

Public Testimony Sign-Up Sheet


Agenda Item B. Reports

Feb.
2009

| | NAME (PLEASE PRINT) | AFFILIATION |
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NOTE to persons providing oral or written testimony to the Council: Section 307(1)(I) of the Magnuson-Stevens Fishery Conservation and Management Act prohibits any person "to knowingly and willfully submit to a Council, the Secretary, or the Governor of a State false information (including, but not limited to, false information regarding the capacity and extent to which a United State fish processor, on an annual basis, will process a portion of the optimum yield of a fishery that will be harvested by fishing vessels of the United States) regarding any matter that the Council, Secretary, or Governor is considering in the course of carrying out this Act.

MEMORANDUM

TO: Council, SSC and AP Members
FROM: Chris Oliver 
Executive Director
DATE: January 26, 2009
SUBJECT: Protected Resources Report

| |
|---------------------------|
| ESTIMATED TIME 2 HOURS |
|---------------------------|

ACTION REQUIRED

Receive report on Protected Resources issues and take action as necessary.

BACKGROUND

A. Petition to List the Ribbon Seal

Prompted by a petition from the Center for Biological Diversity to list the ribbon seal as threatened or endangered under the ESA, NMFS conducted a scientific review to determine if such a listing is warranted. On December 23, 2008 the Agency announced its 12-month finding that a listing of the ribbon seal is not warranted at this time. The Federal Register notice states "Although the ribbon seal population abundance is likely to decline gradually for the foreseeable future, primarily from slight but chronic impacts on reproduction and survival caused by reduced frequency of years with sea ice of suitable extent, quality, and duration of persistence, it is not in danger of extinction or likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." The NMFS press release is attached as Item B-8(a). The FR notice was sent to you in a Council mailing. Still pending an ESA listing decision are three other ice seals, bearded, ringed, and spotted; NMFS is still conducting a review to determine if such a listing is warranted. And the USFWS is continuing its review to determine if listing the Pacific walrus is warranted. All of these reviews were prompted by petitions and are based in part on concerns over diminishing sea ice.

B. Sea Otter Critical Habitat Designation

On December 16, 2008 the U.S. Fish & Wildlife Service (USFWS) announced a proposed designation of critical habitat for the southwest Distinct Population Segment (DPS) of northern sea otter. The range of the southwest DPS extends from approximately Cook Inlet westward to the end of the Aleutian Islands, and the proposed critical habitat encompasses an area within that range of approximately 15,000 sq km of nearshore, shallow waters in five geographic units. The proposed rule, press release (see Item B-8(b)), and maps of the proposed critical habitat have been available on the USFWS web site, and the FR notice of the Proposed Rule was sent out in a Council mailing. A fact sheet with FAQs is part of Item B-8(b). Staff review of the critical habitat maps indicates that almost the entire geographic area designated as proposed critical habitat is within State waters. The Council may wish to comment. Comments to the USFWS on the proposed rule are due no later than February 17, 2009.

C. Northern Fur Seal Counts

Scientists from the National Marine Mammal Laboratory conducted a survey of northern fur seal pups on the Pribilof Islands in 2008. The number of pups in 2008 on the Pribilof Islands has declined 4.9 % since the 2006 count. NOAA's press release reports that the Pribilof Island birth rate was the lowest since 1916. The Pribilof Islands 2008 male counts showed an increase of 4.6 %. The overall Eastern Pacific fur seal population (all ages)(Pribilof Islands, Bogoslof Island, Sea Lion Rock) was reported to be 721,935 in the 2007 stock assessment report (Angliss and Outlaw 2008)¹ and 665,550 in 2008 (draft SAR²). The NOAA press release and the file report on fur seal counts on the Pribilofs are attached as Item B-8(c).

D. Cook Inlet Beluga Whales

On January 12, 2009 the State of Alaska filed intent to sue the Secretary of Commerce over the recent listing of the Cook Inlet beluga whale as endangered under the Endangered Species Act. Specifically, the State's intended law suit will be over the Secretary's failure a) to adequately consider the body of existing State regulations in place to protect the Cook Inlet beluga, b) to provide an adequate justification for why the State's recommendations were not followed, c) to properly document that the Cook Inlet beluga whales are a distinct population segment, and d) to provide public review comment period on significant studies and documentation used to support the listing. The State's letter and press release are attached as Item B-8(d).

E. North Pacific Right Whales

In July and August 2008, NMML conducted aerial and ship-based surveys of North Pacific Right Whales in the Bristol Bay and Bering Sea region. Aerial observers located whales, and attempts were made to tag one or more right whales. From a total survey of 6,655 n mi of trackline, the surveys led to three sightings of a total of 8 individual right whales. One right whale was successfully tagged with a satellite tag. The survey area and marine mammal sightings are shown on the attached map (Item B-8(e)).

F. Other Protected Resources Information

Attached as Item B-8 (Supplemental) are two additional informational items. One is a Federal Register notice that the trawl closure in Chiniak Gully near Kodiak Island has been rescinded for 2009; NMFS studies of pollock depletion in this area will not occur this year. Also attached is a letter from the Oregon and Washington Departments of Fish and Wildlife requesting that the NMFS Alaska Region move forward with delisting the eastern Distinct Population Segment of Steller sea lion (which is currently listed under the ESA as threatened). The Council previously made that same request.

G. Steller Sea Lions

1. 2008 SSL Nonpup Survey Report

On November 17, 2008, the National Marine Mammal Laboratory (NMML) released a report that summarized the 2008 survey of Steller sea lions in Alaska. NMML reported that this was the first complete survey of the entire western stock of SSL since 2004 and the first complete survey of the

¹ Angliss, R.P. and R.B. Outlaw. 2008. Alaska Marine Mammal Stock Assessments, 2007. NOAA Tech. Memo. NMFS-AFSC-180. 253 p.

²http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2008_draft.pdf

eastern stock of SSL since 2002. The report notes that trends in numbers of adults and juveniles (collectively termed non pups) in the western stock are stable or slightly declining over the period 2004-2008 following a 4-year period of population increase between 2000 and 2004. NMML scientists also indicated that SSL counts in the central and western Aleutian Islands are declining, the eastern Aleutians and eastern GOA is increasing, with the remainder of the GOA showing an increase from 2004-2007 but a decline from 2007-2008. The Council requested that a presentation of the 2008 SSL surveys be provided to the Council at their February 2009 meeting, including a comparison of trends over the period 2000-2008. Specifically, the Council requested a data report that provides:

- The aggregate nonpup count trends in each of the wSSL subregions in Alaska in total numbers and as a percent for the period 2000-2008
- The nonpup count increase or decrease in each of the wSSL subregions in Alaska for the period 2000-2008
- The pup count trends in each of the wSSL subregions, and in the aggregate, for the period 2000-2005 (when the most recent pup survey was completed)

This report is attached as Item B-8(f). Staff from NMML will present the 2008 survey report and answer questions.

2. Update on Consultation and Schedule for Release of the *Status Quo* Biological Opinion

At this meeting, the Council is scheduled to receive an update from the NMFS Protected Resources Division (PR) and Sustainable Fisheries Division (SF) on the schedule for preparation and release of the draft *status quo* Biological Opinion. Previously, during the Council's October 2008 meeting, PR had provided two schedules for the draft *status quo* BiOp – one schedule if a jeopardy and/or adverse modification of designated critical habitat (JAM) were determined, and another schedule if no JAM determination were made. The Council requested an update at this meeting on possible schedules, and further discussion of how the Council process would be involved in potential development of RPAs.

3. Aleutian Islands/Bering Sea P. Cod Split

At its December 2008 meeting, the Council received a discussion paper on dividing BSAI Pacific cod sector allocations between the BS and AI. The intent of the action is to provide direction to NMFS regarding how to establish sector allocations in the BS and AI management areas should separate TACs be issued in a future specifications process. However, the Council noted that splitting cod between the AI and BS is complicated by the ongoing Endangered Species Act consultation process and the development of a new *status quo* Biological Opinion (BiOp) on the effects of the current Alaska groundfish fisheries on ESA-listed species, particularly Steller sea lions. The draft *status quo* BiOp is currently scheduled for release in August 2009. Of concern is the unknown conclusion of the BiOp; that is, the BiOp may include a jeopardy or adverse modification of designated critical habitat conclusion. Mitigation measures resulting from such a conclusion could affect the current management regime for the BSAI Pacific cod fishery.

The Council also expressed concern over interrupting the process of developing this BiOp by changing P. cod management in the BSAI (by consulting on proposed BS and AI sector allocations) and whether that would delay preparation of the BiOp by diverting staff resources. Given that a new BiOp is being developed, which may conclude jeopardy and/or adverse modification of habitat and require mitigation measures, it will be very difficult to simultaneously propose changes to P. cod management and continue development of the BiOp.

At the December 2008 meeting, the Council discussed establishing a committee that could provide a recommendation on dividing Pacific cod sector allocations between the AI and BS that would be reflect current catch patterns of the sectors. The Council also discussed having the Steller Sea Lion Mitigation Committee review this issue in relation to current Pacific cod proposals the committee is reviewing. In the end, the Council opted to discuss the direction of this action after receiving the *status quo* BiOp schedule (see above) and the Council may wish to further explore issues associated with a P. cod split in light of that schedule.

National Oceanic and Atmospheric Administration

NOAA Fisheries

National Marine Fisheries Service, Alaska Regional Office

NOAA Fisheries News Releases

NEWS RELEASE

December 23, 2008

Connie Barclay, Public Affairs

(301) 713-2370

NOAA DETERMINES RIBBON SEALS SHOULD NOT BE LISTED AS ENDANGERED

NOAA today announced that ribbon seals are not in current danger of extinction or likely to become endangered in the foreseeable future, and should not be listed under the Endangered Species Act.

On Dec. 20, 2007, the Center for Biological Diversity petitioned NOAA's Fisheries Service to list the ribbon seal under the Endangered Species Act. The petition said the seal faced extinction by the end of the century due to rapid melting of sea ice resulting from global warming. Sea-ice in the Bering Sea, Sea of Okhotsk, Sea of Japan, Chukchi Sea, and Beaufort Sea is the seal's primary habitat. Today's announcement is the result of NOAA's review of this petition and the condition of the ribbon seal.

"Our scientists have reviewed climate models that project that annual ice, which is critical for ribbon seal reproduction, molting and resting, will continue to form each winter in the Bering Sea and the Sea of Okhotsk where the majority of ribbon seals are located," said Jim Balsiger, NOAA's acting assistant administrator for fisheries.



A male ribbon seal, resting on pack ice off the coast of the Kamchatka Peninsula, watches NOAA researchers during a spring 2005 expedition. Photo: Vladimir Burkanov, NOAA Fisheries

From March to June, ribbon seals use sea ice. As the ice melts during May and June, the seals haul out along the receding ice edge or in remnant patches of ice. Once the annual ice melts, most ribbon seals either migrate through the Bering Strait into the Chukchi Sea or remain in the open water of the Bering Sea during the rest of the year.

Although the number of ribbon seals is difficult to estimate accurately, scientists believe that at least 200,000 ribbon seals inhabit the Bering Sea and the Sea of Okhotsk.

Commercial hunting for ribbon seals is prohibited in the United States. Alaska Natives take a small number—fewer than 200—each year for subsistence. Russia allows a harvest of ribbon seals, but there is currently no organized harvest industry and the number of seals taken is likely to be very low.

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On the Web:

NOAA's Alaska Fisheries Science Center

NOAA's Fisheries Service Alaska Region



U.S. FISH AND WILDLIFE SERVICE
Region 7 - Alaska
1011 East Tudor Road
Anchorage, Alaska 99503
(907)786-3309 (TDD Available)

News

08-24

For Immediate Release
December 16, 2008

Contact: Douglas Burn (907) 786-3807
Bruce Woods (907) 786-3695

CRITICAL HABITAT PROPOSED FOR SOUTHWEST ALASKA SEA OTTERS

The U.S. Fish and Wildlife Service has proposed the designation of a total of approximately 15,000 square kilometers of near-shore, shallow waters in five separate critical habitat units for the southwest Alaska Distinct Population Segment (DPS) of the northern sea otter. Since 2005, this population of otters has been protected as a threatened species under the Endangered Species Act (ESA). The proposed rule, which includes the announcement of the opening of a 60-day comment period, was published today in the *Federal Register*.

A critical habitat designation identifies geographic areas that contain the specific habitat elements essential for the conservation of the species. The designation would have no influence on private land unless proposed activities there are federally permitted or funded. The physical and biological features believed to be essential to sea otter conservation are those that provide cover and shelter from marine predators, especially killer whales. These areas primarily consist of shallow (less than 20 meters deep), nearshore (within 100 meters of the mean tide line) waters.

The Service is proposing critical habitat in five discrete units considered important to the recovery of the otter. From west to east, these are: (1) Western Aleutian Unit; (2) Eastern Aleutian Unit; (3) South Alaska Peninsula Unit; (4) Bristol Bay Unit, and (5) Kodiak, Kamishak, Alaska Peninsula Unit.

Sea otters are a member of the weasel family (*Mustelidae*) and live in the nearshore waters along the North Pacific Ocean. They are the smallest marine mammals, and are most closely related to river otters. Historically, sea otters occurred in near shore waters around the North Pacific rim from Hokkaido, Japan through the marine coastal areas of the Russian Far East and the Pacific coastal areas in the United States as far south as Baja California. The world-wide sea otter population was drastically reduced to just a few hundred animals between 1742 and 1911, due to commercial harvest by the Russian and Russian/American fur trades. Three populations of sea otters exist in Alaska today. The statewide population is believed to number around 70,000 animals.

Once critical habitat has been designated, federal agencies that undertake, fund or permit activities that may affect critical habitat are required to consult with the Service to ensure such actions do not adversely modify or destroy designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands or limit public access to public or private lands and waters.

The Service does not anticipate that designation of critical habitat for the southwest Alaska DPS of the northern sea otter will result in any closure of commercial fishing in southwest Alaska. Sea otters eat primarily benthic (bottom-dwelling) invertebrates; for example, in the Aleutians their diet consists mostly of sea urchins, crabs, octopus, and some bottom fishes. Because of their dependence on benthic prey items, sea otters spend the vast majority of their time in shallow water, typically close to the shore,

and this preference is reflected in those areas proposed for critical habitat designation. The Service recently worked with the Alaska Department of Fish and Game to analyze that agency's commercial fishing database. The results indicated that the species which otters most often prey upon have little or no commercial interest. In addition, the areas proposed as critical habitat, as described above, are not areas where significant commercial fishing occurs.

This proposed rule was prepared in response to a court order resulting from a lawsuit filed in 2006 against the Service by the Center for Biological Diversity. Today a 60-day public comment period opens during which people may submit comments on the proposed designation. All comments will be read and evaluated. A Final Rule will then be published in the Federal Register. The final critical habitat designation will include a "Comments and Response" section that will address the major points raised during the public comment period. Public comments will be accepted for 60 days following the December 16, 2008 publication of the proposed rule in the Federal Register, and can be submitted by mail or hand-delivered to the Marine Mammals Management Office address below or at the Federal eRulemaking Portal at <http://www.regulations.gov>).

The proposed rule, with accompanying information, is available on the internet at <http://alaska.fws.gov/fisheries/mmm/seaotters/criticalhabitat.htm> or from the Marine Mammals Management Office at the U.S. Fish and Wildlife Service's Alaska Regional Office, 1011 East Tudor Road, Anchorage, Alaska, 99503. You can also obtain a copy via fax by calling (907) 786-(3800).

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people. We are both a leader and trusted partner in fish and wildlife conservation, known for our scientific excellence, stewardship of lands and natural resources, dedicated professionals and commitment to public service. For more information on our work and the people who make it happen, visit www.fws.gov.



U.S. Fish & Wildlife Service

Sea Otter Critical Habitat in Southwest Alaska

On December 16, 2008, the U.S. Fish and Wildlife Service (Service) published a proposal to designate critical habitat for the threatened northern sea otter in southwest Alaska.

What does the term "critical habitat" mean?

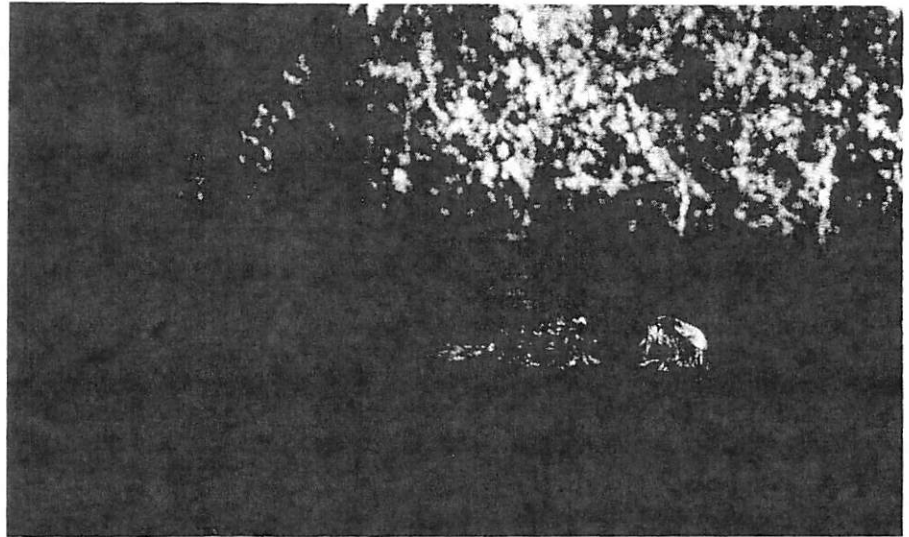
"Critical habitat" is a term in the Endangered Species Act (ESA) that identifies geographic areas that contain the specific habitat elements essential for the conservation of a threatened or endangered species, and which may require special management considerations or protection. Federal agencies that undertake, fund or permit activities that may affect critical habitat are required to consult with the Service to ensure such actions do not adversely modify or destroy designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands or limit public access to public or private lands and waters.

Where is the proposed critical habitat?

The southwest Alaska distinct population segment (DPS) of the northern sea otter range is from the end of the Aleutian Islands to lower western Cook Inlet, and includes the Kodiak Archipelago. The Service proposes critical habitat in five discrete units considered important to the recovery of the northern sea otter. From west to east, these are: (1) Western Aleutian Unit; (2) Eastern Aleutian Unit; (3) South Alaska Peninsula Unit; (4) Bristol Bay Unit, and (5) Kodiak, Kamishak, Alaska Peninsula Unit. Within these five discrete units, critical habitat is proposed for nearshore marine waters ranging from the mean high tide line seaward for a distance of 100 meters, or to a water depth of 20 meters (see map).

What will happen after proposal to designate critical habitat is published in the *Federal Register*?

Publication of this proposal will not change anything right away. There



Sea otters are often found in shallow, nearshore marine waters.

is a 60-day public comment period during which people may submit comments on the proposed designation. All comments will then be read and evaluated. Critical habitat would not be officially designated until a Final Rule is published in the *Federal Register* in the fall of 2009.

How can I participate in the process?

Comments can be submitted by mail or hand-delivered to the Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, Suite 222; Arlington, VA 22203 or at the Federal eRulemaking Portal at <http://www.regulations.gov>. The Final Rule, published in the *Federal Register*, will include a "Comments and Response" section that will address the major points raised during the public comment period.

How will designation of critical habitat impact human activities in southwest Alaska?

Once critical habitat has been designated, federal agencies that undertake, fund or permit activities (a Federal nexus) that may affect critical habitat are required to consult with the Service to ensure such actions do not adversely modify or destroy designated critical habitat. The designation of

critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands or limit public access to public or private lands and waters.

Activities with no Federal nexus are not subject to the critical habitat consultation requirements. For example, oil and gas development within critical habitat would, if federal permitting or federal funding were involved, require consultation with the U.S. Fish and Wildlife Service. However, if no Federal permits or funds were involved in such a project, consultation with the Service would not be required. Since August 2005 when sea otters were first listed as threatened, section 7 consultations have not stopped a single human activity in southwest Alaska.

Why was critical habitat not proposed in the Final Rule listing the species in 2005?

Critical habitat for the southwest Alaska DPS of the northern sea otter was not determinable at the time of listing. When the Service requested public comments on the Proposed Rule, it requested information regarding features and specific areas that might

have helped designate critical habitat. The Service did not receive sufficient information at that time to designate critical habitat. When critical habitat is not determinable, the Service has 1 year from the time of listing to propose designation of critical habitat. That 1-year period has passed, and we are now required to designate critical habitat for this population of the northern sea otter.

Would the designation of critical habitat close commercial fishing in southwest Alaska, similar to what happened with Steller sea lions?

We do not anticipate that designation of critical habitat for the southwest Alaska DPS of the northern sea otter will result in closure of commercial fishing in southwest Alaska. Although there is some overlap in the range of the Steller sea lion and the southwest Alaska DPS of the northern sea otter, the two species are very different.

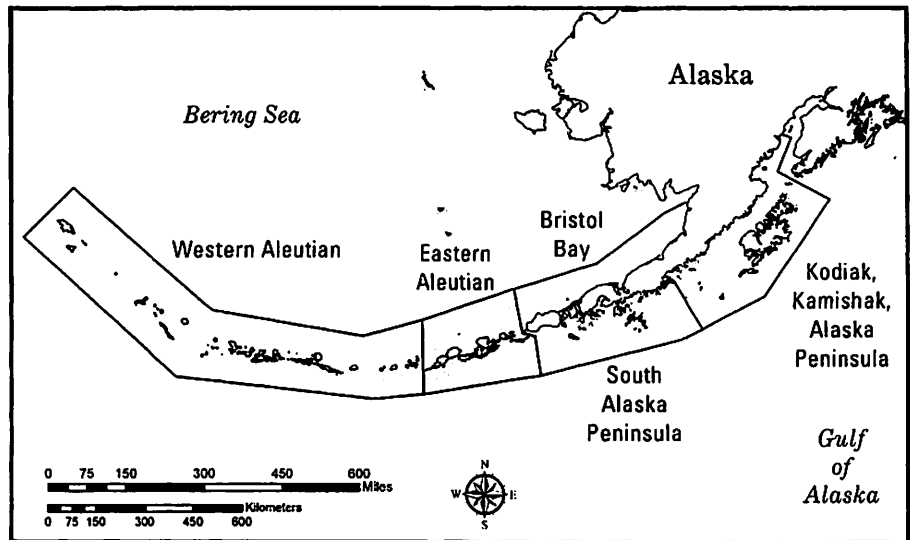
Steller sea lions are fish eaters, and they congregate in large numbers at specific sites known as haulouts and rookeries but feed in open waters.

Sea otters eat primarily benthic (bottom-dwelling) invertebrates; for example, in the Aleutians their diet consists mostly of sea urchins, crabs, octopus, and some bottom fishes. In addition, they require cover and shelter from marine predators, especially killer whales. The areas it requires for food and cover are primarily shallow (less than 20 meters deep), nearshore (within 100 meters of the mean tide line) waters.

In addition, the area that we are proposing to designate as critical habitat for sea otters is only 4% of the area designated for Steller sea lions. Much of the proposed sea otter critical habitat is contained within existing Steller sea lion critical habitat.

What are some of the theories about why the sea otter population has declined?

In the Aleutian Islands, where the bulk of research on the sea otter decline has occurred, there is no evidence that the decline has been caused by starvation, disease, or contaminants. The weight of evidence suggests that increased predation by killer whales



Location of proposed critical habitat units. Only areas that meet the definition of critical habitat within these units would be designated as critical habitat.

(*Orcinus orca*) is the most likely cause of the decline. There is substantial disagreement within the scientific community regarding why killer whales may have increased their predation of sea otters.

Why would killer whales have started eating sea otters?

In a paper published in the October 16, 1998 issue of *Science*, researchers hypothesized that killer whales may have begun eating sea otters in response to declines in other prey items, specifically harbor seals and Steller sea lions. Declines in those species are believed to be due to changes in the composition and abundance of forage fish, possibly as a result of commercial fishing practices and environmental changes. The role of climate change in the sea otter decline is unknown.

If killer whales are the cause of the decline, how does this critical habitat designation address the problem?

Surveys over the past several years indicate that the majority of the sea otters that remain in the Aleutian Islands are found close to shore in shallow water or dense kelp beds. These areas may provide sea otters with protection from predators, such as

killer whales. By protecting these areas from modification or destruction, we can insure that the remaining sea otters have places where they can go to escape from predators.

Are sea otters hunted today?

Yes, to a limited extent. The Marine Mammal Protection Act of 1972 (MMPA) prohibits the "take" of marine mammals, which includes sea otters. Under the MMPA, take is defined as "hunt, harass, capture, or kill." The MMPA provides an exemption for Alaska Natives, who are allowed to hunt marine mammals for subsistence purposes and to create and sell authentic articles of handicraft and clothing made from marine mammal parts. The ESA also includes a provision that would allow Alaska Native residents of coastal villages to conduct subsistence harvesting of listed sea otters.

Will subsistence hunting be affected by this action?

No. The ESA (like the MMPA) has a provision that allows Alaska Natives to harvest listed species for subsistence purposes. This provision does not constitute a Federal nexus, so there is no consultation required under Section 7 of the ESA.

U.S. Fish & Wildlife Service
1 800/344 WILD
<http://www.fws.gov>

Cover photo courtesy of Randall Davis,
Texas A&M University

December 2008

For more information please contact:
Douglas Burn 907/786 3800
Douglas_Burn@fws.gov

U.S. Fish & Wildlife Service
Marine Mammals Management Office
1011 East Tudor Road
Anchorage, AK 99503

Visit the Marine Mammals home page:
<http://alaska.fws.gov/fisheries/mmm/index.htm>

National Oceanic and Atmospheric Administration

NOAA Fisheries

National Marine Fisheries Service, Alaska Regional Office

NOAA Fisheries News Releases

NEWS RELEASE

January 15, 2009

Sheela McLean, Public Affairs

(907) 586-7032

NOAA REPORTS NORTHERN FUR SEAL PUP ESTIMATE DECLINE LOWEST BIRTH RATE SINCE 1916

Researchers at the National Marine Mammal Laboratory of NOAA's Alaska Fisheries Science Center have marked another decline in northern fur seal pup births in the Pribilof Islands in the Bering Sea, where most of the world's population of northern fur seals gather in the summer to rest and breed.

