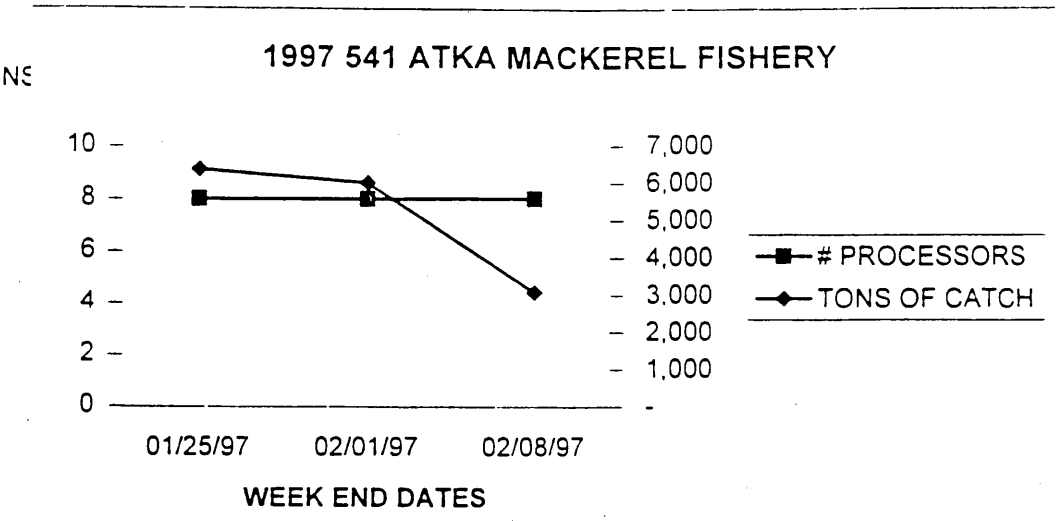
43

02/14/98	5	1,724
02/21/98	4	1,025
03/07/98	1	19
03/21/98	3	1,614
03/28/98	2	1,827
04/04/98	3	364
04/11/98	2	1,471
04/18/98	2	1,333
04/25/98	1	77
05/02/98	1	62
05/09/98	1	314
05/16/98	2	379
05/23/98	4	902
		11,111