"We started seeing an over-all decline in the abundance of fur seals on the Pribilof Islands around 1998, but we have not been able to identify the factors responsible," said Dr. Doug DeMaster, center director. "While the population trends were up in specific areas and certain sectors of the population, the Pribilof Island pup count is a major marker, and it was down by 4.9 percent since the 2006 count."

Analysis of 2008 data produced an estimate of 121,000 northern fur seal pups born in 2008. The total number of adult males counted on the Pribilof Island increased by 4.6 percent to 10,600.

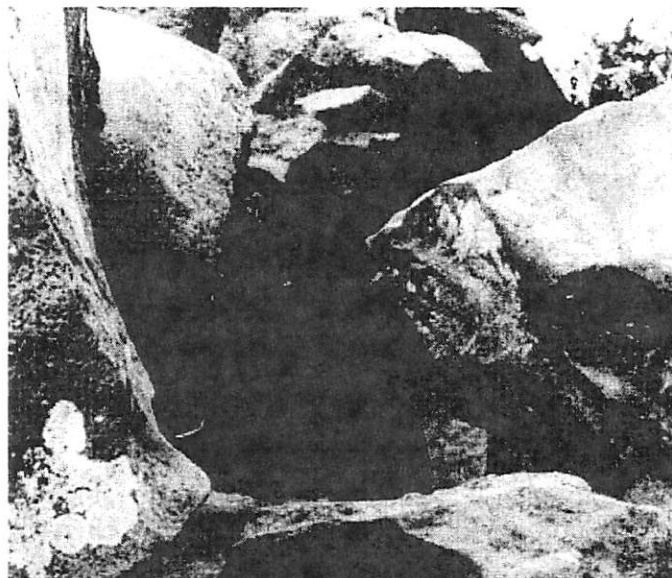
Northern fur seals are considered depleted under the Marine Mammal Protection Act. The complexity of ecosystem interactions and limitations of data and models make it difficult to determine how fishery removals may have influenced this population. Other factors which may have contributed to past or present declines of northern fur seals include entanglement in marine debris, parasites and disease, pollutants, general nutrition, and predation.

"We have a very long, scientific record of the population of northern fur seals on the Pribilof Islands and not since 1916 have the islands produced this few seal pups," said DeMaster. "Adult male counts began in 1909 and pup counts were initiated in 1912. At that time, the northern fur seal population was rebounding at a healthy eight percent per year, following the end of extensive at-sea seal hunting."

The northern fur seal population rose steadily from the end of unregulated sealing into the 1950s, when scientists estimated the population at about two million. A harvest of adult females from 1956 to 1968 reduced the population through the 1970s. The total Pribilof population size stabilized briefly from about 1980 through the mid-1990's but, since 1998, the population has declined at an annual rate of 5.2 percent.

While the Pribilof Islands are the main breeding and resting areas for northern fur seals, the seals also claim other, smaller breeding areas on Bogoslof, San Miguel, and South Farallon islands in the United States and in foreign waters on the Kurile, Commander, and Robben islands. Pribilof Island fur seals spend only the summer months foraging in the Bering Sea. During the rest of the year, they migrate south of the Aleutian Islands and forage at sea.

For 2008, researchers noted an overall population increase on the smaller of the Pribilof breeding islands, St. George Island, and that



Northern fur seal pups gather in the rocks in 2008 on St. Paul Island, one of the Pribilof Islands. The pup in the upper right has had a temporary mark applied by 'shearing' dark hairs off the top of the head to expose lighter hair below. Photo: Kathryn Sweeney, NOAA Fisheries, Alaska Fisheries Science Center, National Marine Mammal Laboratory.

northern fur seals have also been increasing at Bogoslof Island in the nearby Aleutian Island chain.

The total population of northern fur seals in the whole Eastern Pacific stock was last estimated at 666,000.

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Alaska Fisheries Science Center
National Marine Mammal Laboratory
7600 Sand Point Way NE, Bin C15700
Seattle, Washington 98115-0070

(206) 526-4313

FAX: 526-6615

December 19, 2008

F/AKC3:RT

MEMORANDUM FOR: The Record

FROM: Rod Towell and Rolf Ream

SUBJECT: 2008 northern fur seal pup production and adult male counts on the Pribilof Islands, Alaska.

Numbers of northern fur seal, *Callorhinus ursinus*, pups were estimated using a mark-recapture method, shear-sampling, on the Pribilof Islands during August 2008. We estimated 102,674 (SE = 1,084, Table 1) pups were born on St. Paul Island and 18,160 (SE = 288, Table 1) pups were born on St. George Island. To minimize disturbance, dead pup counts were only conducted at 4 sample rookeries on St. Paul Island and 3 sample rookeries on St. George Island. As in 2006, this change in the dead pup counting procedure resulted in a different protocol (ratio estimation) for the calculation of the estimate of pups born. The observed pup mortality rates of 5.3% on St. Paul Island and 5.4% on St. George Island were relatively low, yet higher than estimates obtained in 2004 and 2006. Pup production was estimated on Sea Lion Rock, a small island approximately 500 m from St. Paul Island, for the first time since 2002. The estimated number of pups born on Sea Lion Rock was 6,380 (SE = 80). Pup production on Sea Lion Rock decreased by 22.8% since the last estimate in 2002. The 2008 pup production estimate for St. Paul Island is 6.6% less than the estimate in 2006 (Figure 1). The 2008 pup production estimate for St. George Island is 6.4% greater than the estimate in 2006. The overall decrease in pup production for St. Paul and St. George Islands combined from 2006 to 2008 is approximately 4.9%. Since 1998 pup production on St. Paul Island has declined at an annual rate of 5.7% (SE = 0.38) and on the Pribilof Islands (St. Paul and St. George Islands) at an annual rate of 5.2% (SE = 0.40).

Adult male northern fur seals on St. Paul, and St. George Islands (Table 2) were counted over the period July 8 to 15, 2008. Counts of territorial males with females ("harem" males) on St. George increased by 8.2% compared to 2007. Idle males on St. George increased in comparison to 2007 by 14.1%. On St. Paul the idle males decreased by 4.2% and the "harem" males increased by 15.4% (Figure 2). Overall, the total number of adult males counted on the Pribilof Islands in 2008 increased by 4.6% from 2007 to 10,612. The total number of territorial males with females increased by 14.2% on the Pribilof Islands.

Table 1: Numbers of northern fur seal, *Callorhinus ursinus*, pups born on St. Paul Island, Alaska in 2008 by rookery. Estimates are shown for the numbers alive at the time of shearing and the estimated total number of pups born.

| Rookery | Live | Born ² |
|------------------------------|---------------|-------------------|
| Lukanin | 2,932 | 3,098 |
| Kitovi | 3,671 | 3,879 |
| Reef | 13,051 | 13,790 |
| Gorbatch | 9,019 | 9,530 |
| Ardiguen | 725 | 766 |
| Morjovi | 7,785 | 8,226 |
| Vostochni | 14,684 | 15,515 |
| Polovina | 2,438 | 2,576 |
| Little Polovina ¹ | 49 | 52 |
| Polovina Cliffs | 8,643 | 9,132 |
| Tolstoi | 10,712 | 11,319 |
| Zapadni Reef | 4,657 | 4,921 |
| Little Zapadni | 7,593 | 8,023 |
| Zapadni | 11,212 | 11,847 |
| Total | 97,171 | 102,674 |
| South | 3,647 | 3,856 |
| North | 5,388 | 5,697 |
| East Reef | 1,344 | 1,421 |
| East Cliffs | 4,078 | 4,312 |
| Staraya Artil | 750 | 793 |
| Zapadni | 1,968 | 2,081 |
| Total | 17,175 | 18,160 |

¹ Live and dead pups for Little Polovina were estimated without shear-sampling to reduce disturbance to this small rookery.

² Pups born is calculated for each rookery using a ratio estimator for mortality and the live pup estimates.

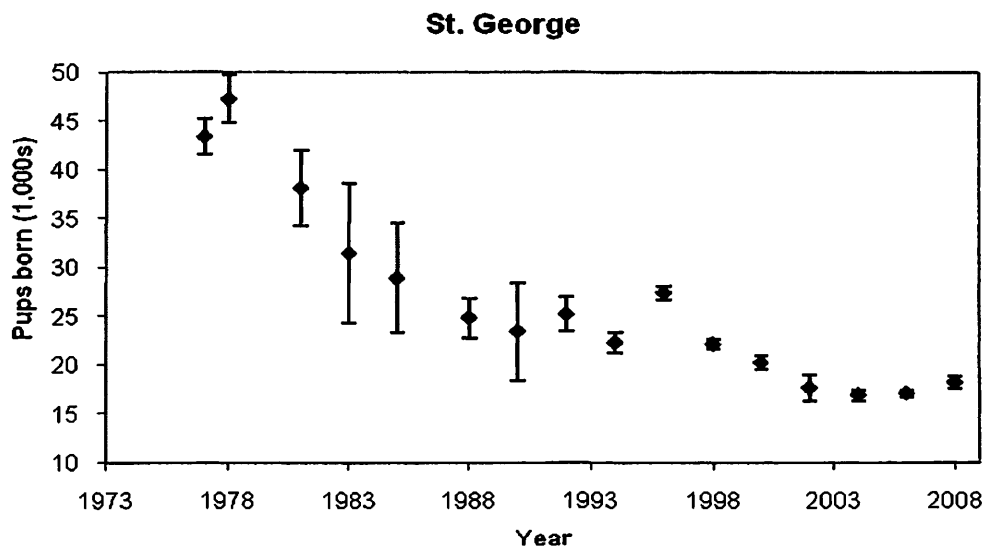
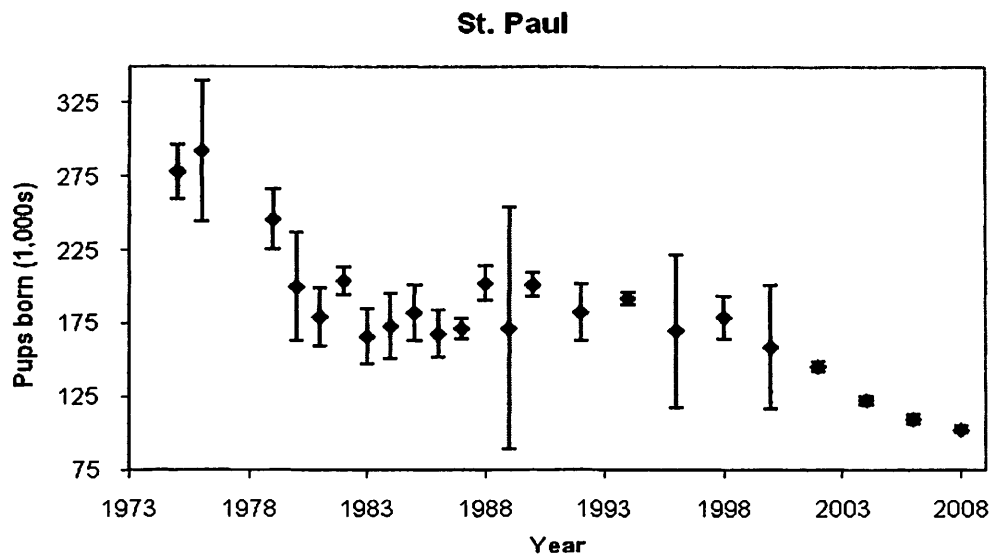


Figure 1. – Northern fur seal pups born on the Pribilof Islands 1975-2008. Error bars are approximate 95% confidence intervals.

Table 2.--Number of adult male northern fur seals counted, by rookery, Pribilof Islands, Alaska, July 2008.

| Rookery | Date (July) | Class of adult male ^a | | | Total |
|--------------------------|----------------|----------------------------------|-------|-------|-------|
| | | 2 | 3 | 5 | |
| <u>St. Paul Island</u> | | | | | |
| Lukanin | 9 | 36 | 84 | 152 | 272 |
| Kitovi | 9 | 65 | 158 | 167 | 390 |
| Reef | 12 | 175 | 491 | 469 | 1,135 |
| Gorbatch | 12 | 73 | 341 | 428 | 842 |
| Ardiguen | 12 | 10 | 65 | 6 | 81 |
| Morjovi | 12 | 109 | 344 | 463 | 916 |
| Vostochni | 13/14 | 155 | 959 | 561 | 1,675 |
| Polovina | 15 | 22 | 108 | 139 | 269 |
| Little Polovina | 15 | 0 | 3 | 186 | 189 |
| Polovina Cliffs | 15 | 86 | 386 | 109 | 581 |
| Tolstoi | 10 | 157 | 363 | 271 | 791 |
| Zapadni Reef | 9 | 77 | 146 | 173 | 396 |
| Little Zapadni | 10 | 132 | 241 | 164 | 537 |
| Zapadni | 11 | 145 | 430 | 520 | 1,095 |
| Island total | | 1,242 | 4,119 | 3,808 | 9,169 |
| <u>St. George Island</u> | | | | | |
| South | 8 | 41 | 166 | 24 | 231 |
| North | 10 | 97 | 264 | 112 | 473 |
| East Reef | 11 | 16 | 66 | 36 | 118 |
| East Cliffs | 11 | 44 | 202 | 80 | 326 |
| Staraya Artil | 9 | 14 | 34 | 64 | 112 |
| Zapadni | 9 | 26 | 73 | 84 | 183 |
| Island total | | 238 | 805 | 400 | 1,443 |

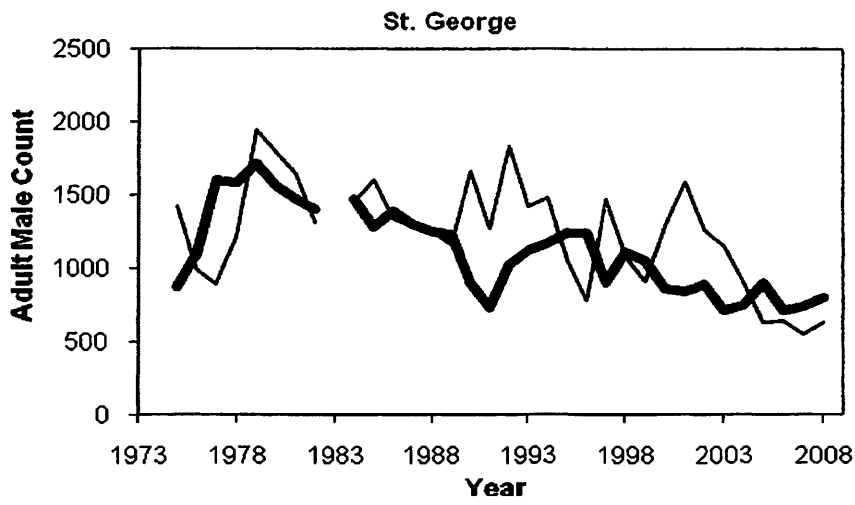
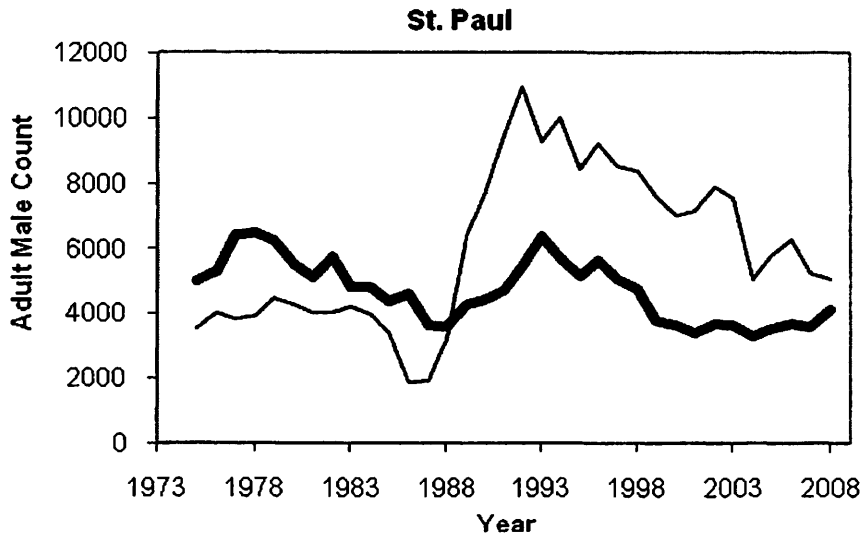


Figure 2. – Northern fur seal adult males (harem – thick line, idle – thin) counted on the Pribilof Islands 1975-2008.

STATE OF ALASKA

DEPARTMENT OF LAW

OFFICE OF THE ATTORNEY GENERAL

Sarah Palin, Governor

P.O. BOX 110300
JUNEAU, ALASKA 99811-0300
PHONE: (907)465-2133
FAX: (907)465-2075

January 12, 2009

Certified Mail and Facsimile

The Honorable Carlos M. Gutierrez – Certified Receipt No. 70023150000020223757
Secretary of Commerce
United States Department of Commerce
1401 Constitution Avenue, N.W., Room 5516
Washington, DC 20230
Facsimile: (202) 482-2741

Dr. James W. Balsiger – Certified Receipt No. 70023150000020223740
Acting Assistant Administrator for Fisheries,
National Marine Fisheries Service
1315 East-West Highway
Silver Springs, MD 20910
Facsimile: (301) 713-1940

Re: Sixty Day Notice of Intent to Sue for Violations of the Endangered Species Act; improperly determining endangered status for a Distinct Population Segment of the beluga whale (*Delphinapterus leucas*) found in Cook Inlet, Alaska

Dear Secretary Gutierrez and Dr. Balsiger:

On behalf of the State of Alaska (“Alaska”), we are informing you of our intent to file a civil suit against the Secretary of Commerce and NOAA Fisheries/U.S. National Marine Fisheries Services (collectively, “NMFS”) for violations of the Endangered Species Act, 16 U.S.C. §§1531-1544 (“ESA”), and the Administrative Procedure Act, 5 U.S.C. §§ 551 *et seq.* (“APA”). This letter is delivered to you pursuant to the 60-day notice requirement of 16 U.S.C. §1540(g)(2)(C). Alaska intends to file a civil suit under 16 U.S.C § 1540(g)(1)(C) for the Secretary’s failure “to perform any act or duty under section 1533 of this title which is not discretionary with the Secretary.” Specifically, Alaska seeks declaratory and injunctive relief as appropriate to correct and enjoin the continued actions by the Secretary in violation of the ESA and its implementing regulations by improperly listing a distinct population segment (“DPS”) of the beluga

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Dr. James W. Balsiger
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whale found in Cook Inlet as in danger of extinction throughout its range and the listing of this DPS as an endangered species.¹ We will also seek legal fees and costs associated with the legal action.

On April 20, 2007, NMFS published a proposed rule to list beluga whales in Cook Inlet as an endangered species (72 FR 19854). On April 22, 2008, NMFS extended the deadline for a final determination to October 20, 2008 (73 FR 21578). This extension was made "for the purposes of soliciting additional data," because several parties "questioned the sufficiency or accuracy of the available data used in the rulemaking," and because NMFS "determined that substantial disagreement exists over a certain aspect of the data presented in the proposed rule," the population trend of beluga whales in Cook Inlet (73 FR 62919). On October 22, 2008, NMFS published the final listing rule determining endangered status for the DPS of beluga whales in Cook Inlet under the ESA (73 FR 62919).

Under the ESA, a species is endangered if it is "in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). An endangered determination is to be made by the Secretary "solely on the basis of the best scientific and commercial data available to him after conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction, or on the high seas." 16 U.S.C. § 1533(b)(1)(A).

The Secretary must consider whether a species is an endangered species upon considering any of the following factors: (A) the present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purpose; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence. 16 U.S.C. § 1533(a) (1). One or more of NMFS' findings violate the ESA because they were not made "solely on the basis of the best scientific and commercial data available," which is a nondiscretionary mandate of the Secretary under 16 U.S.C. 1533 § (b)(1)(A), or the findings were made in a fashion that was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706 (2)(A).

¹ Use of the term DPS in this letter does not mean that Alaska necessarily agrees with the finding by NMFS that beluga whales in Cook Inlet were properly determined to be a DPS.

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In particular, the final rule in addressing factor D, the "inadequacy of existing regulatory mechanisms," failed to properly consider the substantial regulation by the State and its political subdivisions of beluga habitat and food supply covering nearly every aspect of the environment affecting beluga whales in Cook Inlet, including water quality, oil and gas development, coastal and upland development, prey species management, cruise ship regulation, and port development, among many others. These laws, when considered together with existing federal regulations, ensure that beluga whales in Cook Inlet are well protected.

The finding regarding inadequacy of existing regulatory mechanisms violates the ESA because, among other things, NMFS does not identify the best available "scientific and commercial data" identifying the regulatory deficiencies that if addressed would benefit the recovery of beluga whales in Cook Inlet beyond the extensive existing federal, state, and local government laws affecting all aspects beluga habitat and food supply in Cook Inlet.

In addition, NMFS violated the ESA and APA by: (1) failing to adequately consider other conservation or protection efforts by Alaska or its political subdivisions in making the listing determination; (2) failing to provide to Alaska's agencies an adequate written justification under 16 U.S.C § 1533(i) for those portions of NMFS' final rule not consistent with the Alaska agencies' comments; (3) failing to properly document or support its determination under the applicable policy and consistent with recent Ninth Circuit authority that the beluga whales in Cook Inlet comprise a distinct population segment within the definition of a "species;" and (4) failing to provide a public review and comment period on significant studies and documentation used to support the listing, including the April 2008 and October 2008 status reviews and other items or information used by NMFS to resolve "substantial disagreement" over certain aspects of the data presented in the proposed rule.

Additional details supporting our claims are referenced in the comments by Alaska, submitted to NMFS on or about July 31, 2007 and incorporated herein by this reference. The description of measures by political subdivisions of Alaska are included in their charters and ordinances of record and in their respective comments submitted during the comment period on the proposed final rule.

A. Other Conservation and Protection Efforts by Alaska, its Political Subdivisions, and Others Were Not Adequately Considered

Under the ESA, NMFS must consider conservation measures being made by "any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other

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conservation practices, within any area under its jurisdiction, or on the high seas.”
16 U.S.C. § 1533(b)(1)(A). Such consideration is a nondiscretionary mandate of the Secretary under 16 U.S.C. § 1533(b)(1)(A). NMFS purported to undertake such a review in the rulemaking at page 62928 in summarizing and addressing “Efforts Being Made to Protect The Species.”

In its comments, Alaska submitted extensive information on the ongoing and planned conservation efforts by state and local entities. See Alaska’s comments, Ch. 3. Overall, Alaska submitted 30 pages of comments on ongoing and planned conservation efforts by state and local entities. NMFS summarized its evaluation of those efforts as follows:

In developing our final listing determination, we have considered the best available information concerning conservation efforts and any other protective efforts by states or local entities for which we have information. We conclude that existing conservation efforts do not provide sufficient certainty of effectiveness to substantially ameliorate the level of assessed extinction risk for Cook Inlet beluga whales. 73 FR 62919, 62928.

Beyond this conclusory assertion, NMFS does not document that it adequately considered the extensive provisions contained in the laws and regulations of Alaska and its political subdivisions addressing all aspects of beluga habitat and food supply and did not explain why these efforts will not be effective. These provisions, together with the final subsistence regulations and agreements in place addressing subsistence harvest of beluga whales in Cook Inlet, preclude the need to list the species at this time. Because NMFS did not document for the final rule that such conservation efforts were adequately considered, the final rule should be withdrawn.

B. NMFS Did Not Adequately Respond Under Section 4(i) to Alaska’s Comments

Under the ESA, if NMFS issues a final regulation that conflicts with comments submitted by a state agency (which under the Act means “any state agency, department, board, commission, or other governmental entity which is responsible for the management and conservation of fish, plant, or wildlife resources within a state”), then NMFS “shall submit to the State agency a written justification for [its] failure to adopt regulations consistent with the agency’s comments.” 16 U.S.C. § 1533(i) (“Section 4(i)”).

Similarly, in the promulgation of the ESA listing regulations in 1984, the Service noted that the requirement in 50 C.F.R. § 424.18(c) that implements Section 4(i) requires

“that State agencies be adequately informed of the basis for any action that is not in agreement with that agency’s recommendation.” 49 FR 38900, 38906 (Oct. 1, 1984).

NMFS has taken an action and adopted a final rule that is not consistent with the Alaska state agencies’ comments and failed to specifically address Alaska’s comments (in the rule or by separate letter). Any post-decision-provided Section 4(i) justification that may later be received is inconsistent with statutory and congressional intent to seriously consider the advice of state agencies in the Federal regulatory process. Because a post-decision rationalization by NMFS of its decision in response to Alaska’s comments is insufficient to comply with Section 4(i), the final rule should be withdrawn.

Alaska also puts NMFS on notice of Alaska’s intent to challenge the adequacy of any Section 4(i) response that NMFS may ultimately provide to Alaska.

C. The DPS Determination Is Not Properly Documented

NMFS “reaffirmed” its DPS determination for the beluga whale in Cook Inlet as part of its listing process and provided a separate rulemaking section and conclusion on “Determination of Species Under the ESA,” 73 FR at 62926. The ESA defines the term “species” to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.” 16 U.S.C. § 1532(16). Although the statute does not define the term “distinct population segment,” NMFS and the U.S. Fish and Wildlife Service (“FWS”) have jointly adopted a policy statement guiding their evaluation of whether a population group should be treated as a DPS. The DPS policy sets forth two primary factors for consideration: (1) the discreteness of the population segment in relation to the remainder of the species to which it belongs, and (2) the significance of the population segment to the species to which it belongs. DPS Policy, 61 FR 4722, 4725 (Feb. 7, 1996).

The discreteness factor is satisfied if a population segment is “separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors,” or if a population’s boundaries are marked by international borders. *Id.* The significance factor is analyzed under four non-exclusive factors: (1) whether the population persists in a unique or unusual ecological setting; (2) whether the loss of the population would cause a “significant gap” in the taxon’s range; (3) whether the population is the only surviving natural occurrence of a taxon; and (4) whether the population’s genetic characteristics are “markedly” different from the rest of the taxon. *Id.* A population qualifies as a DPS if it is both discrete and significant. *Id.* If a population is deemed to be a DPS, the inquiry then proceeds to whether it is endangered or threatened. *Id.*

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NMFS first found the Cook Inlet population to be discrete "because it is markedly separated from other populations of the same species." 73 FR at 62926.

Under the significance factor, NMFS relied on two of the four non-exclusive factors: (1) persistence in an ecological setting that is unique; and (2) whether the loss of the discrete population segment would result in a significant gap in the range of the species. *Id.* NMFS determined that Cook Inlet is a unique biological setting because it supports the southernmost of the five extant beluga populations in Alaska, and is the only water south of the Alaska peninsula, or within the Gulf of Alaska, that supports a viable beluga whale population. NMFS also claimed that the ecological setting of Cook Inlet was unique based on its incised glacial fjord setting, the large tidal exchanges, and its true estuary. NMFS asserts that no similar habitat exists in Alaska or elsewhere in the United States. On the second factor, because the Cook Inlet population is separated from other beluga populations, NMFS "determined that the loss of the Cook Inlet beluga population segment may result in the complete loss of the species in the Gulf of Alaska, resulting in a significant gap in the range with little likelihood of immigration from other beluga population segments into Cook Inlet." 73 FR at 62926.

These two determinations are inadequately documented in the final rule. The Ninth Circuit recently reviewed the FWS' application of the DPS policy in *Northwest Ecosystem Alliance v. U.S. Fish and Wildlife Service*, 475 F.3d 1136, 1138 (9th Cir. 2007). In that case, the court upheld the FWS' determination that the Washington population of the western gray squirrel did not qualify as a distinct population segment. The court specifically reviewed the FWS' application of three of the four non-exclusive significance factors, including the "ecological setting" and "significant gap" factors that NMFS relied on here.

The *Northwest Ecosystem Alliance* court noted that the uniqueness of the habitat should be tied to some feature of importance for the species. Here, NMFS essentially asserts that Cook Inlet is important because it contains the southernmost beluga population, is an incised glacial fjord, and experiences large tidal exchanges in a true estuary. But NMFS does not explain how that geological setting interacts either with important characteristics of the beluga whale or is significant for the survival and recovery of the beluga whale. NMFS' explanation of the purported significance of this ecological setting and uniqueness to the species was not adequately considered in the final rule.

Next, NMFS does not explain why the loss of the Cook Inlet population might create a significant gap in the range of the species. "Significant" in this context has its commonly understood meaning, which is "important." *Northwest Ecosystem Alliance*, 475 F.3d at 1146. While the Cook Inlet population may be, as was the Washington gray

squirrel population in *Northwest Ecosystem Alliance*, an isolated, peripheral population at the southern portion of the subspecies' range, that alone may not mean that its loss creates a significant gap in the range of the species. By this measure, NMFS failed to establish the necessary "significance" to classify beluga whales in Cook Inlet as a DPS.

Because NMFS failed to adequately document compliance with its own DPS policy in determining that the Cook Inlet population constitutes a DPS under the ESA, and because of the other violations described above, the final rule should be withdrawn.

D. NMFS Failed to Provide for Additional Public Comment for Supplemental Status Review, Analysis of 2008 Survey Data, and Further Supplemental Status Review.

NMFS created and evaluated, and later relied on in its listing decision, several documents after the close of the public comment period on August 3, 2007. Those items included the April 2008 status review, the October 2008 supplemental status review, NMFS' analysis of 2008 survey data, and preparation of an abundance estimate for 2008. NMFS noted that it had extended the period for issuing the rule by six months "for the purposes of soliciting additional data." 73 FR at 62919. Several parties, including the Alaska Department of Fish and Game, "questioned the sufficiency or accuracy of the available data used in the rulemaking." *Id.* NMFS "determined that substantial disagreement exists over a certain aspect of the data presented in the proposed rule," specifically "disagreement remained over the population trend of beluga whales in Cook Inlet, and whether the population is demonstrating a positive response to the restrictions on subsistence harvest imposed in 1999." *Id.* Alaska requested a six month extension to allow NMFS to obtain and consider additional information but did not waive any applicable requirement for additional public comment, and in fact offered assistance in assessing and evaluating beluga abundance data for 2008. (Letter dated December 24, 2007 from Denby S. Lloyd, Commissioner, Alaska Department of Fish and Game to Dr. William Hogarth, Assistant Administrator for Fisheries, National Oceanic and Atmospheric Association).

Generally, ESA Section 4 mandates that NMFS determine a species listing decision through notice and comment rulemaking. See 16 U.S.C. § 1533(a)(1). The required notice and comment rulemaking procedures include those prescribed by the federal Administrative Procedure Act, 5 U.S.C. § 553, in addition to the specific notice and comment procedures set out in the ESA. See 16 U.S.C. § 1533(b)(4)-(6). The NMFS' obligation to comply with these notice and comment rulemaking procedures is mandatory and not discretionary. See, e.g., *Idaho Farm Bureau Fed'n v. Babbitt*, 58 F.3d 1392, 1395, 1402-1404 (9th Cir. 1995); see also *Center for Biological Diversity v. Norton*, 240 F.Supp.2d 1090, 1106-1107 (D. Ariz. 2003).

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NMFS should have re-opened the public comment period to allow public review and comment on the supplemental status review and related items. This lack of opportunity for public review and comment on critical information and to receive the benefit of public review of the data prejudiced Alaska by not allowing public comment or the expertise of other parties to be considered. Because the need for the information from the analysis of the 2008 survey data was important enough to extend the date for the final listing determination, it was similarly important to re-open public review and comment, and therefore, the final rule should be withdrawn to obtain public comment on the new survey data.

E. APA Claims

Although APA related claims are not subject to the requirement of the 60-day notice provision, additionally or in the alternative, we believe that the Secretary's actions in issuing the final rule listing beluga whales in Cook Inlet as endangered were "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706 (2)(A). The arbitrary and capricious nature of the decision is demonstrated by the listing of a DPS without adequately supporting this designation and ignoring the substantial conservation measures protecting beluga whale habitat and food supply through laws by Alaska and its political subdivisions. The Secretary's finding of inadequacy of existing regulatory mechanisms under 16 U.S.C. § 1533(a)(1)(D) simply ignores these substantial measures under the laws of the state and its political subdivisions to protect beluga whale habitat and food supply which together with subsistence harvest regulation and agreements are sufficient to ameliorate the need to list the species under 16 U.S.C. § 1533 (b)(1)(A). We reserve the right to raise all available APA and ESA claims and to rely on the entire administrative record. Because the Secretary selectively relied on new information obtained after the close of public comment, we also reserve the right to rely on available information outside the official administrative record, when pursuing Alaska's claims under this notice to sue.

In summary, the ESA authorizes Alaska to file suit for the Secretary's failure to perform any nondiscretionary act relating to 16 U.S.C. § 1533. 16 U.S.C. § 1540(g)(1)(C). The 60-day notice is intended to provide you an opportunity to correct the actions taken in violation of the ESA by withdrawing the listing of the beluga whale distinct population segment in Cook Inlet as endangered. We appreciate your consideration of the claims described in this notice and hope that the Secretary will quickly act to resolve these issues.

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Please contact me with any questions or to discuss these matters.

Sincerely,



Talis J. Colberg
Attorney General

cc: Robert D. Mecum, Acting Administrator, Alaska Regional Office, NMFS



Challenge to Beluga Listing Decision

Governor Provides Feds with Notice

FOR IMMEDIATE RELEASE No. 09-06

Governor Announces Challenge to Beluga Listing Decision; Provides Federal Agencies with Notice of Intent to Sue

January 14, 2009, Anchorage, Alaska - Governor Sarah Palin announced today that the State of Alaska filed a notice of intent to file a lawsuit challenging the federal government's decision to list beluga whales in Cook Inlet as threatened under the Endangered Species Act.

"The State of Alaska has worked cooperatively with the federal government to protect and conserve beluga whales in Cook Inlet," said Governor Palin. "This listing decision didn't take those efforts into account as required by law."

The notice of the state's intent to sue was sent to the Secretary of Commerce and the National Marine Fisheries Service (NMFS). It asserts that the listing decision should be withdrawn due to failure to adequately consider conservation or protection efforts by Alaska, failure to provide to Alaska's agencies an adequate written justification for portions of NMFS' final rule not consistent with the agencies' comments, failure to properly document or support its determination that the beluga whales in Cook Inlet comprise a distinct population segment and failure to provide a public review and comment period on significant studies and documentation used to support the listing.

"With this notice of intent, we are informing the federal agencies that, unless corrected, we will file suit due to the decision's failure to comply with provisions of the Endangered Species Act and the Administrative Procedure Act," said Attorney General Talis Colberg. "Failure to consider protection measures already in place and failure to document and support key elements of this decision are major flaws in the final rule."

Concern about the decline in Cook Inlet Beluga whales led the State of Alaska to petition NMFS to list the whales as depleted under the Marine Mammal Protection Act (MMPA), which resulted in restrictions on harvest beginning in 2000. The population has since stabilized and shows signs of recovery. Population estimates have increased 30 percent since 2005.

The state has placed much of the important beluga habitat within Cook Inlet in protected status, including several state game refuges and critical habitat areas. Recent actions by the Alaska Department of Natural Resources have maintained protection of important habitat by removing it from lease and sale offerings, even though there was no evidence of any habitat decline or habitat-related cause for the population decline.

The listing decision failed to properly consider the substantial regulation by the state and its political subdivisions of beluga habitat and food supply covering nearly every aspect of the environment affecting beluga whales in Cook Inlet, including water quality, oil and gas development, coastal and upland development, prey species management, cruise ship regulation, and port development, among many others. These laws, when considered together with existing federal regulations, ensure that beluga whales in Cook Inlet are well-protected. "Belugas are protected by the State of Alaska and the federal Marine Mammal Protection Act," said Alaska Department of Fish and Game Commissioner Denby Lloyd. "An ESA listing is not appropriate or necessary at this time. The population is stable and beginning to recover, just as we predicted when advocating for MMPA protection."

In written comments to the agency, the State of Alaska disagreed with many aspects of the decision including questionable use of computer population modeling, the contention that the belugas in Cook Inlet are a separate and distinct population from other belugas and the premise that a 1 percent chance of extinction in 50 years meets the criteria necessary for an endangered species listing.

“While challenging the listing, we will continue to protect beluga whales,” said Governor Palin. “We will also be assisting Alaskan communities and stakeholders with navigating the complex bureaucratic process this listing decision imposes on their projects and working cooperatively with federal agencies on the required consultations, designations of critical habitat and development of a recovery plan and objectives.”

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PRIEST 2008 Aerial Survey Sighting and Effort Results

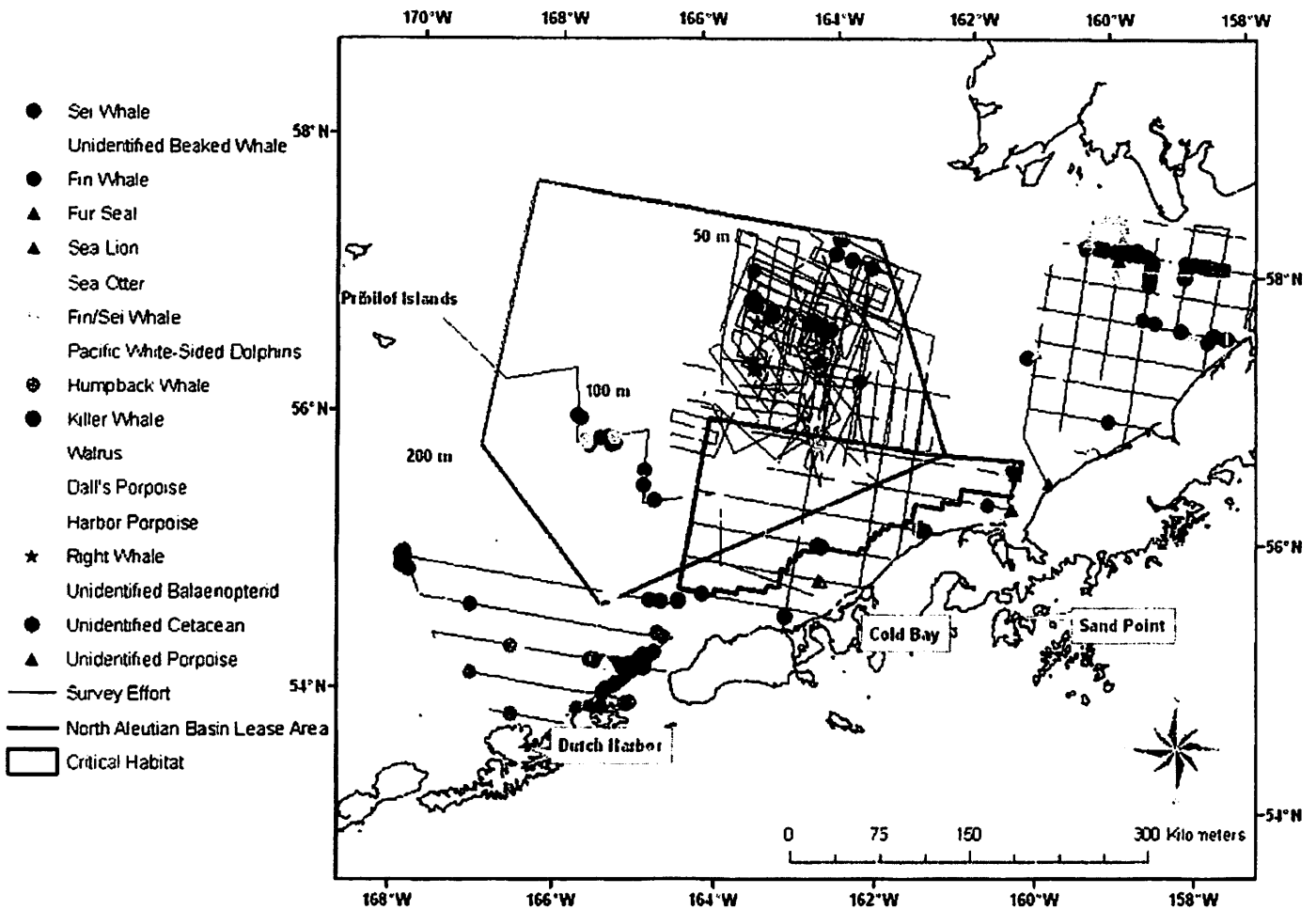


Figure 1. PRIEST 2008 aerial sighting and effort map.



United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service (NMFS)
Alaska Fisheries Science Center
National Marine Mammal Laboratory (NMML)
7600 Sand Point Way NE
Seattle WA 98115
206-526-4246 FAX: 206-526-6615
4 February 2009 F/AKC3:lwf

Memorandum For: North Pacific Fishery Management Council

From: Lowell Fritz, Tom Gelatt, John Bengtson, NMML
Douglas Demaster, AFSC

Subject: Survey of adult and juvenile Steller sea lions, June-July 2008:
response to the Council's 19 December 2008 letter to Robert D.
Mecum, Acting Administrator, NMFS Alaska Region

SUMMARY: This memorandum is in response to Council's request for more information on the 2008 aerial survey of Steller sea lions in Alaska and population trends since 2000. This request was made in a 19 December 2008 letter to Robert D. Mecum, Acting Administrator for NMFS Alaska Region. The Alaska Fisheries Science Center was asked by the Region to prepare a response to this letter.

An aerial survey to assess trends in numbers of adult and juvenile (non-pup) Steller sea lions (*Eumetopias jubatus*) in Alaska was conducted by NMFS from 7 June to 6 July 2008. We used a Twin Otter aircraft (operated by NOAA, Aircraft Operations Center, Tampa FL) equipped with a vertically-oriented, high resolution digital camera (with forward motion compensation) mounted in the plane's belly port to survey Steller sea lions on terrestrial rookery and haul-out sites from southeast Alaska through the Aleutian Islands. This was the first complete survey of the endangered western distinct population segment (DPS) in Alaska since 2004 (Fritz et al. 2008), and the first complete survey of the threatened eastern DPS in southeast Alaska since 2002 (Pitcher et al. 2007).

Trends in counts of adult and juvenile western Steller sea lions (wSSLs) in Alaska from 2000 to 2008 have not been consistent across the range nor for the entire period:

- During the first four years (2000-2004), Alaska wSSL non-pup counts increased 11%. Most of the 2000-2004 increase occurred in the core region from the Kenai Peninsula through Kiska Island (Kenai-Kiska); decreases west of the Kenai-Kiska region (western Aleutian Islands) were largely balanced by increases to the east (eastern Gulf of Alaska).
- During the second four years (2004-2008), Alaska wSSL non-pup counts increased 3% due to greater numbers counted in the eastern Gulf of Alaska. Kenai-Kiska counts were stable, but counts in the western Aleutian Islands continued to decline. Evidence suggests that movement of animals from southeast Alaska (eastern DPS) to haul-outs in the eastern Gulf of Alaska

(western DPS) prior to the 2008 survey contributed to higher counts in the eastern Gulf of Alaska and lower than expected counts in southeast Alaska. We do not have a precise estimate of the number of eastern DPS animals counted in the eastern Gulf of Alaska. However, if it as high as 1,000 (the approximate increase observed between 2004 and 2008 at a single eastern Gulf of Alaska haul-out, Cape St. Elias), then Alaska wSSL non-pup counts would have declined 1% between 2004 and 2008. As a consequence, we conclude that the recent (2004-2008) trend for adult and juvenile western Steller sea lions in Alaska is stable or declining slightly.

Pup production by Steller sea lions in the western DPS in Alaska has been largely stable between 1998 and 2005/07, despite overall increases in non-pup counts between 2000 and 2008. Throughout the western DPS in Alaska, pup counts declined 2% overall in this 7-9 year period, increased 4% in the eastern Gulf of Alaska and increased about 3% in the Kenai-Kiska core. Changes in non-pup counts since 2000 in the eastern Gulf of Alaska (+93%) were far greater than increases in pup counts in the last 8 or 4 years in the eastern Gulf itself (+4% or +22%, respectively) or the entire western DPS in Alaska (-2% or +4%, respectively). This supports the hypothesis that the large increase in non-pups in the eastern Gulf of Alaska is not due to local pup production but more likely a result of seasonal movements of animals from the population in southeast Alaska that has been consistently increasing since the late 1970s.

METHODS

2008 Survey of Non-pups in Alaska

Aerial surveys for non-pups are conducted in June, when the greatest proportion of adults is onshore to give birth and breed. The primary objective in 2008 was to survey all terrestrial rookery and haul-out sites within the range of the Steller sea lion in Alaska from Dixon Entrance in southeast Alaska (134°W) to Attu Island (172°E) at the western end of the Aleutian Islands (Figure 1); the single rookery (Walrus Island) and 9 haul-outs in the eastern Bering Sea region north of the Alaska Peninsula were not surveyed. In 2008, we successfully assessed sea lion numbers at 339 of the 356 (95%) known terrestrial rookery and haul-out sites in the survey region. Of the 339 sites successfully surveyed, 169 were photographed, 30 had so few sea lions (< 15) that they were counted visually by observers on the plane, and 140 had no sea lions. Of the 17 'missed' sites, 15 could not be surveyed because of poor weather conditions, while 2 (rookeries on Chowiet and Chirikof Islands) were incompletely surveyed.

In 2008, we began the survey in southeast Alaska, basing operations in Sitka, and surveyed the entire southeast area on 7-8 June. In the past, southeast Alaska surveys were usually conducted after the western DPS survey was completed, and as a consequence, have generally been conducted in late June or early July. The most recent survey of southeast Alaska sea lions was conducted on 4-5 July 2002, or approximately 1 month earlier in the year than in 2008. All other Steller sea lion surveys conducted in

southeast Alaska since 1996 were done on or after 20 June, or about 2 weeks later than the 2008 survey. Prior to 2008, the next earliest-in-the-year southeast Alaska survey was conducted on 12-13 June 1994. In 2008, we began the western DPS survey in the Prince William Sound area on the same day (9 June) as the non-pup survey conducted in 2007.

Trend Analysis

NMML monitors the Steller sea lion population by surveying and counting animals at trend sites which have been consistently surveyed since the mid-1970s (N=85 1970s trend sites in the range of the western DPS in Alaska; N=19 in southeast Alaska including each of the sites that comprise the Forrester complex) or 1991 (N=161 1990s trend sites in the range of the western DPS in Alaska). In the rest of this report, only counts at 1990s trend sites are discussed, and these will be referred to simply as 'trend sites'. The vast majority (> 90%) of all sea lions counted during surveys conducted since 2004 have been counted at trend sites. All trend sites in southeast Alaska (eastern DPS) and all but 5 of the 161 trend sites in the range of the western DPS were surveyed in 2008; of these, 3 could not be surveyed from the air because of bad weather (two rookeries on Ugamak Island and a haul-out located at East Cape on Amchitka Island), while 2 (rookeries on Chowiet and Chirikof Islands) were incompletely surveyed. For trend analyses, 2008 counts at these five sites were estimated using data from previous (2006 or 2007) aerial surveys or were obtained from land-based observers in 2008. (For details regarding the estimation and counting procedures for trend sites missed in non-pup surveys conducted in 2006-2008, see Memorandum to the Record, Fritz et al., 17 November 2008, NMFS, AFSC, NMML, <http://www.afsc.noaa.gov/nmml/pdf/SSLNon-Pups2008memo.pdf>).

Surveys conducted prior to 2004 used oblique 35 mm photography. Differences in resolution between oblique 35 mm and vertical high resolution photographs requires an adjustment factor of -3.64% be applied to all counts from vertical photographs in order to properly analyze regional time series that include counts from years prior to 2004 (Fritz and Stinchcomb 2005).

Analysis of Survey Timing in Southeast Alaska and E GULF on Non-Pup Counts

Because the 2008 survey dates in southeast Alaska were earlier than in other years, we analyzed the effect that day of the year may have had on counts in the southeast Alaska and eastern Gulf of Alaska (E GULF) regions. We used generalized linear models and estimating equations (SAS procedure GENMOD; SAS 2002) to *a posteriori* analyze counts of adult and juvenile sea lions in 10 clusters of rookeries and haul-outs in both regions (Figure 2; for details regarding the analysis of movement between southeast Alaska and the E GULF, see Memorandum to the Record, Fritz et al., 17 November 2008, NMFS, AFSC, NMML, <http://www.afsc.noaa.gov/nmml/pdf/SSLNon-Pups2008memo.pdf>).

RESULTS AND DISCUSSION

Counts of adult and juvenile Steller sea lions at trend sites within the range of the western DPS in Alaska in 2000-2008 are listed in Table 1. Counts at all sites in southeast Alaska within the range of the eastern DPS from surveys in 2002 and 2008 are shown in Table 2.

Non-Pup Trends in the Western DPS in Alaska

Counts of adult and juvenile Steller sea lions at all trend sites within the range of the western DPS in Alaska increased 14% between 2000 and 2008, and most of this increase occurred in the first four years (11% increase between 2000 and 2004; Table 3 and Figure 3). In the core of the western DPS range in Alaska (Kenai-Kiska), all of the 2000-2008 increase of 10% occurred between 2000 and 2004. In the larger Kenai-Attu region, counts increased 7% in the first four years, but then dropped slightly between 2004 and 2008. Consequently, the overall increase of 3% observed between 2004 and 2008 in the western DPS in Alaska was due entirely to a 35% higher count in the E GULF (Table 3).

Non-Pup Trends by Region within the Western DPS in Alaska

There has been considerable variation between regions and periods (2000-2004 and 2004-2008) in non-pup count trends (Tables 3 and 4; Figures 4 and 5):

- **Regions that increased between 2000 and 2008: eastern Aleutian Islands (E ALEU), western Gulf of Alaska (W GULF) and E GULF**
 - The E ALEU was the only region where non-pup counts increased throughout 2000-2008, though more in the first half than the second.
 - While counts in the W GULF increased overall from 2000 to 2008, data from the incomplete 2007 survey (Tables 1 and 4) indicated that all of the increase occurred between 2000 and 2007, and counts declined slightly between 2007 and 2008.
 - Non-pup counts increased steadily in the E GULF between 2000 and 2006, dropped slightly in 2007, and then increased substantially (+47%) in 2008. We counted 1,090 more non-pups on E GULF trend sites in 2008 than in 2004 (Table 1), and 1,082 of these were at the easternmost haul-out in the range of the western DPS, Cape St. Elias.

- **Regions that decreased between 2000 and 2008: western Aleutian Islands (W ALEU), central Aleutian Islands (C ALEU), and the central Gulf of Alaska (C GULF)**
 - The W ALEU was the only region where non-pup counts declined throughout 2000-2008, and the decline was steeper in the second half than the first.
 - While the C ALEU decreased 11% overall from 2000 to 2008, non-pup counts increased 5% from 2000 to 2004 but then dropped 16% from 2004-2008 (Table 3). Within the C ALEU, there were different trends in the western than eastern halves of this region. In the C ALEU-W, counts dropped continuously between 2000 and 2008: -8% in the first half and -13% in the second (Table

- 4). By contrast, counts increased 15% in the C ALEU-E from 2000-2004, but then declined 17% in the next four years (Table 4).¹
- While the C GULF decreased slightly (-3%) overall from 2000 to 2008, non-pup counts decreased 12% in the first four years and increased 10% in the second (Table 3; Figures 4 and 5). There was variability in the second four year pattern with an increase of 17% between 2004 and 2007 followed by a decline of 6% between 2007 and 2008 (Table 4).

Analysis of 2000-2008 trends in more detail (Table 4) reveals:

- The W GULF, E ALEU and C ALEU-E regions all increased substantially (+15-33%) during the first four years. During the second four years, increases continued but at a much slower rate in the W GULF and E ALEU, while counts dropped in the C ALEU-E.
- To the west in the C ALEU-W and W ALEU, counts dropped continuously,
- To the east in the C GULF, counts varied by year but overall dropped only slightly, and
- In the easternmost region (E GULF), counts increased substantially overall.

These trends indicate that the non-pup Steller sea lion population in the core of the range of the western DPS in Alaska (Kenai – Kiska) increased between 2000 and 2004, but has been stable overall between 2004 and 2008. Outside of this core, the W ALEU declined substantially while counts in the E GULF almost doubled.