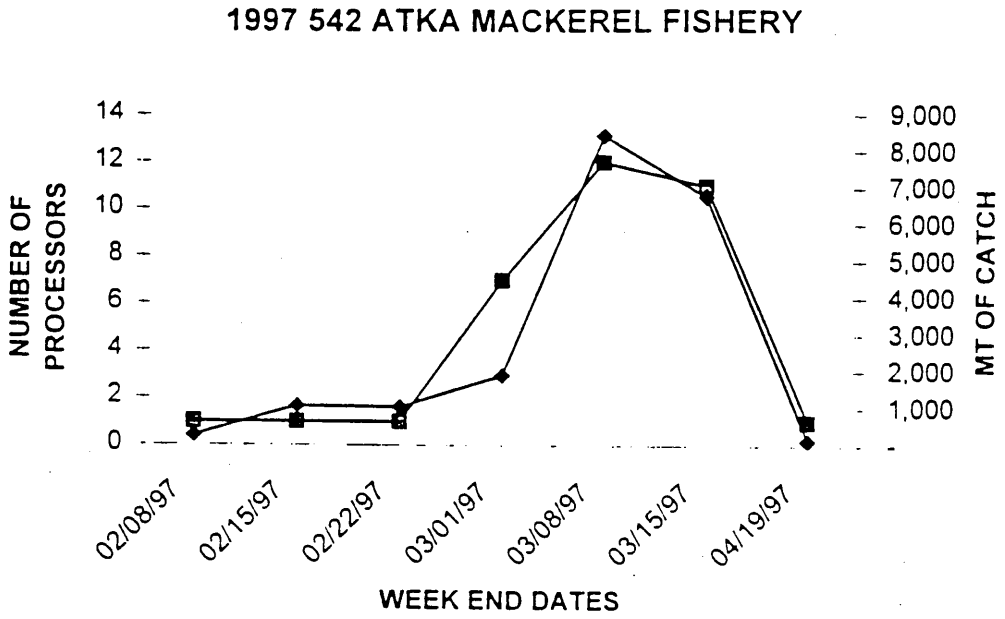
541

WED	nt	OfSumOfTONS
01/25/97	8	6,383
02/01/97	8	6,027
02/08/97	8	3,087
		15,497



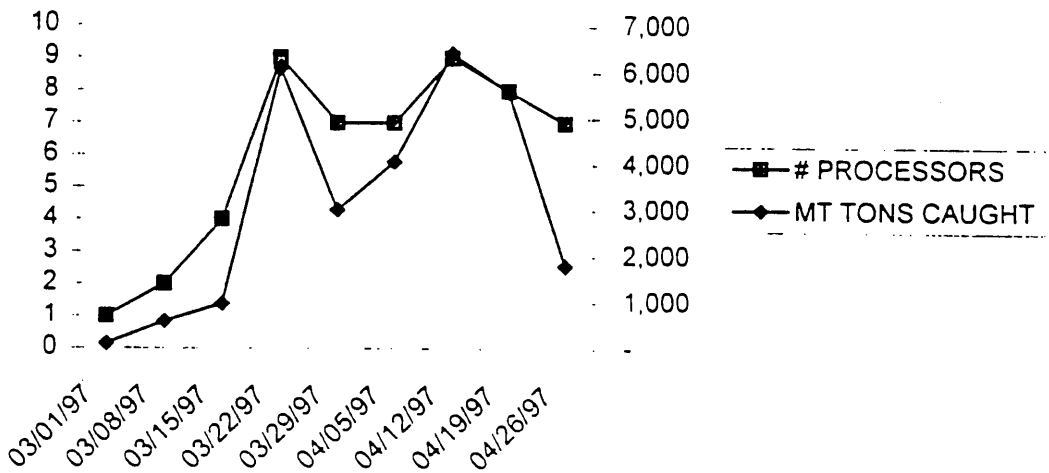
542

02/08/97	1	260
02/15/97	1	1,068
02/22/97	1	1,042
03/01/97	7	1,902
03/08/97	12	8,441
03/15/97	11	6,776
04/19/97	1	134
		19,622



543

03/01/97	1	96
03/08/97	2	581
03/15/97	4	970
03/22/97	9	6,086
03/29/97	7	3,003
04/05/97	7	4,046
04/12/97	9	6,410
04/19/97	8	5,573
04/26/97	7	1,796
		28,560



541

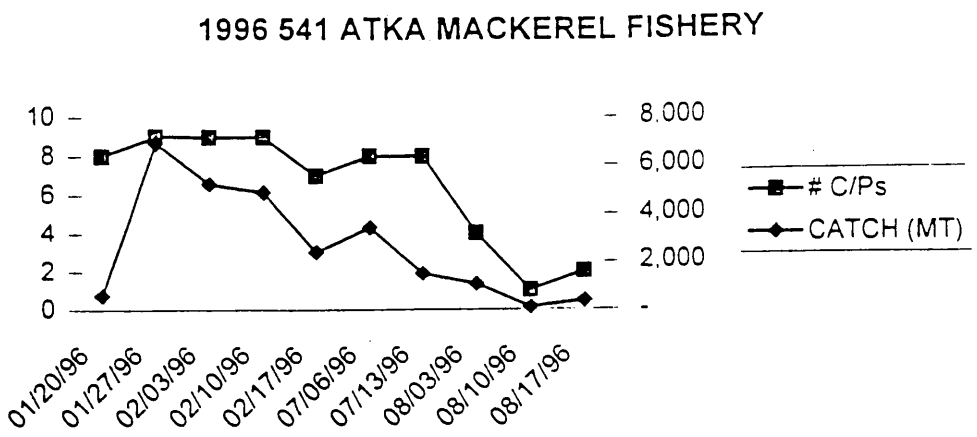
WED	nt	OfSumOfTON
01/20/96	8	591
01/27/96	9	6,909
02/03/96	9	5,273
02/10/96	9	4,916
02/17/96	7	2,422
07/06/96	8	3,458
07/13/96	8	1,509
08/03/96	4	1,072
08/10/96	1	93
08/17/96	2	361
		26,604

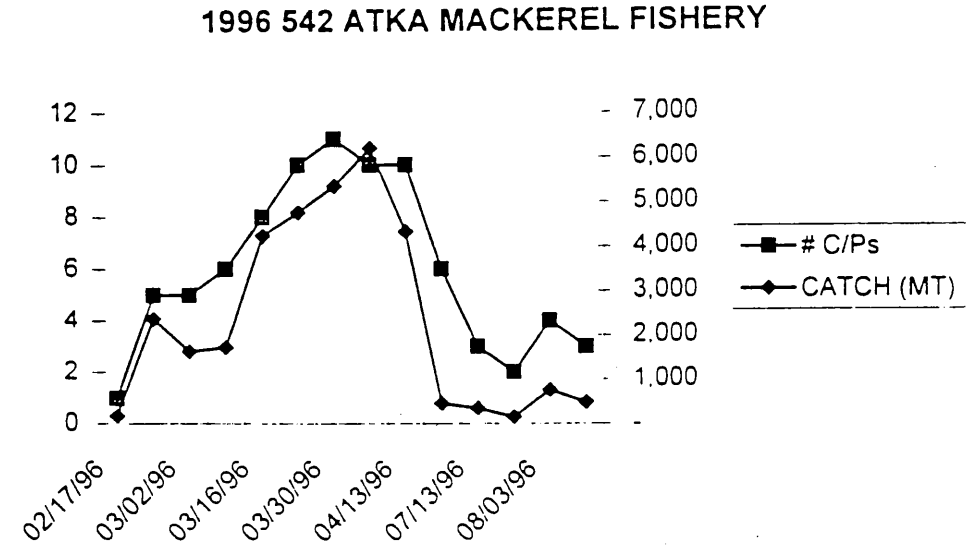
542

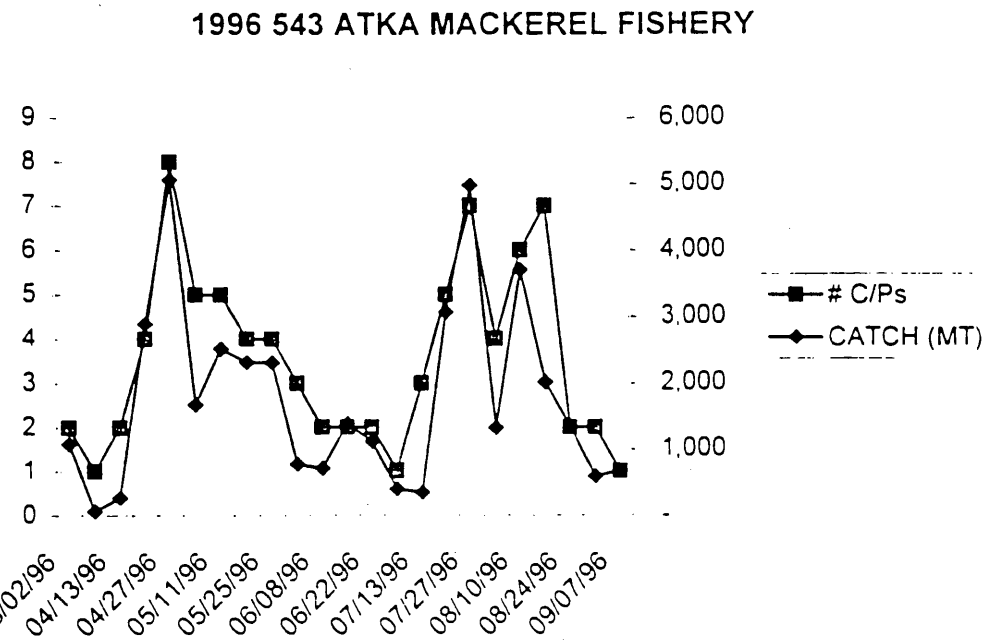
02/17/96	1	175
02/24/96	5	2,378
03/02/96	5	1,630
03/09/96	6	1,723
03/16/96	8	4,245
03/23/96	10	4,767
03/30/96	11	5,353
04/06/96	10	6,200
04/13/96	10	4,333
04/20/96	6	453
07/13/96	3	350
07/27/96	2	153
08/03/96	4	763
08/10/96	3	483
		33,006