Pup Production Trends Overall and by Region within the Western DPS in Alaska

Regional total counts of Steller sea lion pups at trend rookeries within the range of the western DPS in Alaska from 1978-2007 are listed in Table 5 (this table is from Fritz et al. 2008; see this publication for other information regarding pup counts). Changes in pup counts between both 1998 and 2005-07, and between 2001-02 and 2005-07 are shown in Table 5. The earlier, longer period for pup counts (1998-2005/07) is discussed below with respect to 2000-2008 non-pup counts because these data indicate trends at an earlier life stage.

Pup production by Steller sea lions in the western DPS in Alaska was stable between 1998 and 2005/07, despite overall increases in non-pup counts between 2000 and 2008. Throughout the western DPS, pup counts declined 2% overall in this 7-9 year period, while in the Kenai-Kiska core, counts increased about 3%. By contrast, non-pup counts increased 14% and 10% between 2000 and 2008 in the two ranges, respectively (Figure 6).

¹ Surveys conducted in the C ALEU in 2008 preceded the 7 August eruption of the volcano on Kasotochi Island, which greatly altered the physical structure of the island and deposited a thick layer of gravel, boulders and ash on the rookery area. The fate of the approximately 350 pups and 550 non-pups counted on the rookery on 21 June (approximately 6 weeks before the eruption) is not known. However, on 28 August, US Fish and Wildlife Service scientists observed approximately 250 non-pups and 2 pups on the southwest side of the island (J. Williams, USFWS, personal communication).

In the W ALEU and C GULF, both non-pup and pup counts decreased, but pup counts decreased faster. In the C ALEU, pups and non-pups declined at about the same rate (Figure 6).

In regions where non-pup counts increased overall (E ALEU, W GULF, E GULF and Kenai-Kiska), pup production also increased but at slower rates in all regions except the E ALEU. However, in the E GULF, there is a marked difference in these rates, with non-pup counts increasing 93% while pup counts increased only 4% (though 22% between 2001-02 and 2005-07); the other increasing regions had much smaller differences between rates of non-pup and pup increases (Figure 6). We conclude that it is unlikely that the large increase in non-pup counts observed in the E GULF between 2000 and 2008 is solely the result of pup production in either the E GULF or neighboring C GULF regions. By contrast, pup production increased at 3.2% between 1979 and 2005 at rookeries in southeast Alaska (Pitcher et al. 2007); movement of animals from this increasing population to the E GULF likely contributed to the recent increases in the latter region.

Movement of Non-Pups between Southeast Alaska and the E GULF

Increases in non-pups in the E GULF between 2000 and 2008 occurred more at haul-outs than at rookeries (Figure 7). In particular, increases were greater on the easternmost haul-outs in the E GULF (e.g., Cape St. Elias and Cape Hinchinbrook) or in northern Prince William Sound (e.g., Glacier) than they were on haul-outs in southwestern Prince William Sound or in western portions of the E GULF (e.g., The Needle, Point Elrington, Seal Rocks (Kenai)). Where increases did occur, there has also been considerable inter-annual variability (Table 1).

The following observations:

- a substantial increase in non-pups in the E GULF,
- relatively stable pup production in the E GULF and C GULF,
- increasing pup production in southeast Alaska, at least through 2005, and
- greater increases (and high variability) in non-pup counts at eastern E GULF haul-outs than at western E GULF haul-outs or rookeries,

are consistent with the hypothesis that some fraction of the non-pups counted in the E GULF region in the last several surveys (particularly those from 2004-2008) are eastern DPS animals that were foraging in the northern Gulf of Alaska in late spring (through early June). If this hypothesis is true, we should count more sea lions in early June in the E GULF, particularly at the easternmost sites, and count fewer in late June-early July; in southeast Alaska, we should observe the opposite pattern: lower counts early and higher counts late. Total counts at southeast Alaska trend sites in 2002 and 2008 generally support this hypothesis (Table 2; Figure 8). The survey in 2002 was conducted 'late' (in early July), and resulted in a total count of 15,284 non-pups with 9,989 on trend sites. By contrast, the survey in 2008 was conducted 'early' (in early June), and 939 fewer non-pups were counted on all sites and 1,201 fewer on trend sites. There is no evidence to suggest that the southeast Alaska sea lion population declined between 2002 and 2008 (Pitcher et al. 2007; NMFS 2008). Instead, it may be the timing of the surveys in these

two regions in 2008 compared to previous years that gives the appearance of a decline in southeast Alaska and contributes to the apparent increase in the E GULF.

Results of analyses of E GULF and southeast Alaska non-pup counts from 1990-2008 using generalized linear models, though not statistically significant, generally support the proposed hypothesis of regional movement between the E GULF and southeast Alaska in June (Figures 2 and 9). Only at the easternmost E GULF haul-outs (cluster 1) does the model estimate higher counts early in the survey period (early June) than later (late June or early July; Figure 9C). At the western E GULF haul-outs (clusters 2-4), estimated counts late in the survey period were slightly higher than those early (Figure 9A), but the slope here was much smaller than that estimated for the southeast Alaska haul-outs (clusters 6-9; Figure 9D). Slightly increasing estimated counts at rookeries (clusters 5 and 10) during the survey period are not unexpected since adult females would be arriving at these locations to give birth and breed. These patterns of non-pup counts at haul-outs in the E GULF and southeast Alaska in June through early July are consistent with, but do not prove, the regional movement hypothesis.

In 2008, then, we may have counted animals on the four easternmost sites in the E GULF (surveyed 'early') that 'should' have been counted as part of the eastern DPS. Over 85% of the non-pups counted on Cape St. Elias and Cape Hinchinbrook during the 2006-2008 surveys (all of which were conducted 'early' prior to 14 June) were juveniles or adult females, the most likely age-sex classes to make such movements at this time. Based on the magnitude of the 'decline' in southeast Alaska between 2002 and 2008, and the 'increase' in the E GULF between 2004 and 2008, the number of non-pups that moved from southeast Alaska to the E GULF early in the survey period may be as high as 1,000. At this time, however, we have no precise estimate of the number of eastern DPS animals from southeast Alaska that were counted on haul-outs or rookeries early in the survey period in the E GULF. However, if it is as high as 1,000 (the approximate increase observed between 2004 and 2008 at Cape St. Elias alone), then 'true' Alaska wSSL non-pup counts would have declined -1% between 2004 and 2008.

In 2009, we plan on conducting a 'late' survey in the southeast Alaska and E GULF regions as part of the Alaska-wide sea lion pup assessment. If our movement hypothesis is correct, we expect to see lower non-pup counts overall in the E GULF, and on haul-outs in particular, and higher overall in SEAK than we did in 2008.

CONCLUSION

Trends in counts of adult and juvenile western Steller sea lions (wSSLs) in Alaska from 2000 to 2008 have not been consistent across the range nor for the entire period:

- During the first four years (2000-2004), Alaska wSSL non-pup counts increased by 11%. Most of the 2000-2004 increase occurred in the core region from the Kenai Peninsula through Kiska Island (Kenai-Kiska); decreases in the W ALEU were largely balanced by increases in the E GULF.
- During the second four years (2004-2008), Alaska wSSL non-pup counts increased by 3% due to greater numbers counted in the E GULF. Kenai-Kiska

counts were stable, but counts in the W ALEU continued to decline. Evidence suggests that movement of animals from southeast Alaska (eastern DPS) to haul-outs in the E GULF (western DPS) prior to the 2008 survey contributed to higher counts in the E GULF and lower than expected counts in southeast Alaska. We do not have a precise estimate of the number of eastern DPS animals counted in the E GULF. However, if it as high as 1,000 (the approximate increase observed between 2004 and 2008 at a single E GULF haul-out, Cape St. Elias), then Alaska wSSL non-pup counts would have declined -1% between 2004 and 2008. As a consequence, we conclude that the recent (2004-2008) trend for adult and juvenile western Steller sea lions in Alaska is stable or declining slightly.

Pup production by Steller sea lions in the western DPS in Alaska has been largely stable between 1998 and 2005/07, despite overall increases in non-pup counts between 2000 and 2008. Throughout the western DPS in Alaska, pup counts declined 2% overall in this 7-9 year period, increased 4% in the E GULF and increased about 3% in the Kenai-Kiska core. Increases in non-pup counts since 2000 in the E GULF (+93%) were far greater than increases in pup counts in the last 8 or 4 years in the E GULF itself (+4% or +22%, respectively) or the entire western DPS in Alaska (-2% or +4%, respectively). This supports the hypothesis that the large increase in non-pups in the eastern Gulf of Alaska is not due to local pup production but more likely a result of seasonal movements of animals from the population in southeast Alaska that has been consistently increasing since the late 1970s.

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Table 1. Counts of adult and juvenile (non-pup) Steller sea lions at trend rookeries and haul-outs in the range of the western distinct population segment (DPS) in Alaska from aerial surveys conducted in June-July 2000-2008. In 2000 and 2002, sea lions were counted off oblique 35 mm film images; in 2004-2008, sea lions were counted off high resolution vertical images. **This table contains raw unadjusted counts. For trend analysis, region totals from 2004-2008 must be multiplied by 96.36% to account for differences in counts due to photo orientation and resolution (Fritz and Stinchcomb 2005).** Rookeries labeled Y* are 'new' rookeries: they have produced at least 50 pups since 1975, but were not included as rookeries in the designation of critical habitat (CH) in 1993. Rookeries labeled N* are CH rookeries, but have not produced at least 50 pups since 1975.

| SITENAME | REGION | Rookery | 2000 | 2002 | 2004 | 2006 | 2007 | 2008 |
|--------------------------|--------|---------|------|------|------|-------|------|-------|
| CAPE ST. ELIAS | E GULF | | 485 | 574 | 318 | 414 | 728 | 1,400 |
| CAPE HINCHINBROOK | E GULF | | 106 | 107 | 496 | 237 | 95 | 229 |
| SEAL ROCKS | E GULF | Y | 749 | 768 | 841 | 1,119 | 803 | 1,024 |
| WOODED (FISH) | E GULF | Y | 396 | 396 | 523 | 619 | 282 | 603 |
| GLACIER | E GULF | | 0 | 435 | 620 | 466 | 531 | 509 |
| THE NEEDLE | E GULF | | 126 | 115 | 123 | 127 | 145 | 88 |
| POINT ELRINGTON | E GULF | | 128 | 114 | 132 | 58 | 37 | 169 |
| CAPE PUGET | E GULF | | 0 | 0 | 0 | 0 | 0 | 0 |
| CAPE FAIRFIELD | E GULF | | 21 | 2 | 0 | 0 | 10 | 47 |
| RUGGED | E GULF | | 3 | 0 | 0 | 0 | 0 | 8 |
| AIALIK CAPE | E GULF | | 0 | 6 | 1 | 103 | 161 | 77 |
| CHISWELL ISLANDS | E GULF | Y* | 54 | 97 | 72 | 71 | 74 | 68 |
| SEAL ROCKS (KENAI) | E GULF | | 34 | 1 | 3 | 4 | 2 | 0 |
| OUTER (PYE) | C GULF | Y | 262 | 226 | 222 | 251 | 268 | 249 |
| GORE POINT | C GULF | | 0 | 0 | 0 | 0 | 0 | 0 |
| EAST CHUGACH | C GULF | | 0 | 0 | 0 | | 0 | 0 |
| PERL | C GULF | | 48 | 99 | 49 | | 241 | 144 |
| NAGAHUT ROCKS | C GULF | | 10 | 1 | 1 | | 2 | 21 |
| ELIZABETH/CAPE ELIZABETH | C GULF | | 78 | 177 | 28 | | 0 | 0 |
| SUGARLOAF | C GULF | Y | 706 | 736 | 667 | 733 | 662 | 849 |
| USHAGAT/NW | C GULF | | 1 | 1 | 3 | 0 | 0 | 0 |
| USHAGAT/SW | C GULF | Y* | 98 | 116 | 101 | 141 | 74 | 96 |
| USHAGAT/ROCKS SOUTH | C GULF | | 37 | 5 | 8 | 9 | 0 | 45 |
| LATAK ROCKS | C GULF | | 100 | 145 | 56 | | 115 | 108 |
| SEA OTTER | C GULF | | 118 | 45 | 127 | | 100 | 1 |
| RK NEAR SEA OTTER | C GULF | | 0 | 0 | 10 | | 0 | 47 |
| AFOGNAK/TONKI CAPE | C GULF | | 1 | 0 | 0 | | 0 | 16 |
| SEA LION ROCKS (MARMOT) | C GULF | | 56 | 0 | 2 | | 1 | 13 |
| MARMOT | C GULF | Y | 671 | 848 | 703 | 686 | 551 | 644 |
| LONG ISLAND | C GULF | | 36 | 80 | 32 | | | 59 |
| KODIAK/CAPE CHINIAK | C GULF | | 165 | 102 | 87 | | 241 | 130 |
| UGAK | C GULF | | 0 | 0 | 0 | | 0 | 0 |
| KODIAK/GULL POINT | C GULF | | 106 | 99 | 109 | | 148 | 109 |
| KODIAK/CAPE BARNABAS | C GULF | | 0 | 0 | 0 | | 140 | 84 |

Table 1 (continued)

| SITENAME | REGION | Rookery | 2000 | 2002 | 2004 | 2006 | 2007 | 2008 |
|-------------------------------|--------|---------|------|-------|-------|-------|-------|-------|
| TWOHEADED | C GULF | | 254 | 227 | 266 | | 228 | 204 |
| SITKINAK/CAPE SITKINAK | C GULF | | 160 | 91 | 80 | | 104 | 115 |
| KODIAK/CAPE UGAT | C GULF | | 182 | 104 | 2 | 167 | 248 | 285 |
| KODIAK/STEEP CAPE | C GULF | | 0 | 28 | 0 | 14 | 61 | 38 |
| SHAKUN ROCKS | C GULF | | 225 | 45 | 104 | 67 | 113 | 81 |
| TAKLI | C GULF | | 33 | 79 | 85 | 157 | 92 | 67 |
| PUALE BAY | C GULF | | 84 | 94 | 58 | 2 | 1 | 2 |
| UGAIUSHAK | C GULF | | 2 | 2 | 0 | 0 | 2 | 0 |
| SUTWIK | C GULF | | 114 | 114 | 206 | 114 | 127 | 93 |
| CHOWIET | C GULF | Y | 504 | 582 | 541 | | 576 | 559 |
| CHIRIKOF | C GULF | Y | 276 | 320 | 303 | | 300 | 300 |
| NAGAI ROCKS | C GULF | | 228 | 231 | 330 | | 449 | 234 |
| CHERNABURA | W GULF | Y | 496 | 496 | 828 | | 1,228 | 1,281 |
| LIGHTHOUSE ROCKS | W GULF | Y* | 64 | 84 | 111 | 153 | 152 | 164 |
| KAK | W GULF | | 70 | 108 | 17 | 24 | | 1 |
| MITROFANIA | W GULF | | 126 | 150 | 182 | 103 | 116 | 129 |
| SPITZ | W GULF | | 6 | 0 | 1 | 0 | 11 | 1 |
| KUPREANOF POINT | W GULF | | 12 | 64 | 53 | 116 | 53 | 72 |
| CASTLE ROCK | W GULF | | 38 | 75 | 70 | 15 | 38 | 28 |
| ATKINS | W GULF | Y | 537 | 560 | 651 | 663 | 585 | 558 |
| THE HAYSTACKS | W GULF | | 62 | 50 | 38 | 1 | 41 | 3 |
| THE WHALEBACK | W GULF | | 162 | 116 | 102 | 99 | 83 | 102 |
| NAGAI/MOUNTAIN POINT | W GULF | | 62 | 105 | 80 | 56 | 148 | 60 |
| SEA LION ROCKS (SHUMAGINS) | W GULF | | 33 | 26 | 36 | 142 | 44 | 54 |
| UNGA/ACHEREDIN POINT | W GULF | | 108 | 188 | 264 | 152 | 229 | 202 |
| JUDE | W GULF | Y* | 391 | 374 | 474 | 338 | 445 | 465 |
| PINNACLE ROCK | W GULF | Y | 868 | 1,034 | 1,011 | 1,167 | 1,057 | 1,094 |
| CLUBBING ROCKS | W GULF | Y | 712 | 830 | 911 | 1,037 | 1,063 | 952 |
| CHERNI | W GULF | | 0 | 0 | 0 | 0 | 0 | 0 |
| SOUTH ROCKS | W GULF | | 161 | 262 | 528 | 320 | 457 | 451 |
| BIRD ROCK | W GULF | | 88 | 95 | 57 | 62 | 97 | 155 |
| UNIMAK/CAPE SARICHEF | E ALEU | | 216 | 321 | 250 | 6 | 0 | 167 |
| AMAK+ROCKS | E ALEU | | 946 | 563 | 733 | 410 | 220 | 265 |
| SEA LION ROCK (AMAK) | E ALEU | Y | 258 | 507 | 456 | 447 | 385 | 360 |
| UGAMAK COMPLEX | E ALEU | Y | 746 | 1,044 | 1,304 | 1,319 | 1,493 | 1,619 |
| AIKTAK | E ALEU | | 92 | 75 | 101 | 111 | 43 | 42 |
| TIGALDA/ROCKS NE | E ALEU | | 123 | 134 | 141 | 202 | 236 | 359 |
| TIGALDA/SOUTH SIDE | E ALEU | | 42 | 38 | 46 | 83 | 105 | 91 |
| ROOTOK | E ALEU | | 93 | 84 | 96 | 96 | 141 | 60 |
| TANGINAK | E ALEU | | 8 | 3 | 4 | 6 | 4 | 1 |
| AKUN/BILLINGS HEAD | E ALEU | Y | 254 | 275 | 307 | 338 | 523 | 386 |
| AKUTAN/REEF-LAVA | E ALEU | | 43 | 36 | 119 | 103 | 57 | 128 |
| AKUTAN/CAPE MORGAN | E ALEU | Y | 739 | 783 | 1,021 | 1,249 | 1,172 | 1,135 |
| OLD MAN ROCKS | E ALEU | | 114 | 25 | 71 | 112 | 81 | 89 |
| EGG | E ALEU | | 0 | 1 | 5 | 0 | 0 | 0 |
| OUTER SIGNAL | E ALEU | | 2 | 0 | 0 | 0 | 0 | 10 |

Table 1 (continued)

| SITENAME | REGION | Rookery | 2000 | 2002 | 2004 | 2006 | 2007 | 2008 |
|-----------------------|--------|---------|------|------|-------|------|------|------|
| UNALASKA/CAPE SEDANKA | E ALEU | | 0 | 106 | 0 | 0 | 0 | 0 |
| UNALASKA/BISHOP POINT | E ALEU | | 106 | 122 | 265 | 285 | 196 | 204 |
| UNALASKA/MAKUSHIN BAY | E ALEU | | 79 | 7 | 20 | 88 | 154 | 115 |
| UNALASKA/SPRAY CAPE | E ALEU | | 0 | 67 | 0 | 0 | 0 | 0 |
| UNALASKA/CAPE IZIGAN | E ALEU | | 116 | 211 | 238 | 329 | 304 | 188 |
| BOGOSLOF/FIRE ISLAND | E ALEU | Y | 347 | 357 | 380 | 358 | 405 | 390 |
| UMNAK/CAPE ASLIK | E ALEU | | 74 | 52 | 119 | 73 | | 63 |
| POLIVNOI ROCK | E ALEU | | 108 | 98 | 91 | 42 | 96 | 93 |
| THE PILLARS | E ALEU | | 51 | 14 | 4 | 0 | 0 | 0 |
| OGCHUL | E ALEU | Y | 117 | 105 | 139 | 132 | 152 | 200 |
| VSEVIDOF | E ALEU | | 46 | 34 | 48 | 41 | 35 | 50 |
| ADUGAK | E ALEU | Y | 270 | 201 | 259 | 429 | 473 | 636 |
| ULIAGA | C ALEU | | 90 | 121 | 0 | 99 | | 66 |
| KAGAMIL | C ALEU | | 24 | 12 | 1 | 0 | | 0 |
| CHUGINADAK | C ALEU | | 23 | 62 | 129 | 79 | | 53 |
| CARLISLE | C ALEU | | 12 | 0 | 0 | 0 | | 27 |
| HERBERT | C ALEU | | 6 | 2 | 38 | 66 | | 105 |
| YUNASKA | C ALEU | Y | 241 | 276 | 260 | 255 | 279 | 282 |
| CHAGULAK | C ALEU | | 40 | 5 | 0 | 13 | | 59 |
| AMUKTA+ROCKS | C ALEU | | 38 | 42 | 2 | 18 | 56 | 35 |
| SEGUAM/FINCH POINT | C ALEU | | 14 | 27 | 2 | | 0 | 0 |
| SEGUAM/SW RIP | C ALEU | | 23 | 50 | 40 | | 31 | 39 |
| SEGUAM/SADDLERIDGE | C ALEU | Y | 570 | 666 | 923 | | 668 | 835 |
| SEGUAM/TURF POINT | C ALEU | | 82 | 84 | 58 | | 8 | 3 |
| SEGUAM/LAVA COVE | C ALEU | | 0 | 0 | 0 | | 0 | 0 |
| SEGUAM/LAVA POINT | C ALEU | | 0 | 10 | 5 | | 0 | 0 |
| SEGUAM/WHARF POINT | C ALEU | | 55 | 50 | 90 | | 121 | 49 |
| AGLIGADAK | C ALEU | N* | 48 | 82 | 61 | | 15 | 14 |
| AMLIA/EAST CAPE | C ALEU | | 86 | 82 | 34 | | 55 | 117 |
| AMLIA/SVIECH. HARBOR | C ALEU | | 120 | 98 | 144 | | 113 | 100 |
| TANADAK (AMLIA) | C ALEU | | 74 | 32 | 1 | | 0 | 30 |
| SAGIGIK | C ALEU | | 22 | 40 | 30 | | 10 | 14 |
| ATKA/NORTH CAPE | C ALEU | | 76 | 224 | 383 | 279 | 140 | 32 |
| ATKA/CAPE KOROVIN | C ALEU | | 12 | 1 | 4 | 0 | 30 | 39 |
| SALT | C ALEU | | 0 | 0 | 0 | | 0 | 4 |
| KASATOCHI/NORTH POINT | C ALEU | Y | 390 | 529 | 667 | 610 | 613 | 550 |
| OGLODAK | C ALEU | | 66 | 76 | 86 | 111 | 58 | 99 |
| IKIGINAK | C ALEU | | 0 | 8 | 0 | 8 | 16 | 0 |
| FENIMORE | C ALEU | | 67 | 22 | 30 | 10 | 9 | 4 |
| ANAGAKSIK | C ALEU | | 46 | 40 | 2 | 52 | 14 | 20 |
| GREAT SITKIN | C ALEU | | 29 | 106 | 0 | 0 | 0 | 0 |
| LITTLE TANAGA STRAIT | C ALEU | | 234 | 82 | 49 | | 15 | 36 |
| KAGALASKA | C ALEU | | 45 | 34 | 48 | 0 | 3 | 42 |
| ADAK | C ALEU | Y | 874 | 821 | 1,008 | | 779 | 621 |
| KANAGA/N CAPE | C ALEU | | 25 | 12 | 7 | 13 | 2 | 14 |
| KANAGA/CAPE MIGA | C ALEU | | 1 | 0 | 0 | 0 | 0 | 0 |
| KANAGA/SHIP ROCK | C ALEU | Y* | 156 | 242 | 229 | | 331 | 322 |

Table 1 (continued)

| SITENAME | REGION | Rookery | 2000 | 2002 | 2004 | 2006 | 2007 | 2008 |
|------------------------|---------------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|
| TANAGA/BUMPY POINT | C ALEU | | 18 | 26 | 33 | | 33 | 22 |
| TANAGA/CAPE SASMIK | C ALEU | | 154 | 148 | 122 | | 63 | 95 |
| GRAMP ROCK | C ALEU | Y | 580 | 600 | 679 | | | 593 |
| UGIDAK | C ALEU | | 6 | 23 | 25 | | | 16 |
| TAG | C ALEU | Y | 301 | 279 | 242 | | | 255 |
| KAVALGA | C ALEU | | 50 | 18 | 56 | | | 63 |
| UNALGA+DINKUM ROCKS | C ALEU | | 50 | 46 | 19 | | | 0 |
| ULAK/HASGOX POINT | C ALEU | Y | 663 | 481 | 531 | | | 537 |
| AMATIGNAK/KNOB POINT | C ALEU | | 0 | 0 | 1 | | 0 | 3 |
| AMATIGNAK/NITROF POINT | C ALEU | | 96 | 40 | 76 | 38 | | 49 |
| SEMISOPOCHNOI/POCHNOI | C ALEU | N* | 65 | 70 | 55 | 41 | | 32 |
| AMCHITKA/CAPE IVAKIN | C ALEU | | 0 | 0 | 0 | 0 | 0 | 0 |
| AMCHITKA/EAST CAPE | C ALEU | N* | 101 | 186 | 178 | 103 | | 103 |
| AMCHITKA/ST. MAKARIUS | C ALEU | | 0 | 0 | 0 | 0 | 0 | 0 |
| AMCHITKA/COLUMN ROCK | C ALEU | Y | 92 | 71 | 85 | | | 71 |
| AYUGADAK | C ALEU | Y | 146 | 182 | 152 | | | 152 |
| RAT | C ALEU | | 2 | 28 | 45 | | | 0 |
| SEA LION ROCK (KISKA) | C ALEU | | 0 | 1 | 0 | | | 0 |
| TANADAK (KISKA) | C ALEU | | 71 | 54 | 34 | | | 1 |
| KISKA/SOBAKA-VEGA | C ALEU | | 152 | 54 | 101 | | | 52 |
| KISKA/CAPE ST STEPHEN | C ALEU | Y | 152 | 126 | 210 | | 211 | 229 |
| KISKA/LIEF COVE | C ALEU | Y | 272 | 174 | 170 | | 164 | 162 |
| KISKA/PILLAR ROCK | C ALEU | | 0 | 3 | 0 | | | 0 |
| BULDIR | W ALEU | Y | 129 | 94 | 108 | | | 43 |
| SHEMYA | W ALEU | | 54 | 34 | 17 | 18 | | 4 |
| ALOID | W ALEU | | 156 | 158 | 125 | 86 | | 86 |
| AGATTU/CAPE SABAK | W ALEU | Y | 480 | 307 | 325 | 282 | 203 | 202 |
| AGATTU/GILLON POINT | W ALEU | Y | 306 | 258 | 374 | 308 | | 281 |
| ATTU/MASSACRE BAY | W ALEU | | 0 | 0 | 0 | 0 | | 0 |
| ATTU/CHIRIKOF POINT | W ALEU | | 145 | 19 | 75 | 30 | | 42 |
| ATTU/CHICHAGOF POINT | W ALEU | | 52 | 62 | 54 | 13 | | 25 |
| ATTU/KRESTA POINT | W ALEU | | 1 | 0 | 0 | 0 | | 0 |
| ATTU/CAPE WRANGELL | W ALEU | Y | 310 | 264 | 257 | 260 | | 247 |