543

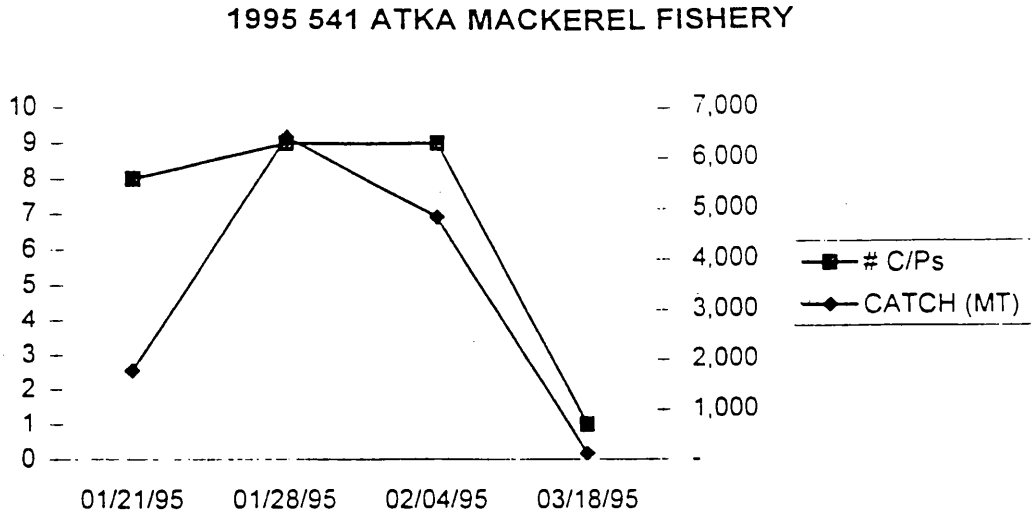
03/02/96	2	1,085
03/30/96	1	65
04/13/96	2	269
04/20/96	4	2,890
04/27/96	8	5,057
05/04/96	5	1,678
05/11/96	5	2,522
05/18/96	4	2,316
05/25/96	4	2,31[illegible]
06/01/96	3	774
06/08/96	2	705
06/15/96	2	1,390
06/22/96	2	1,105
06/29/96	1	389
07/13/96	3	336
07/20/96	5	3,070
07/27/96	7	4,976
08/03/96	4	1,323
08/10/96	6	3,702
08/17/96	7	2,013
08/24/96	2	1,345
08/31/96	2	583
09/07/96	1	676
		40,580