Table 2. Counts of adult and juvenile (non-nup) Steller sea lions at trend (Y) and non-trend haul-outs and rookeries (Y) from high resolution aerial photographs taken in July 2002 and June 2008 in southeast Alaska. Counts from trend sites labeled Y* were omitted from the 'Total Trend Sites' since these sites were missed in 2002. The Brothers count is the sum of counts from The Brothers/SW and The Brothers/NW.

| SITENAME | TREND | ROOKERY | 2002 | 2008 |
|--------------------------------|-------|---------|-------|-------|
| LITTLE ISLAND | | | | 0 |
| POINT MARSH | | | 104 | 4 |
| WEST ROCK | | | 640 | 841 |
| WOLF ROCK | | | 207 | 300 |
| SAKIE POINT | | | | 0 |
| CAPE BARTOLOME | | | 41 | 0 |
| CAPE ADDINGTON | | | 1074 | 718 |
| GRINDALL | | | 130 | 374 |
| TIMBERED | | | 442 | 288 |
| HAZY | Y | Y | 2,050 | 1,686 |
| EASTERLY | | | | 255 |
| CORONATION | Y | | 46 | 279 |
| South of Cape Ommaney | | | | 102 |
| CAPE OMMANEY | | | 344 | 117 |
| LARCH BAY | | | | 28 |
| SEA LION ROCK (PUFFIN BAY) | | | 264 | 0 |
| ETOLIN | | | | 0 |
| PATTERSON POINT | | | | 0 |
| BIALI ROCK | Y | Y | 626 | 408 |
| FORRESTER COMPLEX | Y | Y | 3,699 | 2,894 |
| JACOB ROCK | Y | | 203 | 101 |
| KAIUCHALI (BIORKA) | | | 46 | 31 |
| HORN CLIFF | | | | 0 |
| YASHA | | | 920 | 379 |
| ST. LAZARIA | | | | 0 |
| PINTA ROCKS | | | | 0 |
| TURNABOUT | Y* | | | 0 |
| ROUND ROCK | | | | 0 |
| THE BROTHERS | Y | | 981 | 765 |
| SEA LION ISLANDS | Y* | | | 137 |
| POINT LULL | | | | 153 |
| SAIL | | | 0 | 3 |
| FALSE POINT PYBUS | | | 0 | 0 |
| SUNSET | | | 348 | 384 |
| POINT LEAGUE (STEVENS PASSAGE) | | | 0 | 1 |
| WHITE SISTERS | Y | Y | 1,156 | 1,132 |
| TENAKEE CANNERY POINT | | | | 0 |

Table 2 (Continued)

| SITENAME | TREND | ROOKERY | 2002 | 2008 |
|--------------------------|--------------|----------------|--------------|--------------|
| CAPE CROSS | Y | | 1 | 1 |
| MIST | | | | 0 |
| POINT MARSDEN | | | | 0 |
| CAPE BINGHAM | | | 0 | 0 |
| CIRCLE POINT | | | | 0 |
| THE SISTERS | | | | 0 |
| DOROTHY | | | | 0 |
| GRAVES ROCK | Y | Y | 1,001 | 1,305 |
| INIAN | | | 206 | 116 |
| VENISA | | | 0 | 0 |
| POINT CAROLUS | | | 0 | 0 |
| BENJAMIN | | | 0 | 0 |
| HARBOR POINT | Y | | 186 | 178 |
| SOUTH MARBLE | | | 238 | 786 |
| CASE (TLINGIT) POINT | | | | 0 |
| CAPE FAIRWEATHER | Y* | | | 0 |
| MET POINT | | | | 0 |
| ELDRED ROCK | | | | 0 |
| GRAN (LEDGE) POINT | | | 331 | 583 |
| Total Trend Sites | | | 9,949 | 8,748 |
| Total Other Sites | | | 5,335 | 5,597 |

Table 3. Counts of adult and juvenile (non-pup) Steller sea lions observed at rookery and haul-out trend sites in eight sub-areas of Alaska during June-July aerial surveys from 1991 to 2008. Overall percentage changes between various pairs of years are also shown. * For eastern Gulf of Alaska in 1998, counts made in 1999 were substituted for those sites not surveyed in 1998. Subarea count totals for 2004-2008 (**) have been adjusted to account for film format-count differences. Kenai-Kiska is comprised of the central and western Gulf of Alaska and eastern and central Aleutian Islands sub-areas. Kenai-Attu is comprised of the Kenai-Kiska plus the western Aleutian Islands sub-areas.

| Year | Gulf of Alaska | | | Aleutian Islands | | | Kenai-Kiska | Kenai-Attu | Western Stock In Alaska |
|-----------------------|----------------|---------|---------|------------------|---------|---------|-------------|------------|----------------------------|
| | Eastern | Central | Western | Eastern | Central | Western | | | |
| 1991 | 4,812 | 7,872 | 5,338 | 5,283 | 8,656 | 4,601 | 27,149 | 31,750 | 36,562 |
| 1992 | 3,981 | 7,358 | 5,112 | 5,707 | 7,633 | 4,199 | 25,811 | 30,010 | 33,991 |
| 1994 | 3,612 | 6,505 | 5,718 | 5,664 | 6,909 | 3,114 | 24,796 | 27,910 | 31,522 |
| 1996 | 2,450 | 5,400 | 5,356 | 5,967 | 6,368 | 3,334 | 23,091 | 26,425 | 28,875 |
| 1998* | 2,158 | 4,806 | 5,367 | 5,774 | 7,017 | 2,786 | 22,964 | 25,750 | 27,908 |
| 2000 | 2,102 | 4,555 | 3,996 | 4,990 | 6,560 | 1,633 | 20,101 | 21,734 | 23,836 |
| 2002 | 2,615 | 4,594 | 4,617 | 5,261 | 6,547 | 1,196 | 21,018 | 22,214 | 24,829 |
| 2004** | 3,015 | 4,028 | 5,233 | 5,991 | 6,885 | 1,286 | 22,137 | 23,423 | 26,438 |
| 2006** | 3,101 | | | 6,031 | | | | | |
| 2007** | 2,760 | | | | | | | | |
| 2008** | 4,065 | 4,420 | 5,558 | 6,405 | 5,817 | 894 | 22,199 | 23,094 | 27,159 |
| Percent change | | | | | | | | | |
| 1991-2000 | -56% | -42% | -25% | -6% | -24% | -65% | -26% | -32% | -35% |
| 2000-2008 | +93% | -3% | +39% | +28% | -11% | -45% | +10% | +6% | +14% |
| 2000-2004 | +43% | -12% | +31% | +20% | +5% | -21% | +10% | +7% | +11% |
| 2004-2008 | +35% | +10% | +6% | +7% | -16% | -30% | 0% | -1% | +3% |

Table 4. Counts of adult and juvenile Steller sea lions at trend rookery and haul-out sites in the range of the western stock in Alaska by sub-area 1991-2008. Single trend sites were missed in the central and western Gulf of Alaska, and eastern Aleutian Islands during the 2007 survey, and in the western Aleutians Islands during the 2006 survey. The central Aleutian Island sub-area was divided into eastern (Uliaga through Tanaga) and western (Delarof Islands through Kiska) portions. Counts at sites within the Central-East Aleutian Islands sub-area in 2006 and 2007 were averaged and summed. Missed sites have been omitted from the entire sub-area time series to allow aggregation of counts at the largest number of consistently surveyed sites. * For eastern Gulf of Alaska in 1998, counts made in 1999 were substituted for those sites not surveyed in 1998. Sub-area count totals in 2004-2008 (**) have been adjusted to account for resolution differences between film formats.

| Year | Gulf of Alaska | | | Aleutian Islands | | | Kenai-Tanaga | Kenai-Kiska | Total | |
|-----------------------|----------------|---------|---------|-------------------|--------------|--------------|--------------|-------------|--------|---------|
| | Eastern | Central | Western | Eastern | Central-East | Central-West | | | | Western |
| 1991 | 4,812 | 7,741 | 5,166 | 5,253 | 3,989 | 4,667 | 4,014 | 22,149 | 26,816 | 35,642 |
| 1992 | 3,981 | 7,244 | 4,980 | 5,631 | 3,377 | 4,257 | 3,746 | 21,232 | 25,489 | 33,215 |
| 1994 | 3,612 | 6,364 | 5,534 | 5,575 | 3,431 | 3,478 | 2,769 | 20,904 | 24,382 | 30,763 |
| 1996 | 2,450 | 5,272 | 5,155 | 5,861 | 2,906 | 3,462 | 3,022 | 19,194 | 22,656 | 28,128 |
| 1998* | 2,158 | 4,736 | 5,131 | 5,700 | 3,673 | 3,344 | 2,450 | 19,240 | 22,584 | 27,192 |
| 2000 | 2,102 | 4,519 | 3,926 | 4,916 | 3,761 | 2,799 | 1,504 | 17,122 | 19,921 | 23,527 |
| 2002 | 2,615 | 4,513 | 4,509 | 5,209 | 4,111 | 2,436 | 1,102 | 18,342 | 20,778 | 24,495 |
| 2004** | 3,015 | 3,997 | 5,217 | 5,876 | 4,323 | 2,562 | 1,182 | 19,413 | 21,975 | 26,172 |
| 2006** | 3,101 | | | 5,961 | 3,647 | | 961 | 19,976 | | |
| 2007** | 2,760 | 4,663 | 5,632 | 6,033 | | | | | | |
| 2008** | 4,065 | 4,363 | 5,557 | 6,344 | 3,585 | 2,232 | 853 | 19,849 | 22,081 | 27,000 |
| Percent change | | | | | | | | | | |
| 1991-2000 | -56% | -42% | -24% | -6% | -6% | -40% | -63% | -23% | -26% | -34% |
| 2000-2008 | +93% | -3% | +42% | +29% | -5% | -20% | -43% | +16% | +11% | +15% |
| 2000-2004 | +43% | -12% | +33% | +20% | +15% | -8% | -21% | +13% | +10% | +11% |
| 2004-2008 | +35% | +9% | +7% | +8% | -17% | -13% | -28% | +2% | 0% | +3% |
| 2004-2007 | -8% | +17% | +8% | +3% | -16% | | | +3% | | |
| 2007-2008 | +47% | -6% | -1% | +5% | -2% | | | -1% | | |
| Missing Site | | Long | Kak | Umnak C. Aslik | | | Buldir | | | |

Table 5. Counts of Steller sea lion pups at selected rookeries in seven sub-areas of the western stock in Alaska from 1978-1979 to 2005-2007. Blank cells indicate incomplete counts in the period and sub-area. Percentage change in counts between periods is also shown.

| Years | Gulf of Alaska | | | Aleutian Islands | | | Kenai to Kiska | Western Stock in AK |
|-----------------------|----------------|---------------|---------------|------------------|-----------------|---------------|----------------|---------------------|
| | Eastern (n=2) | Central (n=5) | Western (n=4) | Eastern (n=5) | Central (n=11)* | Western (n=4) | | |
| 1978-1979 | 574 | 18,893 | 9,351 | | | | | |
| 1985-1989 | | 10,254 | 5,879 | 4,778 | 9,382 | | 30,114 | |
| 1990-1992 | | 4,904 | 1,923 | 2,115 | 3,568 | | 12,510 | |
| 1994 | 903 | 2,831 | 1,662 | 1,756 | 3,109 | | 9,358 | |
| 1997 | 611 | | | | | 979 | | |
| 1998 | 689 | 1,876 | 1,493 | 1,474 | 2,834 | 803 | 7,677 | 9,169 |
| 2001-2002 | 586 | 1,721 | 1,671 | 1,561 | 2,612 | 488 | 7,565 | 8,639 |
| 2003-2004 | 716 | 1,609 | 1,577 | 1,731 | | | | |
| 2005-2007 | 715 | 1,683 | 1,707 | 1,955 | 2,555 | 343 | 7,900 | 8,958 |
| Percent Change | | | | | | | | |
| 1978-79 to 2001-02 | +2% | -91% | -82% | | | | | |
| 2001-02 to 2005-07 | +22% | -2% | +2% | +25% | -2% | -30% | +4% | +4% |
| 1998 to 2005-07 | +4% | -10% | +14% | +33% | -10% | -57% | +3% | -2% |

* 1985-89 CAI count does not include Amchitka/Column Rocks (n=10)
 2005-2007 CAI count includes 2004 count from Yunaska

Figure 1. Terrestrial rookery and haul-out sites in the range of eastern and western stocks of Steller sea lions in Alaska surveyed in 2008 and used in the analysis of population trends. Boundaries of the eastern, central, and western regions of the Gulf of Alaska (GOA) and Aleutian Islands (AI) are shown. The eastern and western stocks breed on rookeries east and west of 144°W, respectively.

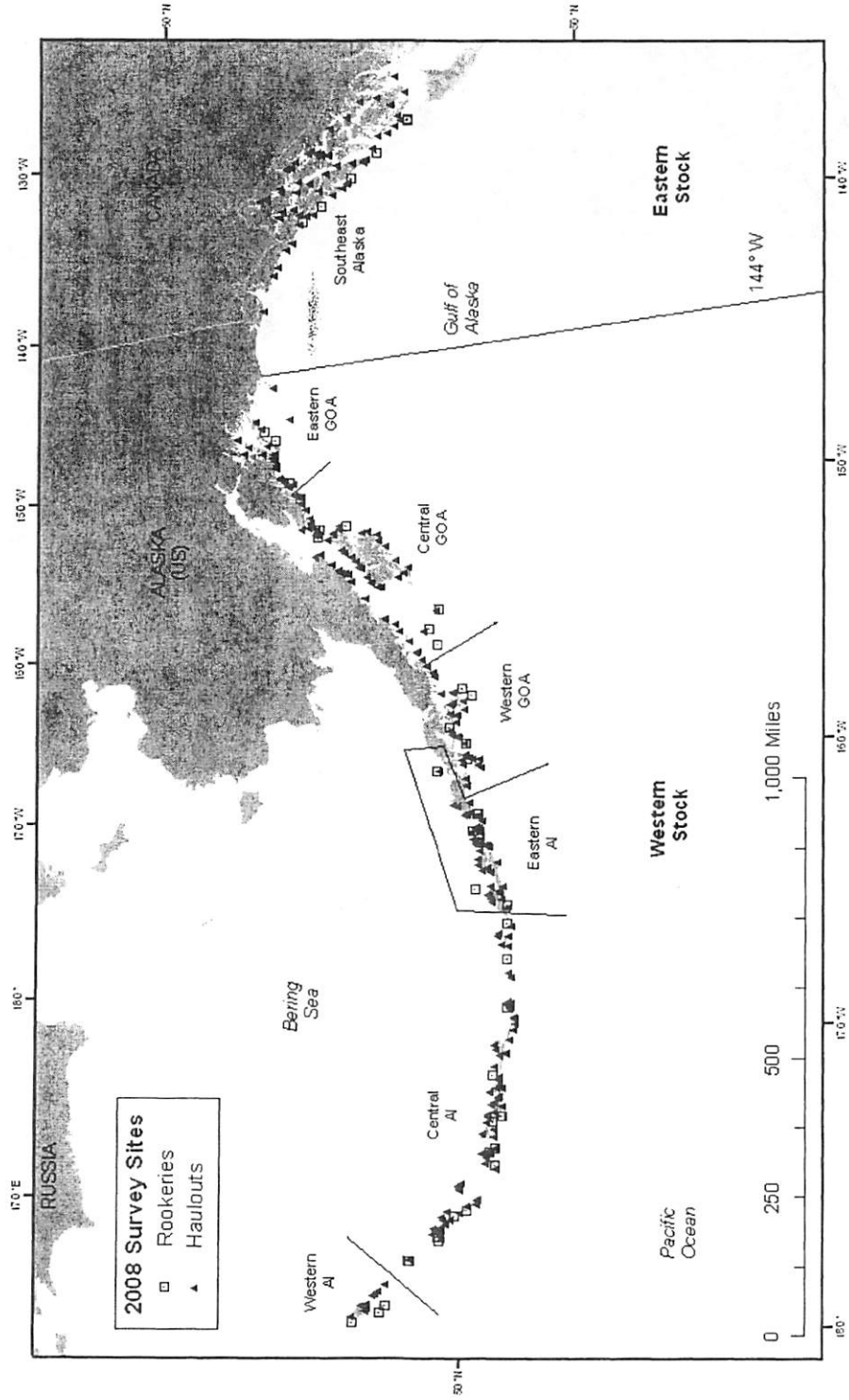
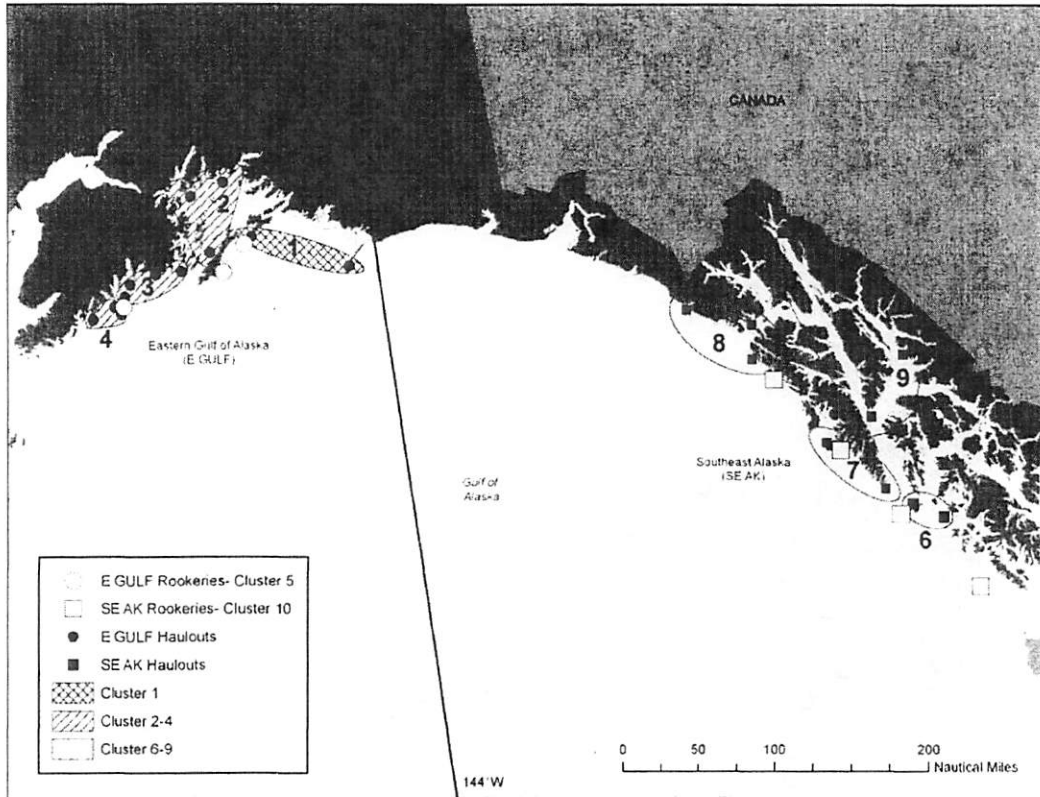


Figure 2. Clusters of haul-out and rookery sites used in analysis of non-pup Steller sea lion counts in the southeast Alaska and E GULF regions.



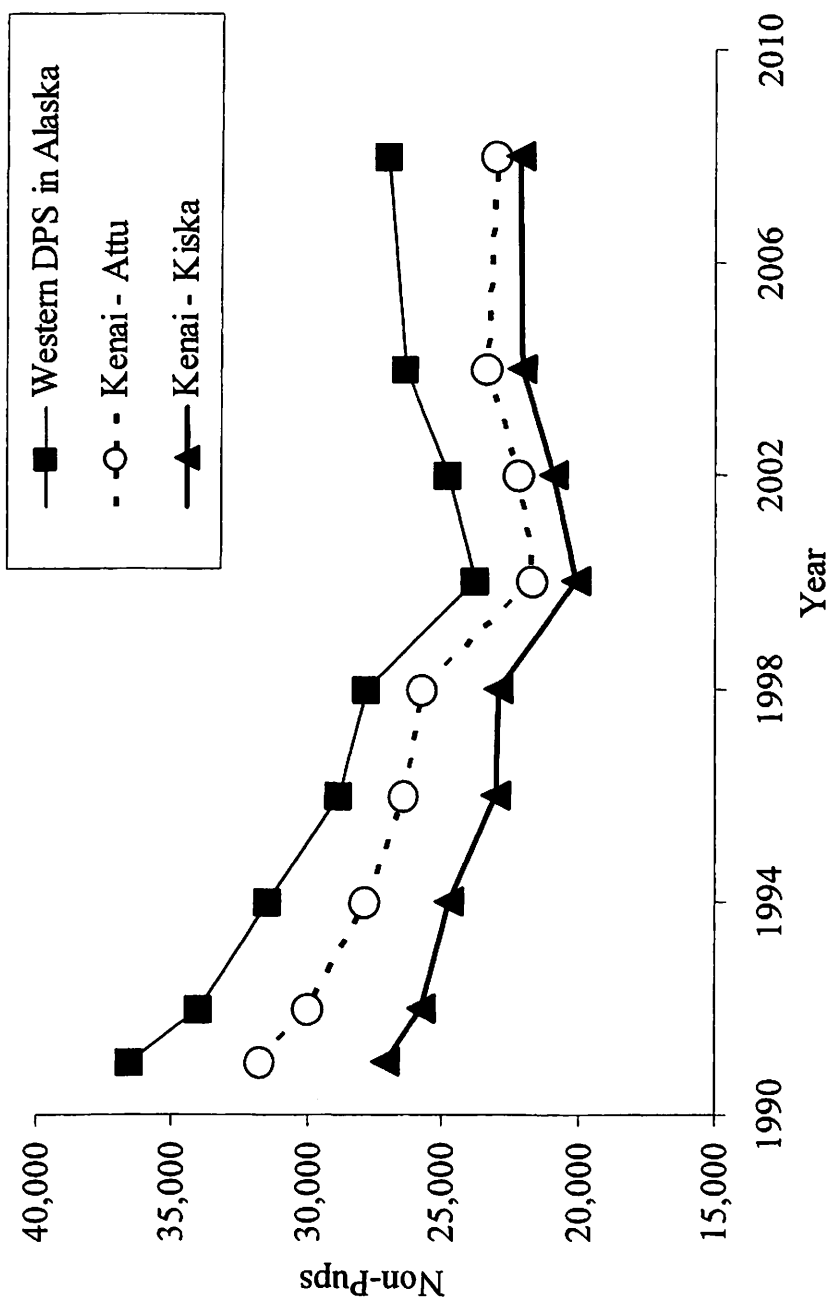


Figure 3. Total counts of adult and juvenile Steller sea lions at trend haul-out and rookery sites within the range of the western stock in Alaska, 1991-2008 (Figure 1). Data are from Table 3. "Kenai - Kiska" consists of the central and eastern Aleutian Island regions, and the western and central Gulf of Alaska. "Kenai - Attu" consists of the Kenai - Kiska region plus the western Aleutian Islands.

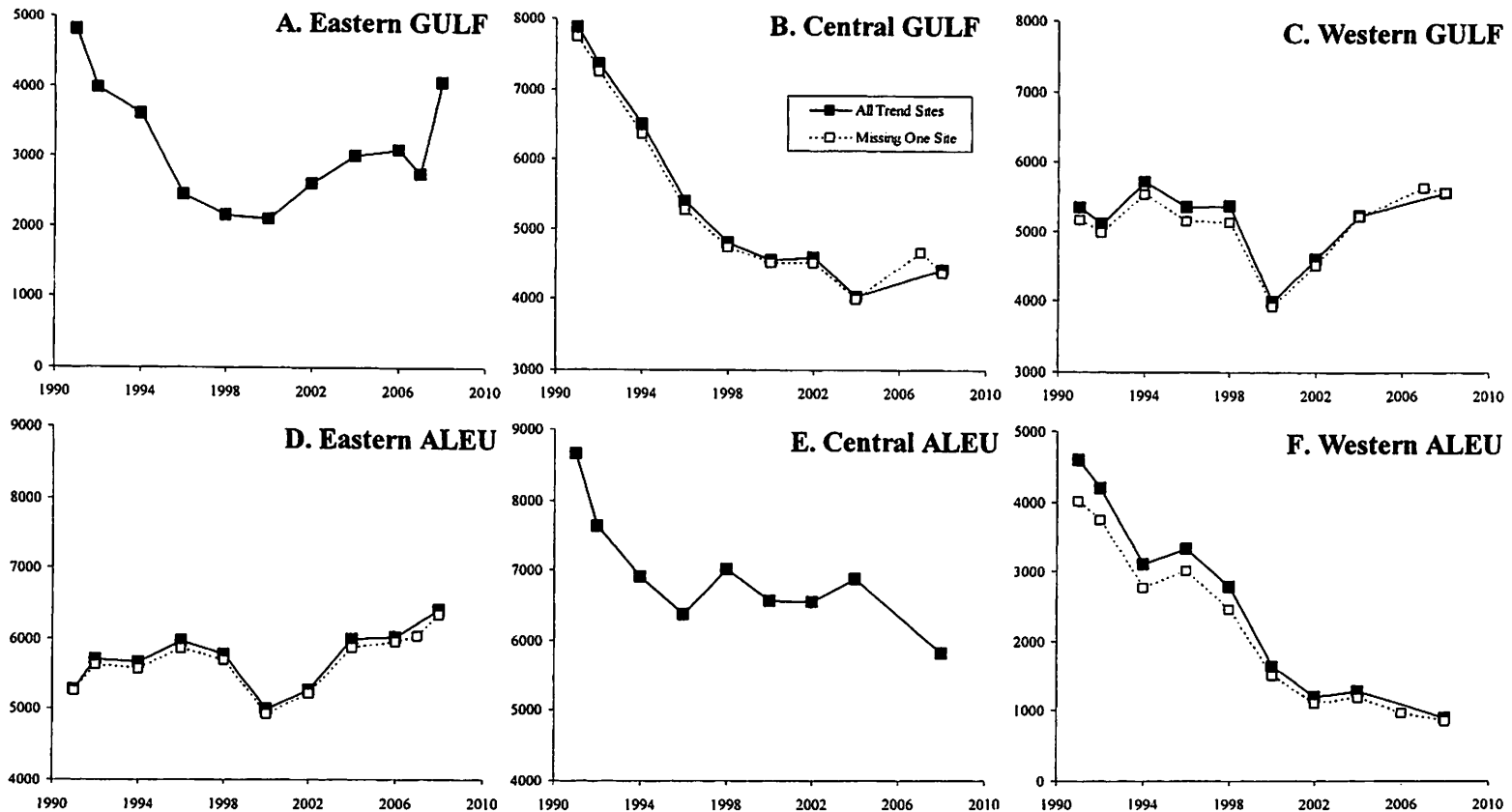


Figure 4. Total counts of adult and juvenile Steller sea lions at trend haul-out and rookery sites in 6 sub-areas within the range of the western stock in Alaska, 1991-2008. See Figure 1 for sub-area locations. Legend in B applies to all graphs. Data are from Tables 3 and 4. Missing sites are: Long Island in the Central Gulf (B), Kak Island in the Western Gulf (C), Umnak/Cape Aslik in the Eastern Aleutians (D), and Buldir Island in the Western Aleutians (F).

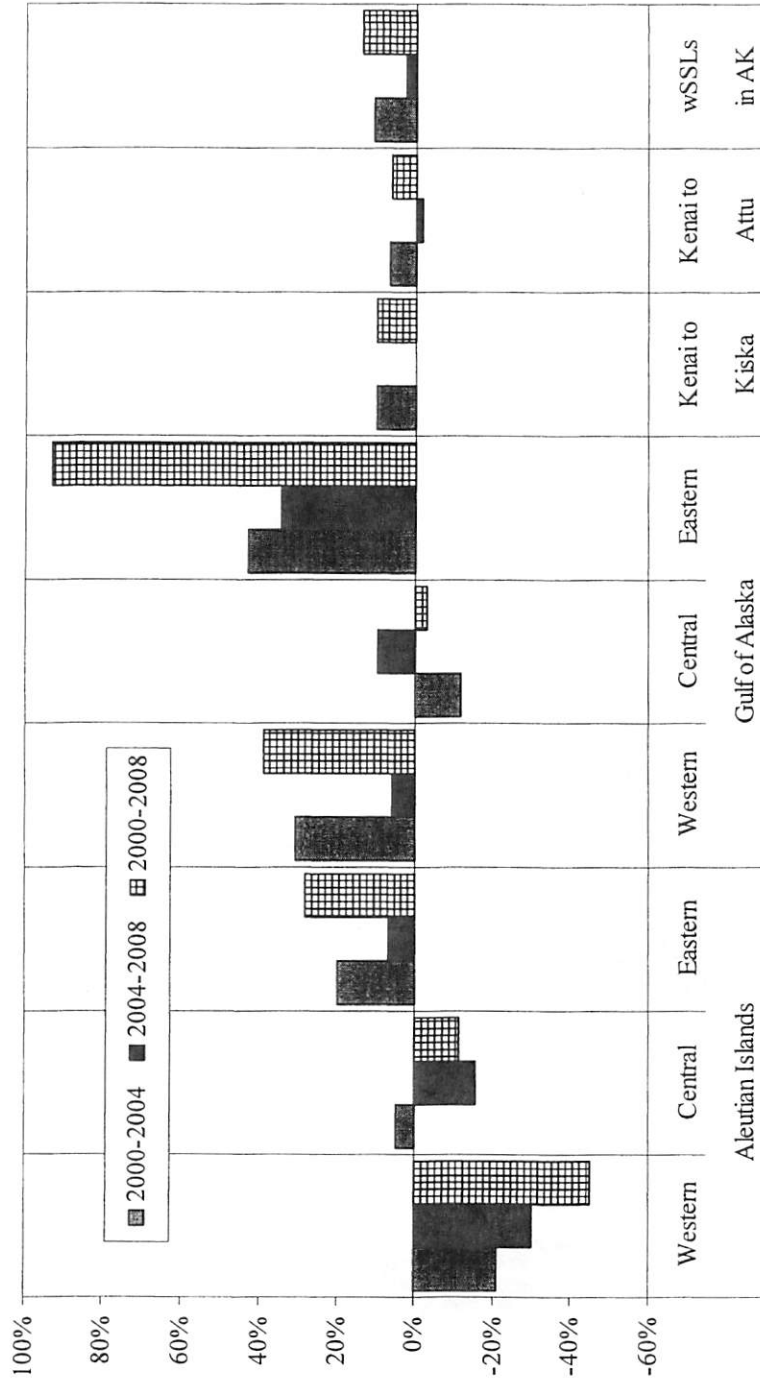


Figure 5. Percentage change in regional non-pup count totals between 2000 and 2004, 2004 and 2008, and the entire 2000-2008 period. Data are in Table 3.

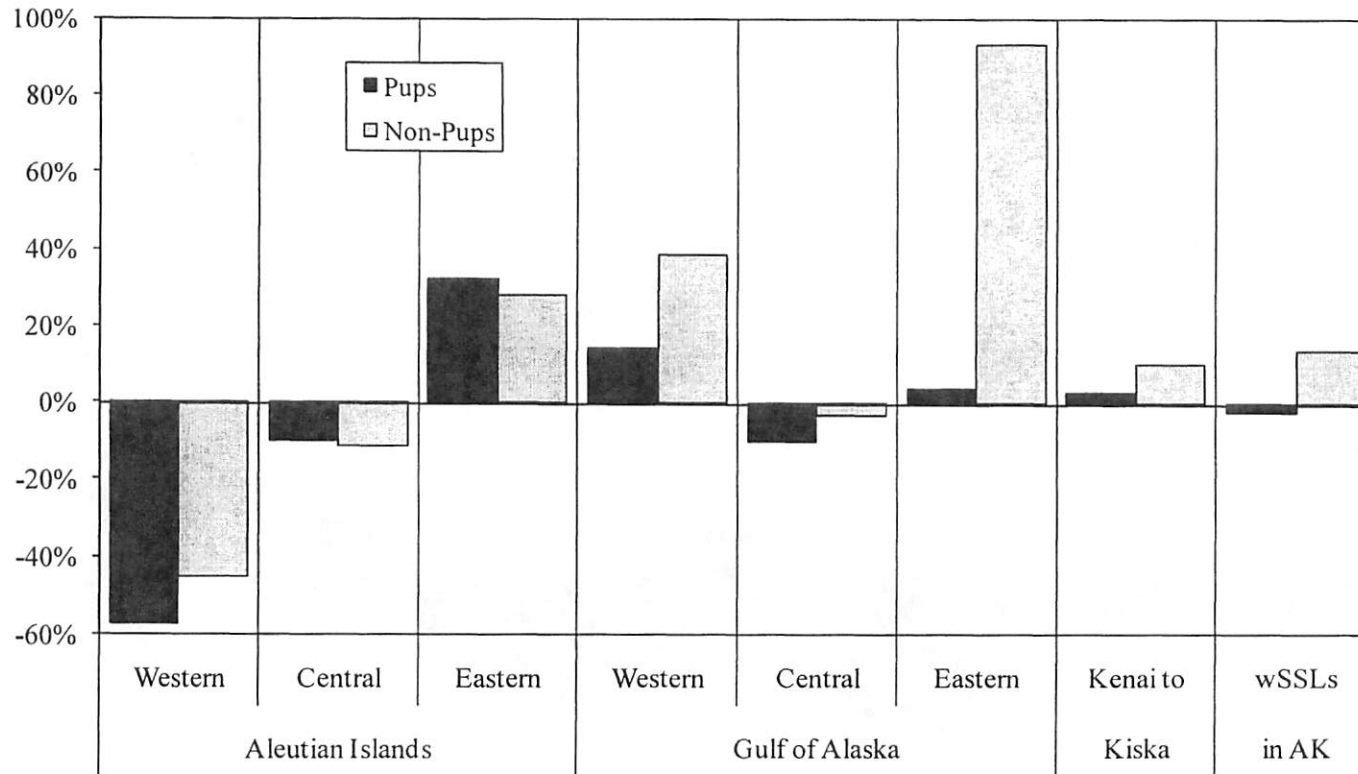


Figure 6. Percentage change in pup counts between 1998 and 2005/07 (Table 5) and non-pup counts between 2000 and 2008 (Table 3) by region within the range of the western stock of Steller sea lions (wSSLs) in Alaska.

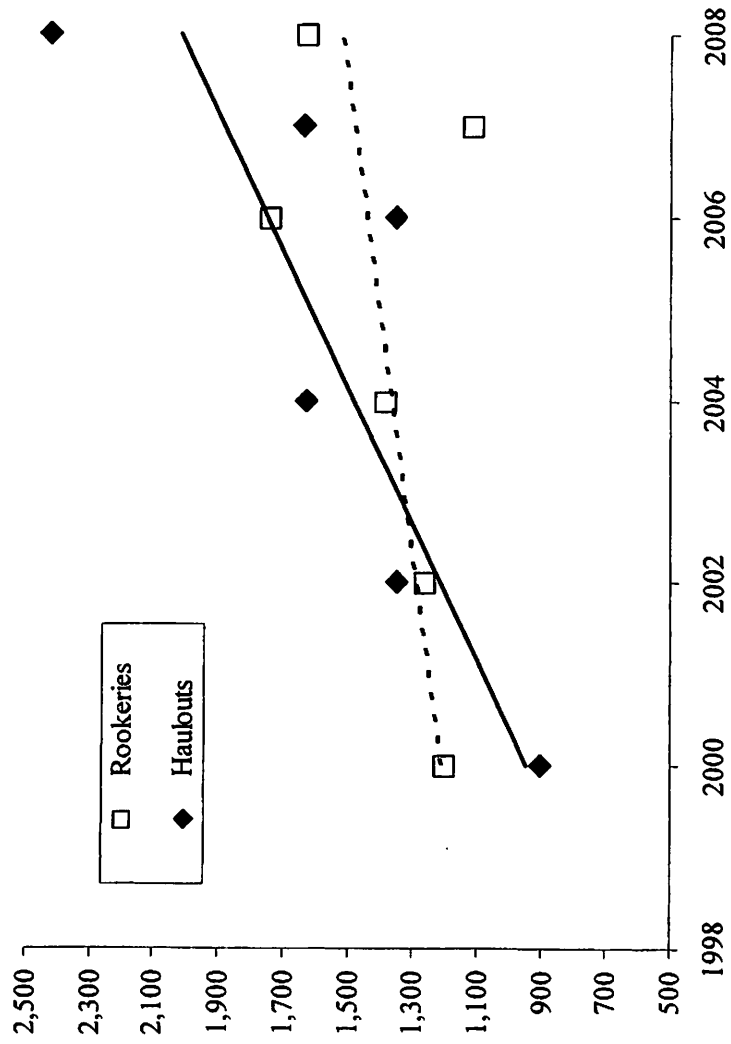


Figure 7. Counts of non-pup Steller sea lions in the eastern Gulf of Alaska on trend haul-out and rookery sites, 2000-2008. Counts at haul-outs increased significantly at 9% per year ($P=0.03$), while the slope in trend rookery counts is not significantly different from 0 ($P=0.35$).

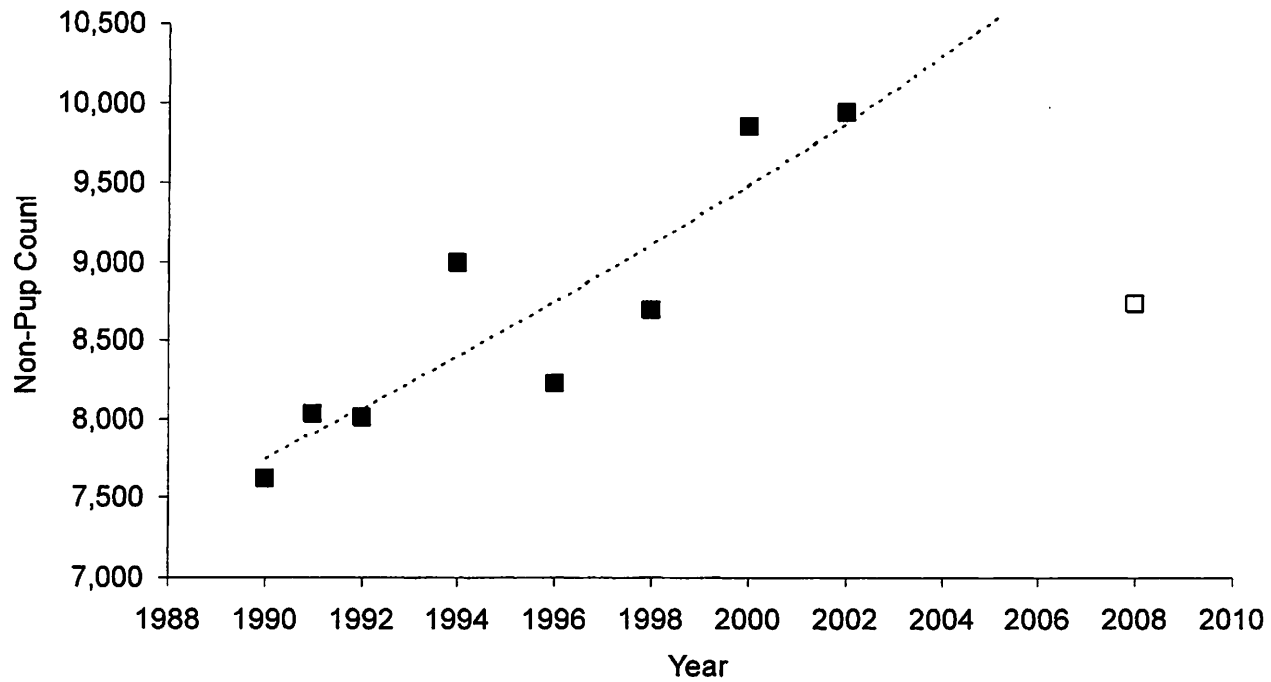
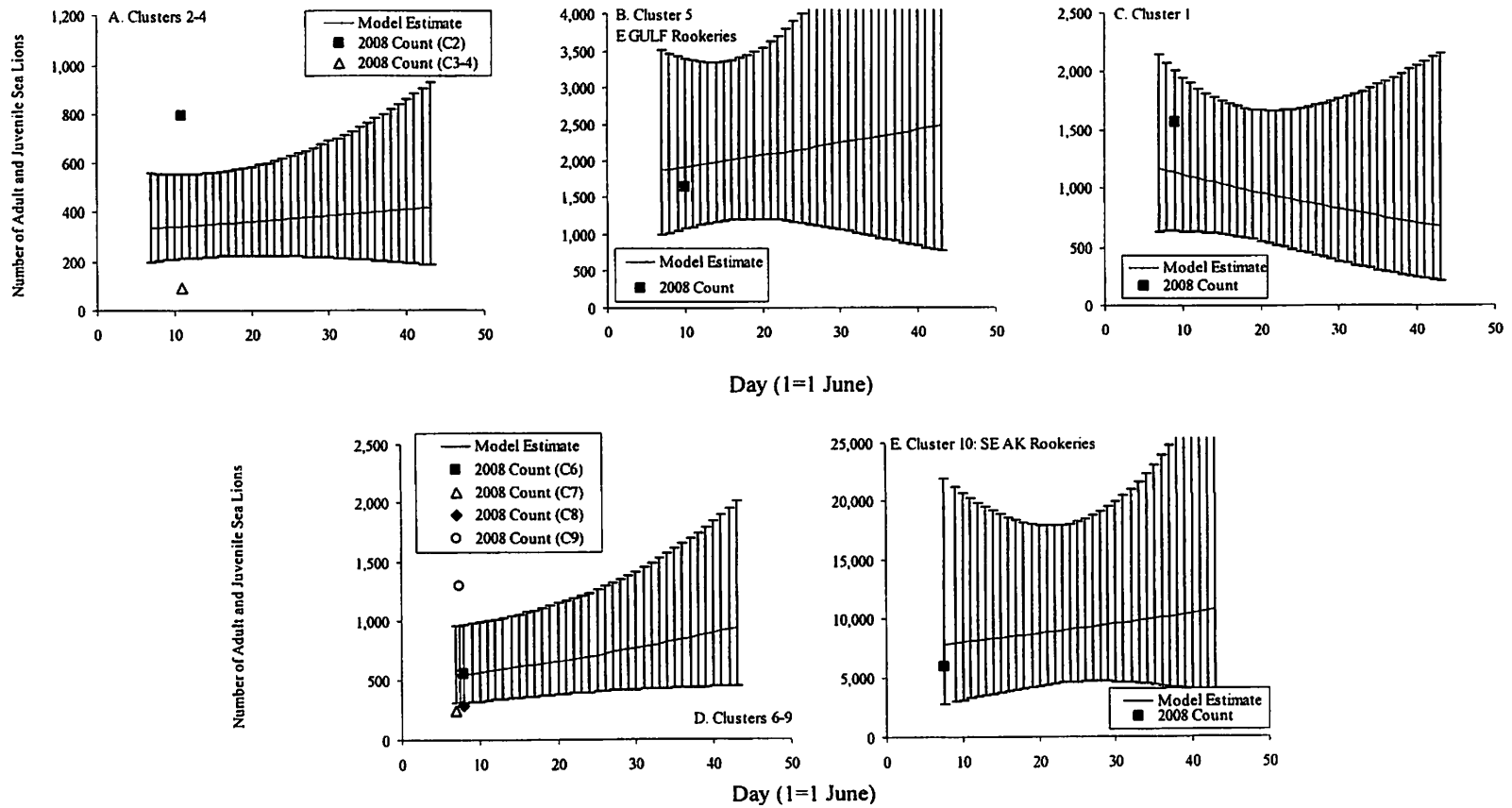


Figure 8. Total counts of adult and juvenile Steller sea lions at 10 trend haul-out and rookery sites in southeast Alaska, 1990-2008. Trend sites included Biali Rock, Cape Cross, Coronation, Forrester Complex, Graves Rock, Harbor Point, Hazy, Jacob Rock, The Brothers, and White Sisters. Regression line (dotted; $r^2 = 0.81$) does not include 2008 data (open symbol); growth rate based on 1990-2002 non-pup counts was 2.1% per year.

Figure 9. Counts of adult and juvenile Steller sea lions in clusters of haul-outs and rookeries in the eastern Gulf of Alaska (E GULF) and southeast Alaska (southeast Alaska) in 2008 plotted against day of the year (1=1 June). Actual counts are plotted as points, and model estimates as lines with 95% confidence bounds. See text for details of model structure.



DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 679

[Docket No. 071106671-8010-02]

RIN 0648-XM77

Fisherles of the Exclusive Economic Zone Off Alaska; Chiniak Gully Research Area for Vessels Using Trawl Gear

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

ACTION: Temporary rule.

SUMMARY: NMFS is rescinding the trawl closure in the Chiniak Gully Research Area. This action is necessary to allow vessels using trawl gear to participate in directed fishing for groundfish in the Chiniak Gully Research Area.

DATES: Effective 1200 hrs, Alaska local time (A.l.t.), August 1, 2009, through 1200 hrs, A.l.t., September 20, 2009.

FOR FURTHER INFORMATION CONTACT: Josh Keaton, 907-586-7228.

SUPPLEMENTARY INFORMATION: NMFS manages the groundfish fishery in the

GOA exclusive economic zone according to the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP) prepared by the North Pacific Fishery Management Council under authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations governing fishing by U.S. vessels in accordance with the FMP appear at subpart H of 50 CFR part 600 and 50 CFR part 679.

The Chiniak Gully Research Area is closed to vessels using trawl gear from August 1 to a date no later than September 20 under regulations at § 679.22(b)(6)(ii)(A). This closure is in support of a research project to evaluate the effects of commercial fishing on pollock distribution and abundance, as part of a comprehensive investigation of Stellar sea lion and commercial fishery interactions.

The regulations at § 679.22(b)(6)(ii)(B) provide that the Regional Administrator, Alaska Region, NMFS, (Regional Administrator) shall rescind the trawl closure if relevant research activities will not be conducted. The Regional Administrator has determined that research activities will not be conducted in 2009 in the Chiniak Gully Research Area. Therefore, the Regional Administrator is rescinding the trawl closure of the Chiniak Gully Research

Area. All other closures remain in full force and effect.

Classification

Pursuant to 5 U.S.C. 553 (b)(B), the Assistant Administrator for Fisheries, NOAA (AA) finds good cause to waive prior notice and an opportunity for public comment on this action, as notice and comment is unnecessary. Notice and comment is unnecessary because the rescission of the trawl closure is non-discretionary; pursuant to § 679.22(b)(6)(ii)(B), the Regional Administrator has no choice but to rescind the trawl closure once it is determined that research activities will not be conducted in the area.

Pursuant to 5 U.S.C. 553(d)(1), this rule is not subject to the 30-day delay in effective date requirement of 5 U.S.C. 553(d) since the rule relieves a restriction.

This action has been determined to be not significant for purposes of Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: January 14, 2009.

Emily H. Menashes

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. E9-1093 Filed 1-16-09; 8:45 am]

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N.P.F.M.C.



Washington Department of
FISH and WILDLIFE

600 Capitol Way N
Olympia, WA 98501-1091

January 6, 2009

Mr. Robert D. Mecum, Acting Regional Administrator
National Marine Fisheries Service, Alaska Region
P.O. Box 21668
Juneau, Alaska 99802-1668

Dear Mr. Mecum,

The eastern Distinct Population Segment (DPS) of the Steller Sea Lion (SSL) is listed as Threatened under the Endangered Species Act (ESA). This listing has numerous impacts on our states, which include: 1) impacts to our management options for addressing sea lion predation on ESA-listed salmonid stocks and on the reproductive segments of the white sturgeon population, and 2) mitigation of sea lion interactions with commercial and recreational fisheries. Our agencies are also involved in SSL stock assessment and management under both ESA and the Marine Mammal Protection Act (MMPA); consequently we have considerable expertise and staff investment in SSL assessment and management. We have closely followed the recent revisions to the SSL recovery plan, the final version of which was released in March 2008¹ by the National Marine Fisheries Service (NMFS).

The Final Recovery Plan accurately characterizes the recent population trend data and status of threats for the eastern DPS that were reviewed by Pitcher et al (2007)². Rookeries in Oregon, British Columbia and southeastern Alaska are flourishing and total numbers are growing range wide. Counts at haulouts in Washington, which lacks rookeries, have been increasing for the last 25 years, and new haulouts are being established in areas such as the San Juan Islands with no historic record of use. Additionally, by definition under the MMPA, if a stock falls above the point of Maximum Net Productivity (which the eastern DPS is) it is within Optimum Sustainable Population range (MNP to "k") and not depleted, threatened or endangered.

¹ National Marine Fisheries Service. 2008. Recovery Plan for the Steller Sea Lion (*Eumetopias jubatus*). Revision. National Marine Fisheries Service, Silver Spring, MD. 325 pages.

² Pitcher, K. W., P. F. Olesiuk, R. F. Brown, M. S. Lowry, S. J. Jeffries, J. L. Sease, W. L. Perryman, C. E. Stinchcomb, and L. F. Lowry. 2007. Abundance and distribution of the eastern North Pacific Steller sea lion (*Eumetopias jubatus*) population. Fishery Bulletin 107:102-115.

Mr. Robert D. Mecum
January 6, 2009
Page 2

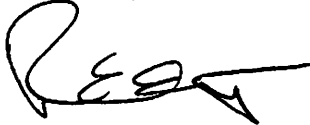
The basic consensus among Steller sea lion researchers at Washington Department of Fish and Wildlife, Oregon Department of Fish and Wildlife, NMFS/National Marine Mammal Laboratory, Alaska Department of Fish and Game, and Department of Fisheries and Oceans-Canada is that based on the last range wide surveys, documented population growth, reoccupation of historic range and establishment of a substantial number of new breeding rookeries in Southeast Alaska, the SSL eastern DPS no longer meets federal ESA listing criteria and a delisting effort is warranted.

The final SSL recovery plan includes a recommendation to implement recovery actions for the eastern DPS within one year of completion of the plan. Those actions are to develop a 10-year Post-Delisting Monitoring Plan (PDMP) and to initiate a delisting determination status review. We request that NMFS Alaska Regional Office provide us with an update on the expected timeframe for accomplishing those actions. We would also appreciate the opportunity to meet with you to discuss coordination with our agencies, the extent of the PDMP and the potential for the state agencies to provide an initial draft of the PDMP, and workload issues for the delisting determination status review.

We are aware of the North Pacific Fishery Management Council request, in April 2008, to initiate the SSL delisting process, as well as your September 2008 response, which stated "NMFS hopes to conduct a status review of the eastern DPS within the next year during which the status of the eastern DPS, relative to the delisting criteria, would be evaluated. With limited staff resources we must prioritize between the schedule for the Biological Opinion and the status review. NMFS agrees with the Council that the status review and potential delisting activities should not delay completion of the development of the status quo Biological Opinion on the effects of the groundfish fisheries in the Gulf of Alaska, Bering Sea and Aleutian Islands." We are interested in exploring whether work can proceed on SSL delisting, with our assistance, without impacting the priorities of the Council.

Thank you for your consideration; we look forward to your reply and to a collaborative approach to delisting. Please contact our primary staff listed below in order to schedule an initial meeting to discuss this approach.