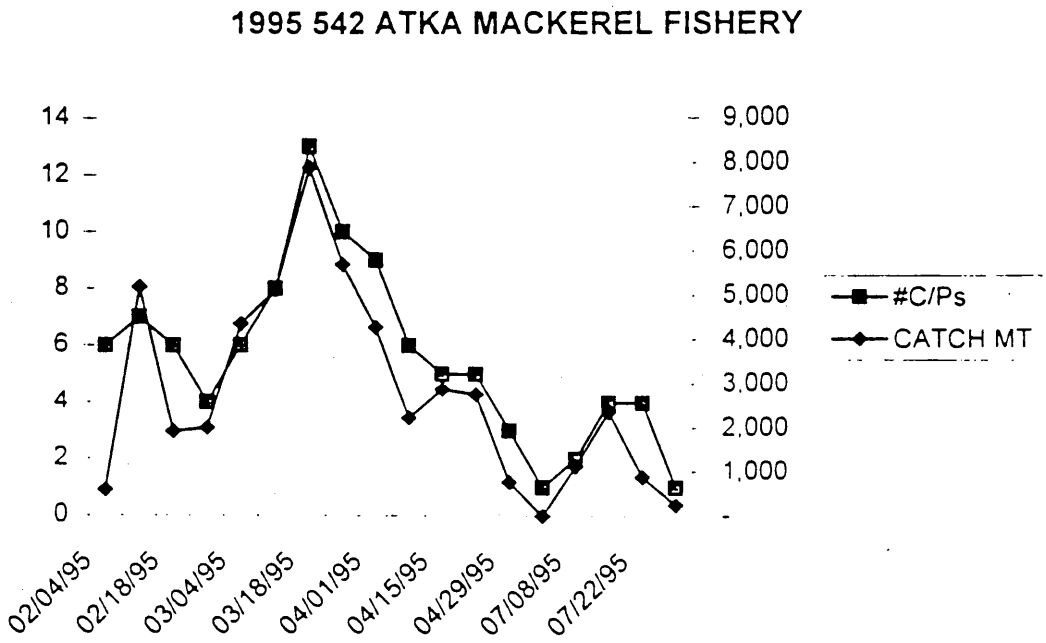


WED	unt	OfSumOfT
1/21/95	8	1,779
1/28/95	9	6,422
2/04/95	9	4,839
3/18/95	1	122
		13,162



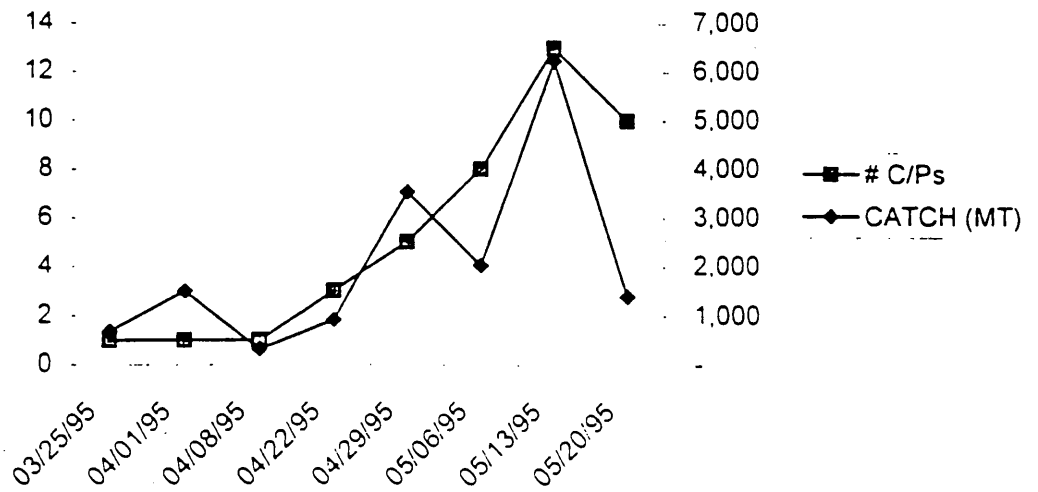
542

02/04/95	6	577
02/11/95	7	5,180
02/18/95	6	1,905
02/25/95	4	1,981
03/04/95	6	4,340
03/11/95	8	5,102
03/18/95	13	7,878
03/25/95	10	5,684
04/01/95	9	4,265
04/08/95	6	2,207
04/15/95	5	2,865
04/22/95	5	2,754
04/29/95	3	758
07/01/95	1	3
07/08/95	2	1,111
07/15/95	4	2,353
07/22/95	4	875
03/18/95	1	251
		50,088



43

3/25/95	1	680
4/01/95	1	1,502
4/08/95	1	315
4/22/95	3	910
4/29/95	5	3,533
5/06/95	8	2,012
5/13/95	13	6,229
5/20/95	10	1,393
		16,572



Appendix 5. Summary of differences between estimates of marine mammal mortality caused incidental to commercial fisheries in Alaska based on log-books and self-reports.