Sincerely,



Roy Elicker
Director
Oregon Department of Fish and Wildlife



Philip Anderson
Interim Director
Washington Department of Fish and Wildlife

cc: ✓ Chris Oliver, NPFMC
Don McIsaac, PFMC
Randy Fisher, PSMFC
Denby Lloyd, ADFG
Donald Koch, CDFG

Mr. Robert D. Mecum
January 6, 2009
Page 3

Agency contacts:

WDFW: Steve Jeffries (253) 589-7235
Bill Tweit (360) 902-2723
ODFW: Robin Brown (541) 757-4186
Steve Williams (503) 947-6209

JEFFRSJJ@dfw.wa.gov
tweitwmt@dfw.wa.gov
Robin.F.Brown@state.or.us
Stephen.H.Williams@STATE.OR.US



Western Steller Sea Lion Population Status 2008

Lowell Fritz
NOAA Fisheries
National Marine Mammal Laboratory
Seattle, WA

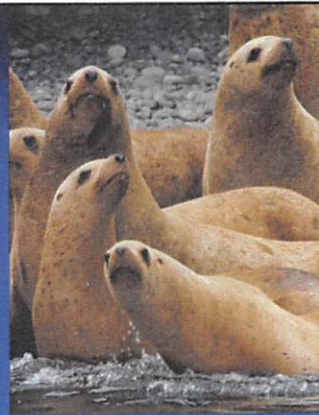
With considerable help from:

Kathryn Sweeney, Carolyn Gudmundson and Tom Gelatt **NMML**
Morgan Lynn, Jim Gilpatrick and Wayne Perryman **SWFSC NMFS**
Mark Nelson, Nicole Cabana and Michael Merek **NOAA Aircraft Operations Center**
Don LeRoi **Aircraft Imaging Solutions**



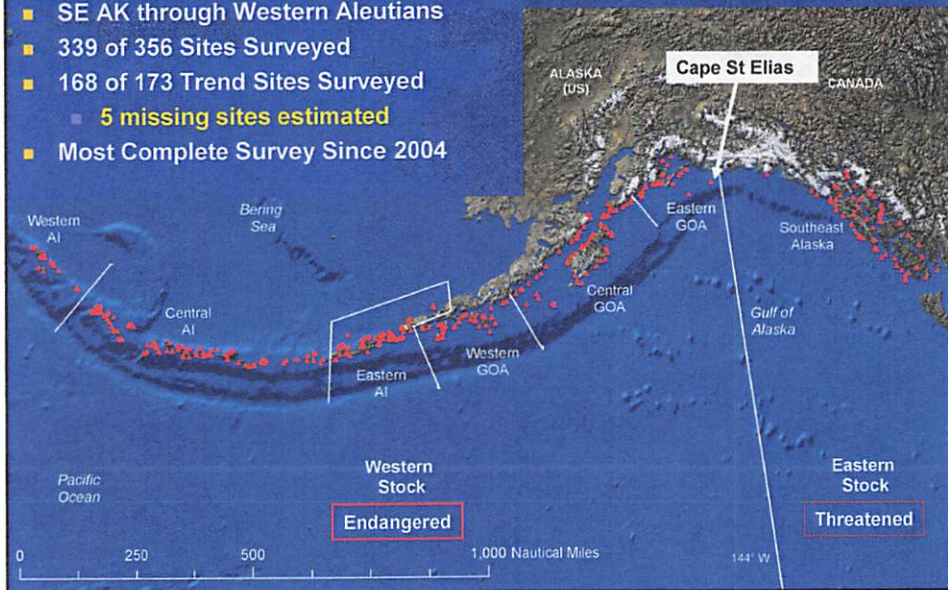
Outline

- Description of 2008 Survey
- Non-pup Counts 1991-2008
 - Emphasis on 2000-2008
- Pup Counts 1991-2008
 - Emphasis on 1998-2005/07
- Movement between SE Alaska and Prince William Sound
 - Effects on 2008 Survey Results



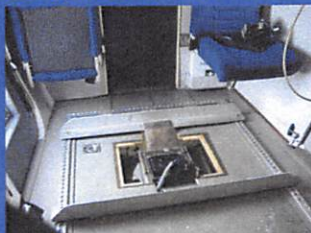
2008 Steller Sea Lion Aerial Survey

- 7 June – 6 July: Adults and Juveniles
- SE AK through Western Aleutians
- 339 of 356 Sites Surveyed
- 168 of 173 Trend Sites Surveyed
 - 5 missing sites estimated
- Most Complete Survey Since 2004

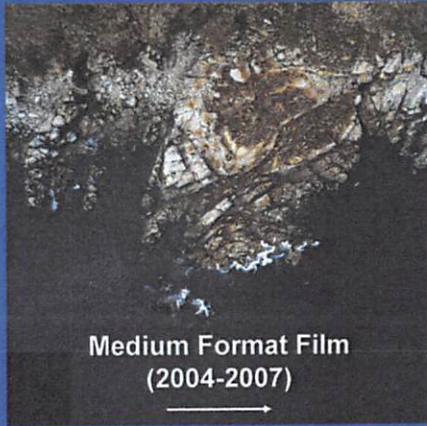


Aerial Survey Methods

- Prior to 2004: Oblique 35 mm slide film
 - Animals counted manually off projected image
- Since 2004: Vertical High Resolution film or Digital
 - Animal count in PhotoShop by Age-Sex class
 - Higher resolution and vertical orientation yields 3.6% higher counts than 35 mm oblique
 - Comparison of 2004-2008 with pre-2004 requires use of correction factor



Atkins Rookery Western Gulf of Alaska

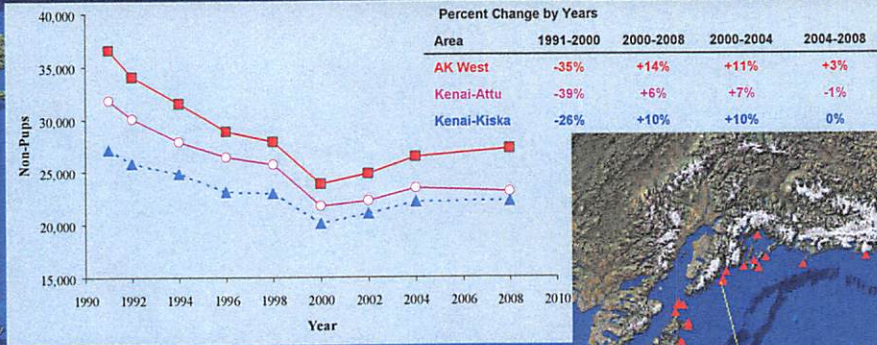


Identifying Animals



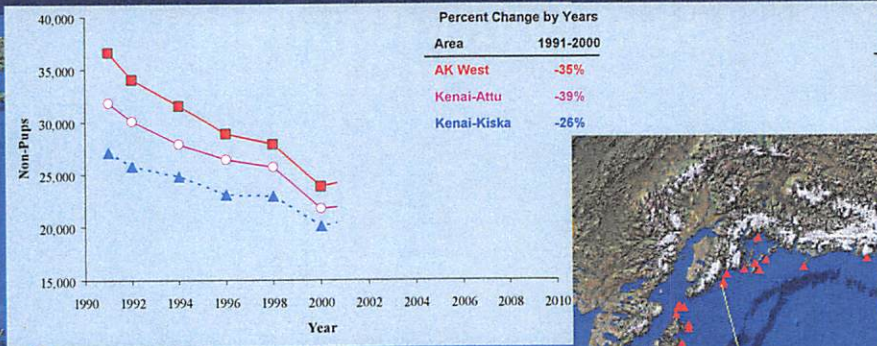
- Bulls
- Sub-Adult Males
- Females
- Juveniles
- Pups

Western Steller Sea Lion Non-Pup Counts in Alaska



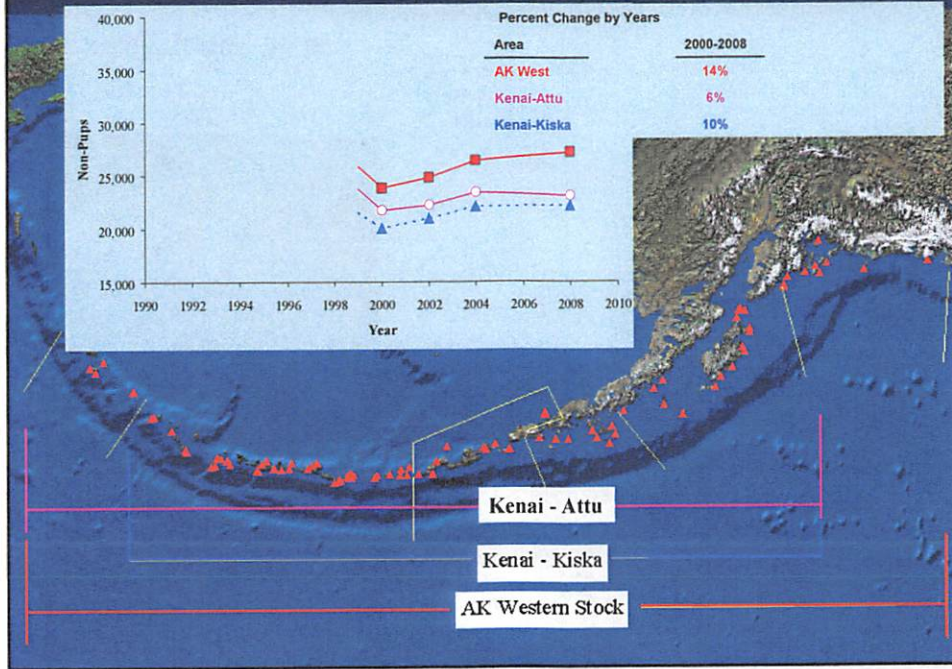
Kenai - Attu
 Kenai - Kiska
 AK Western Stock

Western Steller Sea Lion Non-Pup Counts in Alaska

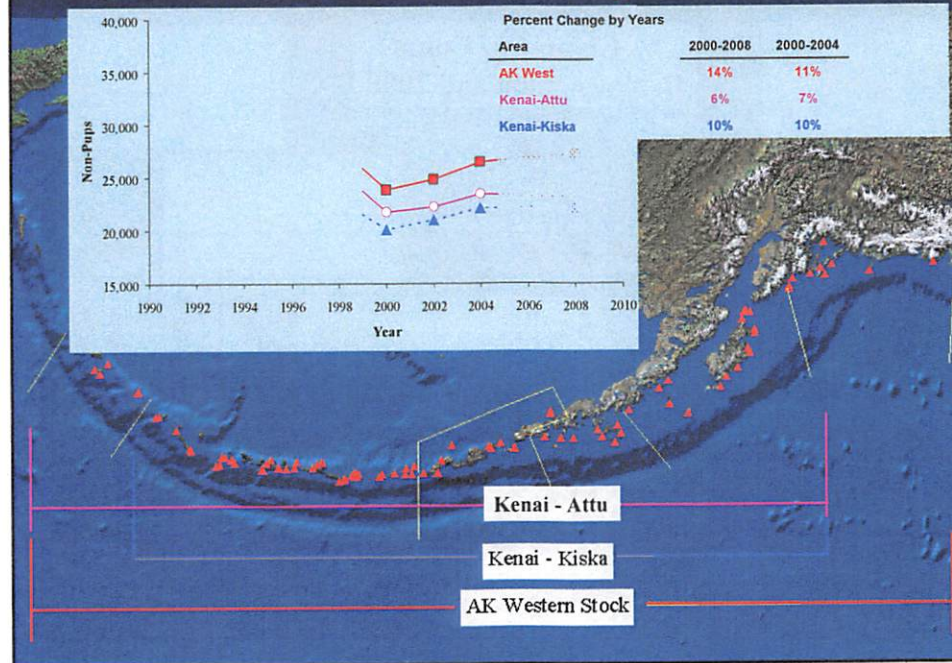


Kenai - Attu
 Kenai - Kiska
 AK Western Stock

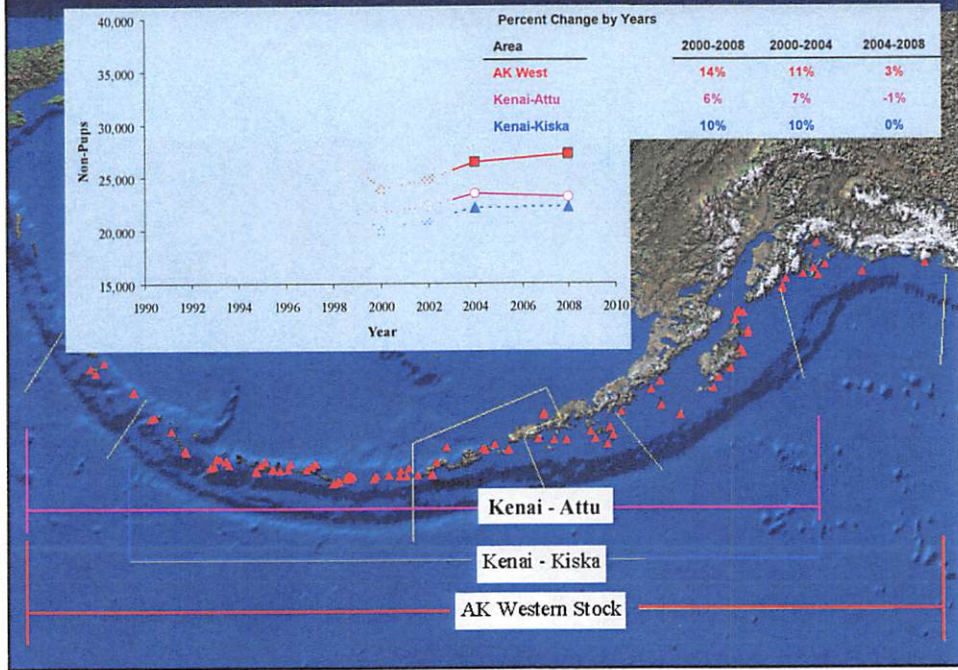
Western Steller Sea Lion Non-Pup Counts in Alaska



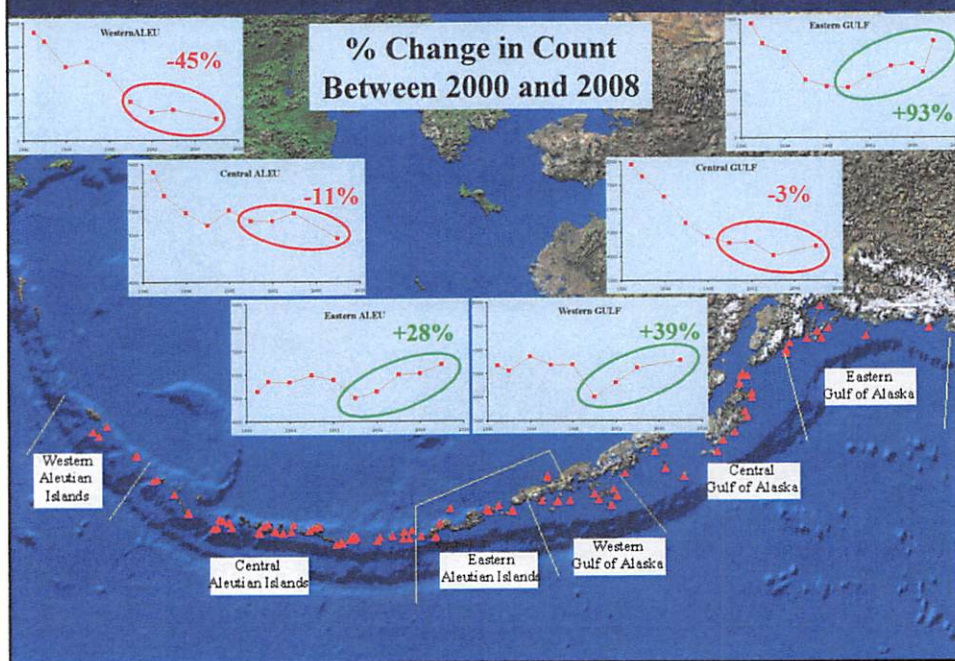
Western Steller Sea Lion Non-Pup Counts in Alaska

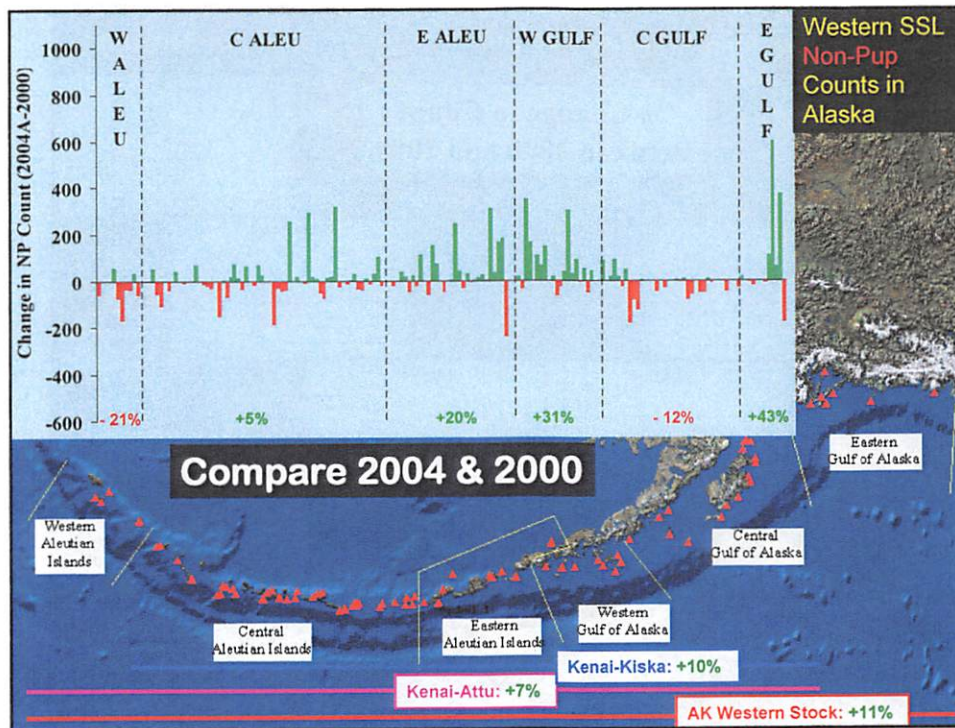
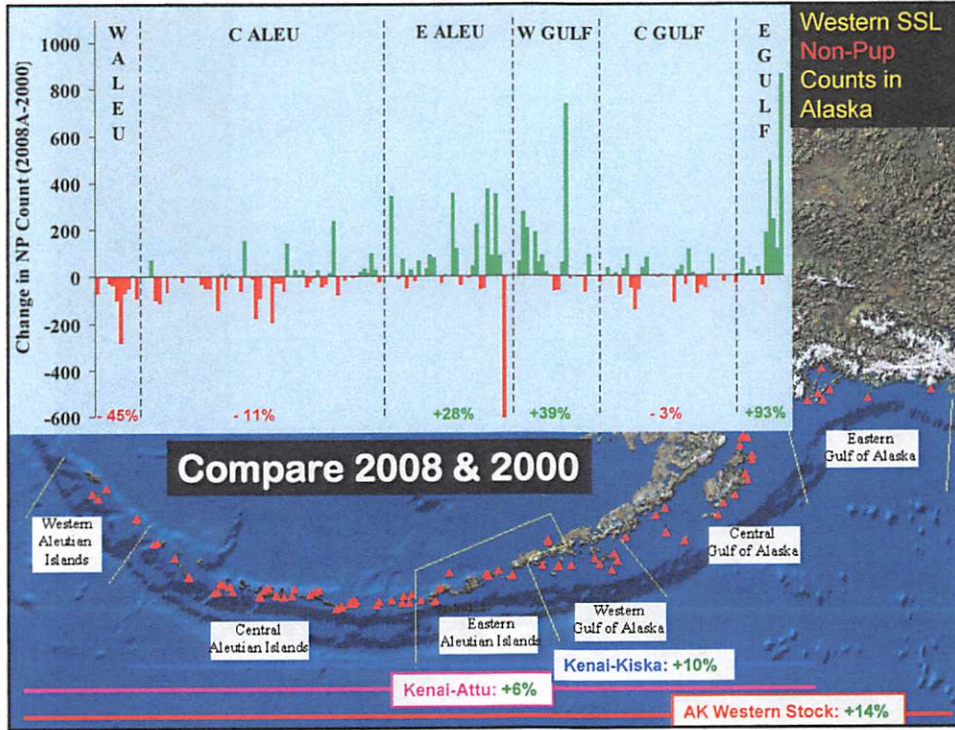


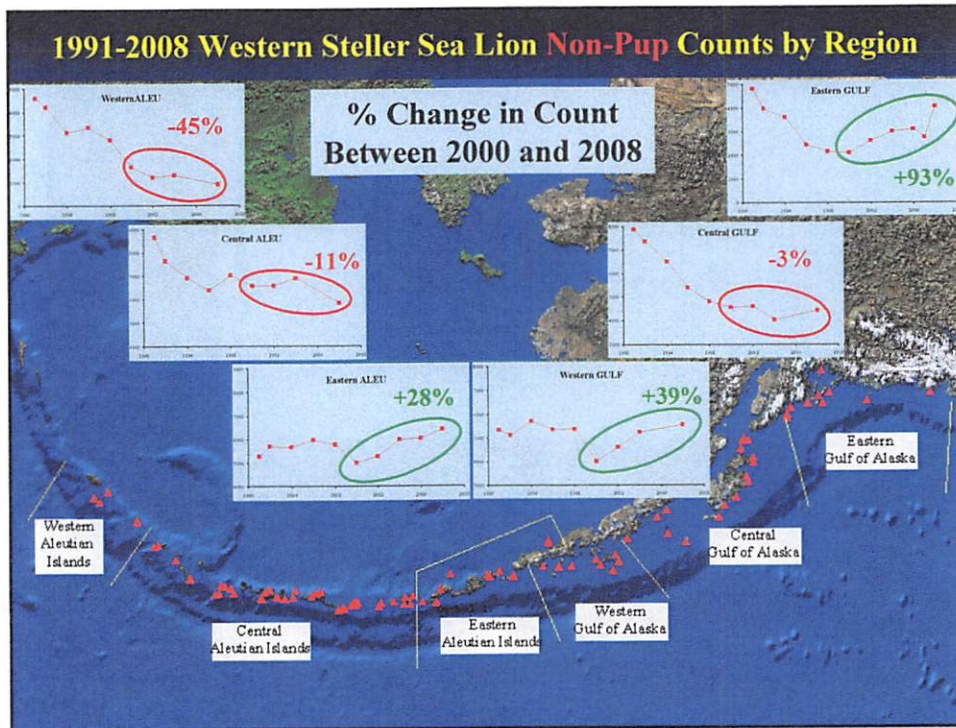
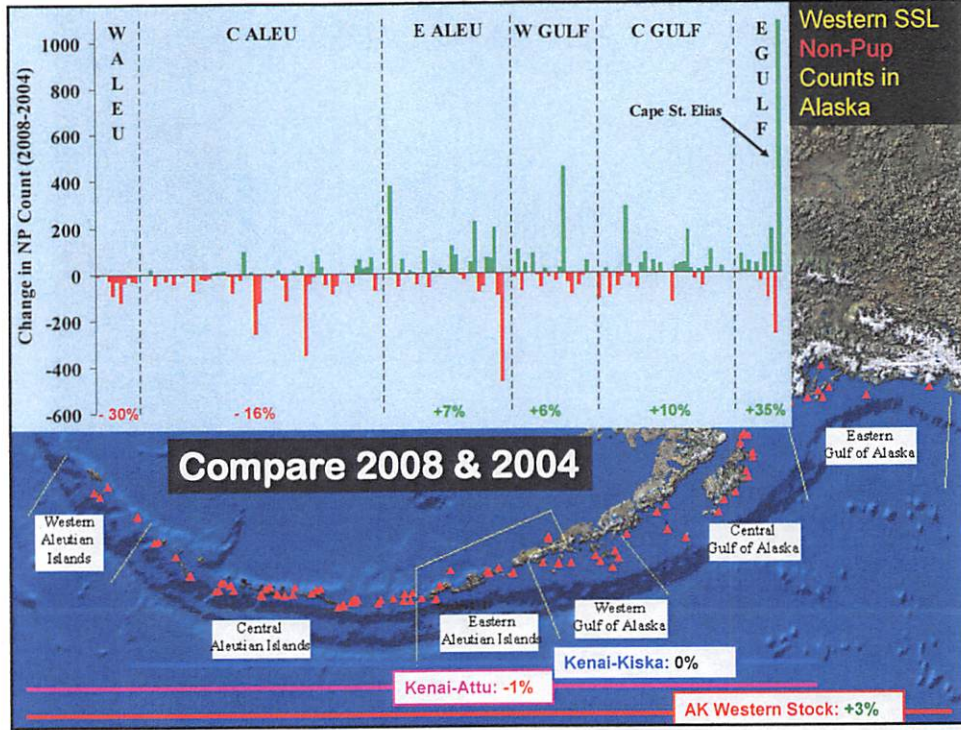
Western Steller Sea Lion Non-Pup Counts in Alaska



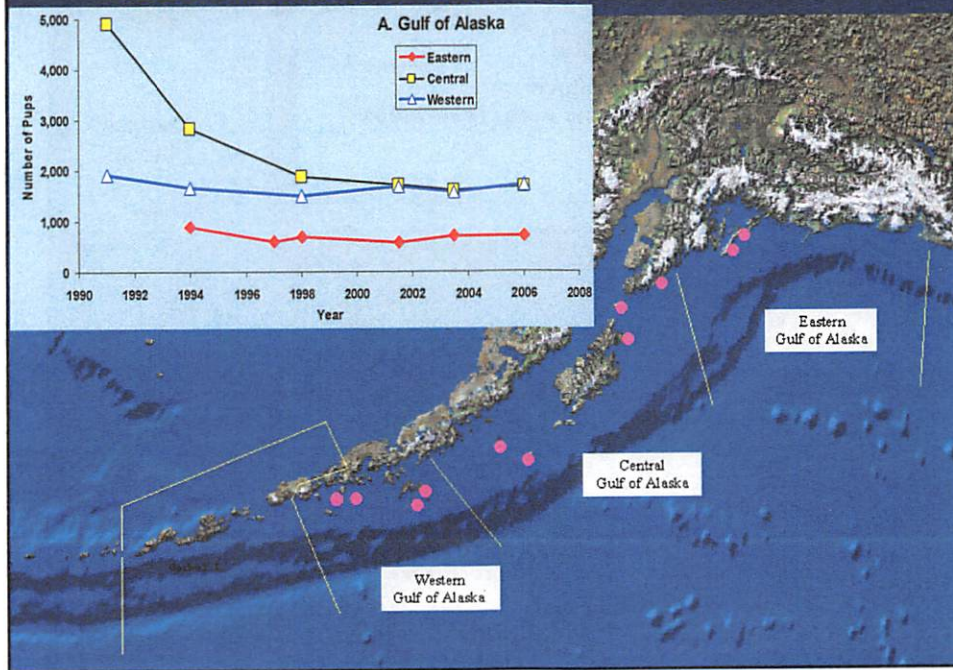
1991-2008 Western Steller Sea Lion Non-Pup Counts by Region