Logbook Data (1989-93) and Fisher Self-Reports (post 1993)

Brian Fadely
National Marine Fisheries Service
Alaska Regional Office
Protected Resources Division

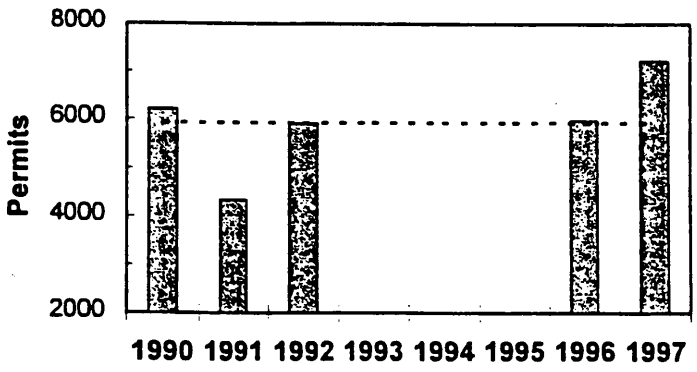
Purpose

- Does the self-reporting program provide an adequate assessment of annual fishery-caused marine mammal injury and mortality rates?

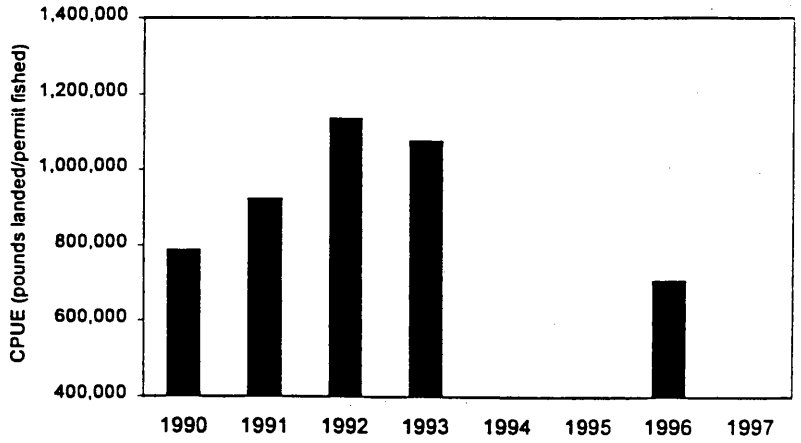
Fisheries selected from MMEP logbook reports (13)

- AK Peninsula salmon drift and set gillnet, purse seine
- AK salmon troll
- Bristol Bay salmon drift and set gillnet
- Cook Inlet salmon drift and set gillnet
- Kodiak salmon set gillnet
- PWS salmon drift and set gillnet
- Southeast salmon drift gillnet
- Yakutat salmon set gillnet

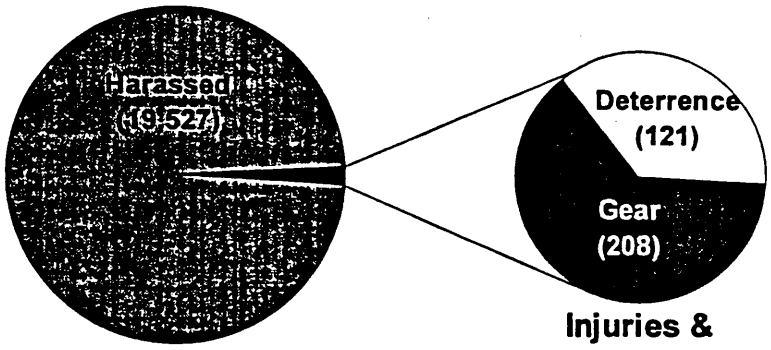
Active Issued or Fished Permits for 13 Selected Alaskan Fisheries



Catch per Unit Effort for 13 Alaskan Salmon Fisheries

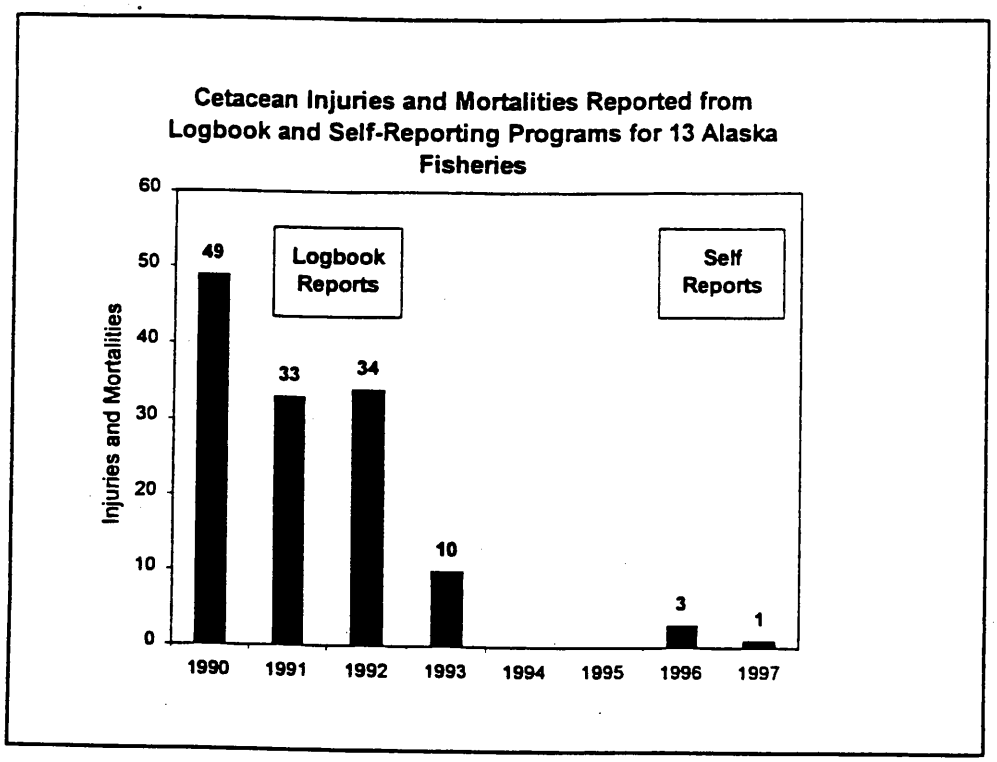


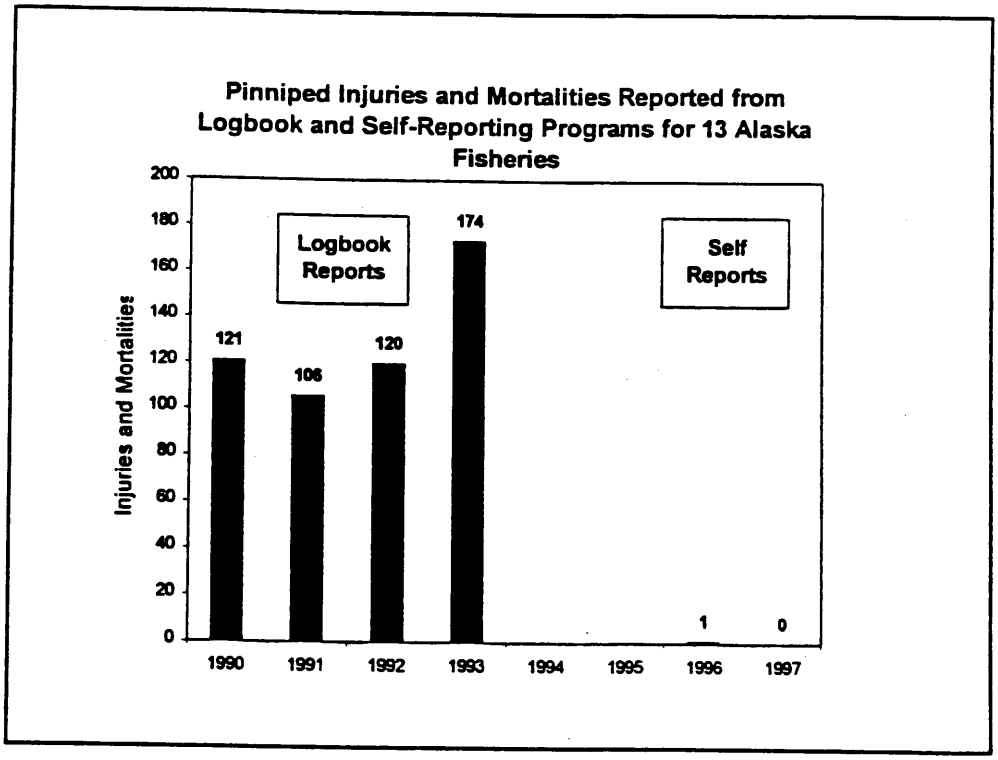
Logbook Program Fishery Take Data
(Mean annual takes, 1990-91, for 13 fisheries)



All Takes (19,855)

Injuries & Mortalities (329)


Cetacean Injuries and Mortalities Reported from Logbook and Self-Reporting Programs for 13 Alaska Fisheries
Injuries and Mortalities
60
50
40
30
20
10
0
49
33
34
10
3
1
Logbook Reports
Self Reports
1990
1991
1992
1993
1994
1995
1996
1997


Pinniped Injuries and Mortalities Reported from Logbook and Self-Reporting Programs for 13 Alaska Fisheries
Injuries and Mortalities
200
180
160
140
120
100
80
60
40
20
0
121
106
120
174
1
0
Logbook Reports
Self Reports
1990
1991
1992
1993
1994
1995
1996
1997

Conclusions/Questions

- Apparent disparity between reporting programs
- Does the self-report program data show:
  - injuries/mortalities = ~0? Or,
  - no data?
- The Category III fisheries factor.

Appendix 6. Recommendations from the 7th meeting of the Alaska Scientific Review Group

1. FWS needs to improve on the lack of coordination with other research and management institutions in Alaska. It also needs to develop a clear plan for the population assessment of walrus in Alaska.

2. NMFS should discontinue the use of self-reports by fishers in calculating annual rates of mortality incidental to commercial fisheries. In support of this management action, NMFS should summarize all available information on the self-reporting into a report as soon as possible.

3. NMFS should consider initiating its observer program for Category II fisheries in the Gulf of Alaska where stocks of major concern (e.g., Cook Inlet beluga whales and western Steller sea lions) are more prevalent, rather than in southeast Alaska.

4. NMFS should develop and initiate an "integrated marine mammal mortality program", in addition to implementing the proposed observer program, which should include the following elements: enforcement, education, and monitoring of poaching, intentional shooting, and mortality incidental to commercial fishing.

NMFS should develop a plan for the monitoring of mortality related to marine mammal subsistence hunting in Alaska, including monitoring of ice seal harvests.

6. NMFS should develop a matrix of actions that may be needed relative to the management of Cook Inlet beluga whales. This matrix should be developed cooperatively with the local hunters and Alaska Native organizations.

7. The AKSRG agrees to do the following prior to their next meeting (fall 1998): 1) the Chair will send a letter to NMFS recommending a replacement for Caleb Pungowiyi; 2) the Chair will send a letter to NMFS regarding the need for additional training of marine mammal biologists and staff in methods for disentangling marine mammals, large whales in particular, from fishing gear and marine debris; 3) the Chair will send a letter to CIMMC the AKSRG's concern over the status of beluga whales in Cook Inlet; 4) the AKSRG will prepare a letter to the Petersburg Vessel Owners Association in response to their letter to the AKSRG (the response will make it clear that the AKSRG is not in a position to implement policy, but can respond with factual information, as required); and 5) AKSRG members will send the Alaska Regional Office (c/o K. Brix) stranding data they have that are not currently included in the NMFS stranding database.