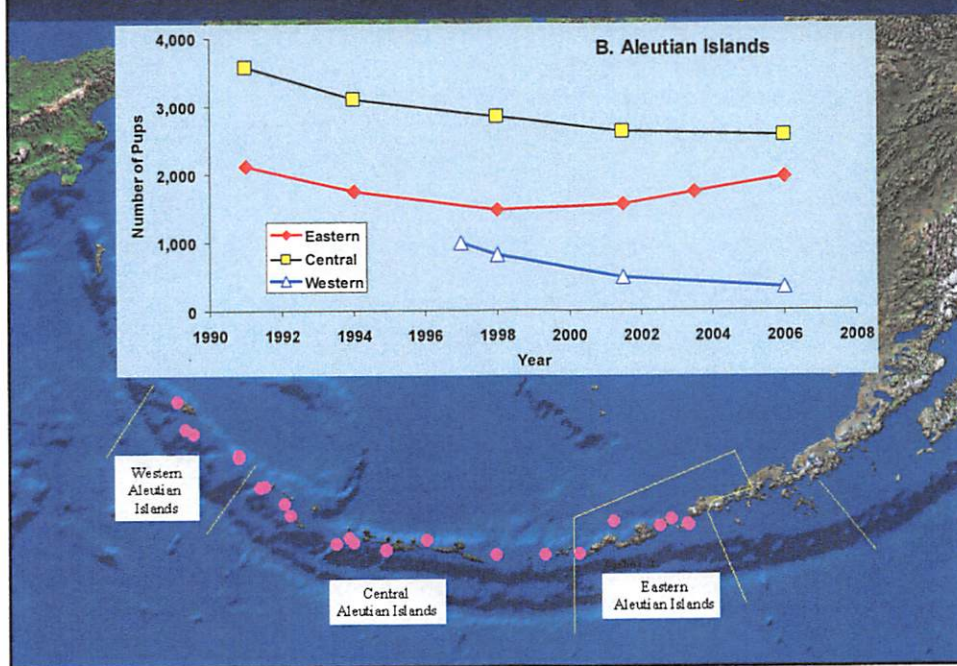


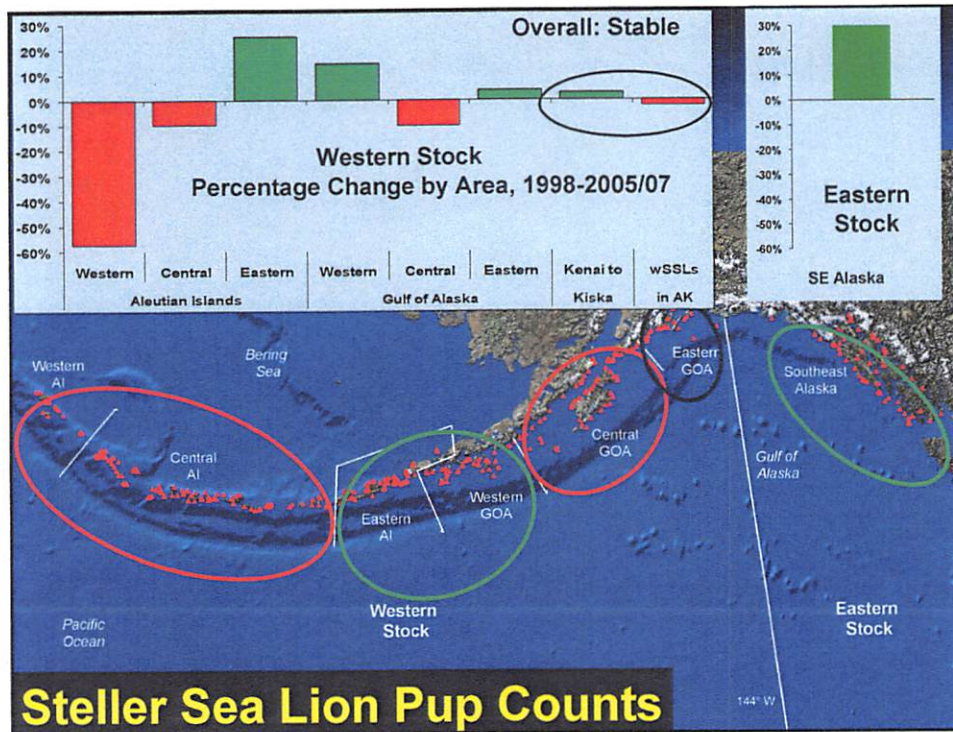


Gulf of Alaska: Steller Sea Lion Pup Counts



Aleutian Islands: Steller Sea Lion Pup Counts

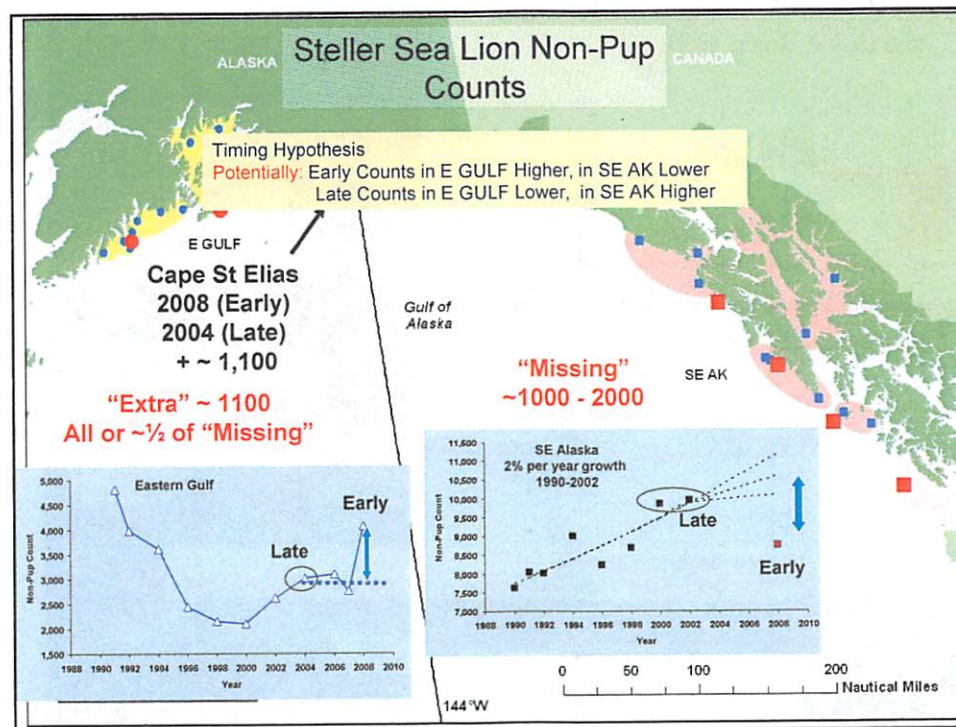
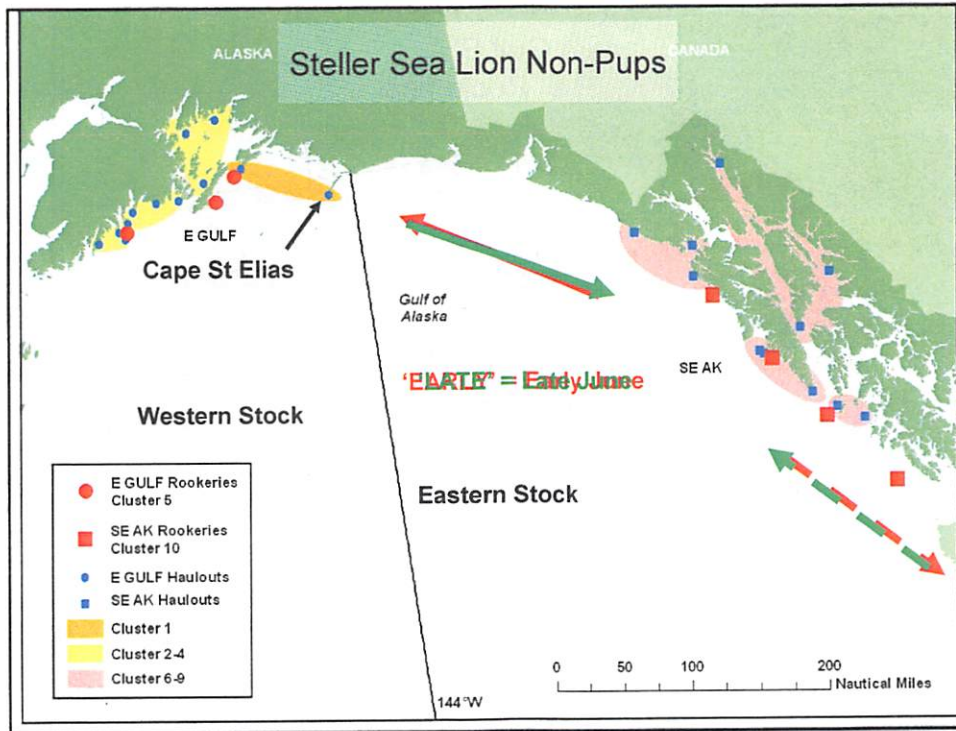


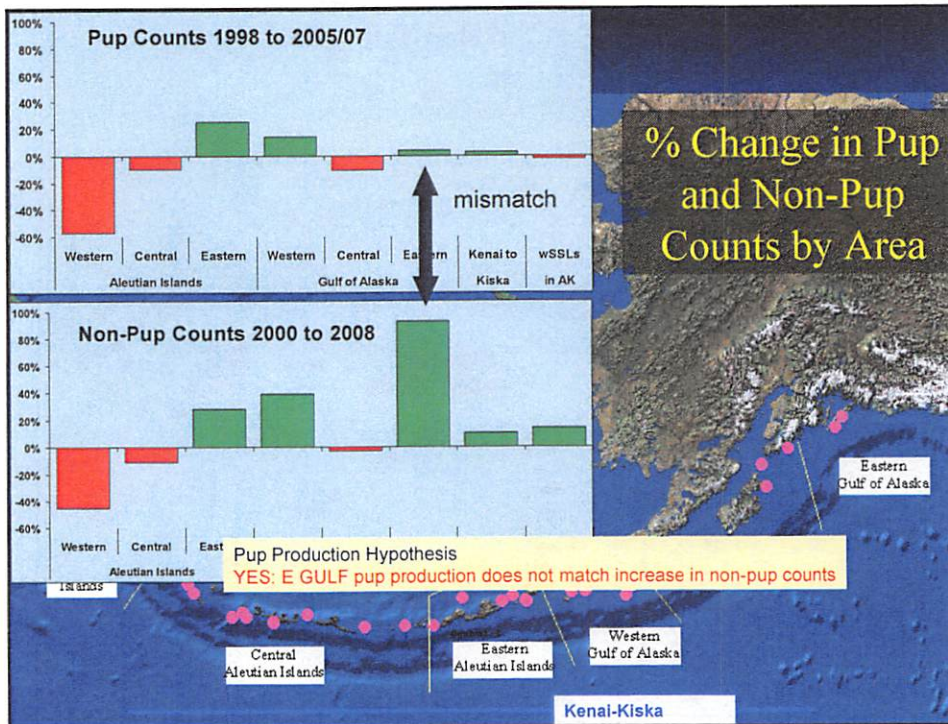
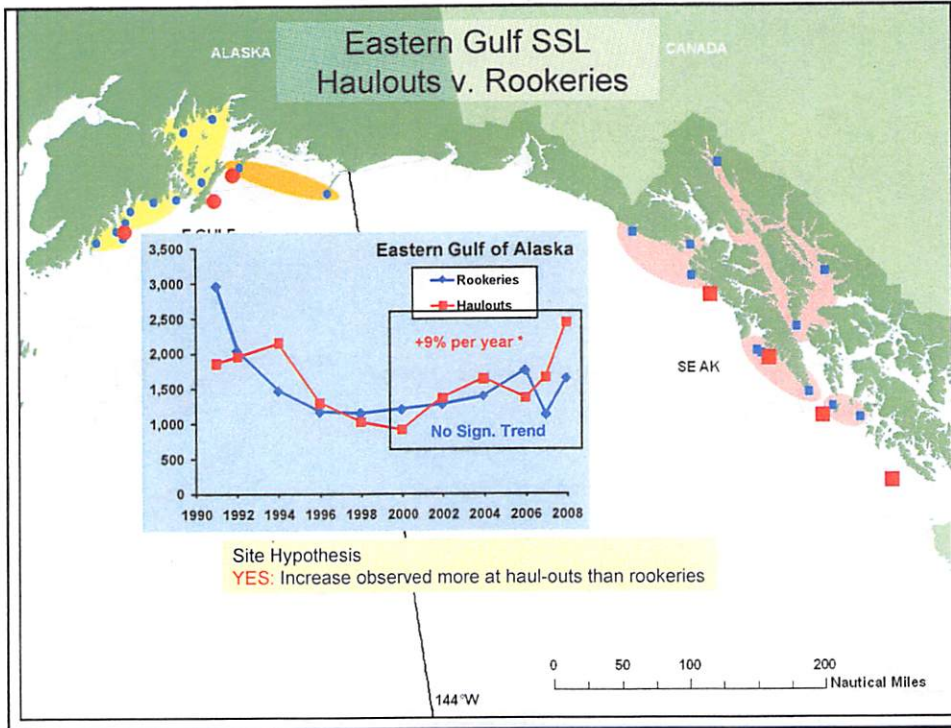


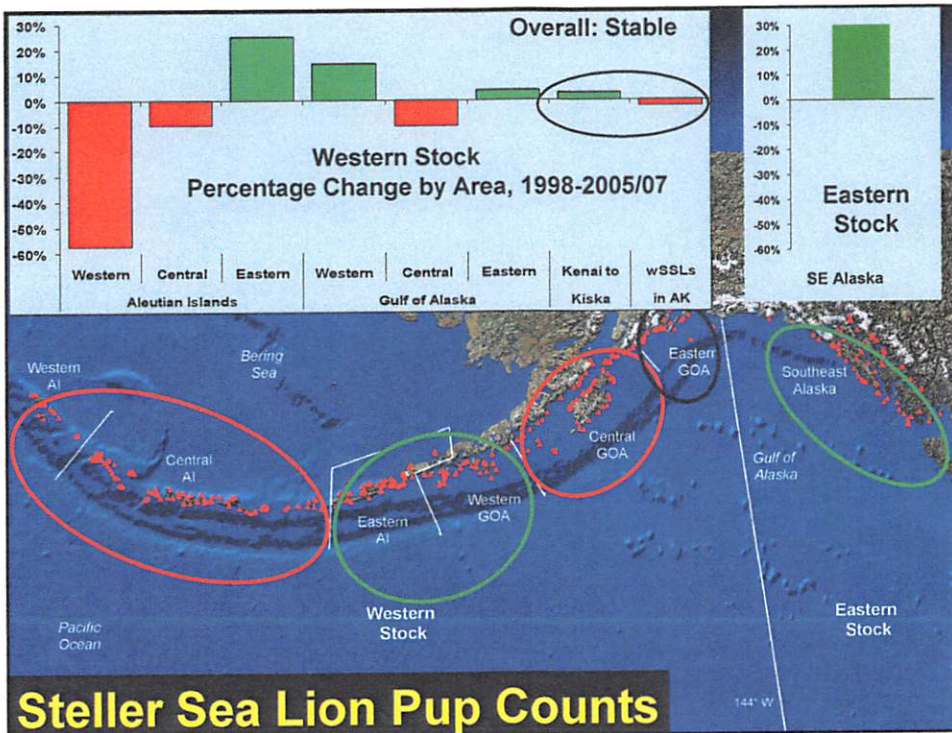
Movement between SE Alaska and Eastern Gulf

- **Hypothesis:** Some non-pups counted recently in the E GULF are eastern DPS animals foraging in the E GULF in early June ('EARLY') before moving back to SE AK in late June ('LATE')
- **E GULF vs SE AK Non-pup counts**
 - 2008 Survey was 'EARLY': Lower counts in SE AK, higher in E GULF
 - 2002 Survey was 'LATE': Higher counts in SE AK, lower in E GULF
 - **Modeling**
 - 1990-2008 counts in SE AK and E GULF by day of year, year, site type
 - Higher counts early in survey period in E GULF, higher later in SE AK
- **Haul-outs vs. Rookeries**
 - Increase more at haul-outs than rookeries: juveniles and females
- **Pup Counts**
 - Increase in E GULF non-pups not due to increase in E Gulf pups
- **Brand Resights in Summer**
 - Western SSL brands in SE AK
 - SE AK brands in E GULF
 - Net Movement to the West









Western Steller Sea Lion Population Status: 2008

- Non-pups – Adults and Juveniles
 - 2000-2004: Increase of at least 10%
 - 2004-2008: Stable or declining slightly throughout most of the western stock range in AK
 - Movement of eastern stock SSLs from SE AK to the E GULF along with 'EARLY' survey in 2008 likely contributed to higher non-pup counts in the E GULF
- Pups
 - Regional variability, but overall, stable or declining slightly 1998-2006





United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service (NMFS)
Alaska Fisheries Science Center
National Marine Mammal Laboratory (NMML)
7600 Sand Point Way NE
Seattle WA 98115
206-526-4246 FAX: 206-526-6615
17 November 2008 F/AKC3:lwf

Memorandum For: The Record

From: Lowell Fritz, Kathryn Sweeney, Carolyn Gudmundson and
Tom Gelatt, NMML
Morgan Lynn and Wayne Perryman, SWFSC

Subject: Survey of Adult and Juvenile Steller Sea Lions, June-July 2008

Summary: An aerial survey to assess trends in numbers of adult and juvenile (non-pup) Steller sea lions (*Eumetopias jubatus*) in Alaska was conducted by NMFS from 7 June to 6 July 2008. We used a Twin Otter aircraft (operated by NOAA, Aircraft Operations Center, Tampa FL) equipped with a vertically-oriented, high resolution digital camera (with forward motion compensation) mounted in the plane's belly port to survey Steller sea lions on terrestrial rookery and haul-out sites from southeast Alaska through the Aleutian Islands. This was the first complete survey of the endangered western distinct population segment (DPS) in Alaska since 2004 (Fritz et al. 2008), and the first complete survey of the threatened eastern DPS in southeast Alaska since 2002 (Pitcher et al. 2007; Figure 1).

The recent (2004-2008) overall trend in the population of adult and juvenile western Steller sea lions in Alaska is stable or declining slightly. This follows a 4-year period of population increase (at approximately 3% per year) between 2000 and 2004 which is the only increasing period observed since trend information began to be collected in the 1970s. There continues to be considerable regional variability in recent (2004-2008) trends (percentages listed below are % change between years):

- the eastern Aleutian Islands is the only consistently increasing region (+7%);
- the central and western Aleutian Islands declined at relatively high rates (-30% and -16%, respectively);
- the central and western Gulf of Alaska increased between 2004 and 2007, but declined slightly between 2007 and 2008; and
- the eastern Gulf of Alaska increased by 35%, but likely because of immigration of eastern DPS animals from southeast Alaska .

Counts in the area from the central Gulf of Alaska through the western Aleutian Islands (85% of the 2008 population) declined slightly (-1%) between 2004 and 2008. Thus, the overall increase observed (3%) was due to increases in the eastern Gulf of Alaska population, which likely had some level of immigration from the eastern DPS.

Methods

Aerial surveys for non-pups are conducted in June, when the greatest proportion of adults is onshore to give birth and breed. The primary objective in 2008 was to survey all terrestrial rookery and haul-out sites within the Alaskan Steller sea lion range from Dixon Entrance in southeast (SE) Alaska (134°W) to Attu Island (172°E) at the western end of the Aleutian Islands; the single rookery (Walrus Island) and 9 haul-outs in the eastern Bering Sea region north of the Alaska Peninsula were not surveyed. In 2008, we successfully assessed sea lion numbers at 339 of the 356 (95%) known terrestrial rookery and haul-out sites in the survey region (Tables 1-3). Of the 339 sites successfully surveyed, 169 were photographed, 30 had so few sea lions (< 15) that they were counted visually by observers on the plane, and 140 had no sea lions. Of the 17 'missed' sites, 15 could not be surveyed because of poor weather conditions, while 2 (rookeries on Chowiet and Chirikof Islands) were incompletely surveyed.

In 2008, we began the survey in SE Alaska, basing operations in Sitka, and surveyed the entire southeast area on 7-8 June. In the past, SE Alaska surveys were usually conducted after the western DPS survey was completed, and as a consequence, have generally been conducted in late June or early July. The last survey of SE Alaska sea lions was conducted on 4-5 July 2002, or approximately 1 month earlier in the year than in 2008. All other Steller sea lion surveys conducted in SE Alaska since 1996 were done on or after 20 June, or about 2 weeks later than the 2008 survey. Prior to 2008, the next earliest-in-the-year SE Alaska survey was conducted on 12-13 June 1994. In 2008, we began the western DPS survey in the Prince William Sound area on the same day (9 June) as in 2007.

NMML monitors the Steller sea lion population by surveying and counting animals at trend sites which have been consistently surveyed since the mid-1970s (N=85 1970s trend sites in the range of the western DPS in Alaska; N=19 in SE Alaska including each of the sites that comprise the Forrester complex) or 1991 (N=161 1990s trend sites in the range of the western DPS in Alaska). The vast majority (> 90%) of all sea lions counted during surveys conducted since 2004 have been counted at trend sites. All trend sites in SE Alaska (eastern DPS) and all but 5 of the 161 trend sites in the range of the western DPS were surveyed in 2008; of these, 3 could not be surveyed from the air because of bad weather (two rookeries on Ugamak Island and a haul-out located at East Cape on Amchitka Island), while 2 (rookeries on Chowiet and Chirikof Islands) were incompletely surveyed. For trend analyses, 2008 counts at these five sites were estimated using the following methods:

- At Chirikof, the most recent non-pup count, from the 2007 survey (N=300), was used in 2008. Counts at this rookery have been relatively stable since 1996 (range of 266-360).
- At Amchitka/East Cape, the most recent non-pup count, from the 2006 survey (N=103), was used in 2008. Trend counts within the western portion of the central Aleutian Islands region have been declining since the mid-1990s (Fritz et al. 2008), and the 2006 count is near the low end of the range counted since 1996 (101-186).
- Chowiet is a complex site composed of a strip of beach and several coves on the main island, along with an offshore islet where the primary breeding rookery is

located. Only the islet and the strip of beach were photographed in the 2007 and 2008 surveys, while all areas were photographed in all previous surveys, including the one conducted in 2004. We used the ratio of all animals counted at Chowiet in 2004 (N=541) to those on the islet and beach (N=368; ratio=1.47) to estimate the total number at this rookery in both 2007 and 2008. In 2007 and 2008, 392 and 380 adult and juvenile sea lions were counted on the islet and beach. Multiplying these counts by 1.47 yielded estimates of 576 and 559 for all of Chowiet in 2007 and 2008, respectively. These estimates are within the range counted at Chowiet since 1996 (504-592).

- Ugamak Island has two main rookery beaches located at the eastern end of the island, one on the north and one on the south (Ugamak/Ugamak Bay). NMML scientists maintain a summer field camp between 1 June and 1 August each year and count animals, conduct behavior scans and record observations of permanently marked (hot-branded) sea lions on Ugamak Island as part of studies to estimate survival and reproductive rates. We compared aerial survey counts of adult and juvenile sea lions on the two rookery beaches in 2004 and 2005 with land-based counts made on the same day, and calculated the ratio of aerial:land counts (Table 4). To estimate aerial survey counts in 2008 at each rookery, we multiplied land-based counts made on or about 17 June (when the aerial survey was conducted in this area) by the average aerial:land ratio at each rookery. Counts at both rookeries have been increasing since 2004 (Figure 2).

Two researchers working independently counted all adult and juvenile Steller sea lions at each terrestrial site photographed during the 2008 survey. Sea lions were counted off digital photographs using high resolution monitors and Adobe Photoshop software (mention of specific products does not serve as an endorsement). A script within the software tallied the number of pups, juveniles, adult females, sub-adult males and adult males that were counted. Initial total counts of non-pups (juveniles, adult females, sub-adult males and adult males) at each site by each researcher were compared; if the difference in total non-pup counts at a site was greater than 10% or greater than 20, then the photographs (with counted animals) were compared to reconcile the discrepancies. This occurred at 28 sites, with the majority of cases involving animals in the water that were counted by one researcher but not the other. If sea lions were disturbed into the water by the survey aircraft, then every effort was made to count them, but animals that were in the water near undisturbed sites were not. After reconciliation of counts at the 28 sites, total counts of non-pups by the two researchers at all 162 sites photographed during the 2008 survey (~ 42,000) differed by less than 1%. All differences between the two researchers in non-pup sea lion counts at individual sites were less than 20 sea lions and 8%. Non-pup counts reported here are means of the replicate counts by each researcher for the 162 photographed sites, the visual count recorded by the observer for those sites with few sea lions, or the estimated non-pup population for the 5 sites either incompletely or not surveyed in 2008.

For western DPS trend analysis, the 2008 survey is directly comparable to that conducted in 2004 since both surveyed the vast majority of trend sites and both used vertical high resolution photography. In 2006 and 2007, only 106 and 124, respectively, of the 161 western DPS 1990s trend sites were successfully surveyed (Table 5A). As such, data

collected in 2006 and 2007 are useful for analysis of trends across one or more regions but not for the entire western DPS in Alaska. For 2007, a subset of 1990s trend sites was created that consisted of:

- All sites in the eastern Gulf of Alaska (E GULF: 145°-150°W; N=13)
- All but one site (Long Island) in the central Gulf of Alaska (C GULF: 150°-157°W; N=32 of 33)
- All but one site (Kak Island) in the western Gulf of Alaska (W GULF: 157°-163°W; N=19 of 20), and
- All but one site (Umnak/Cape Aslik) in the eastern Aleutian Islands (E ALEU: 163°-169°W; N=26 of 27).

In the eastern portion of the central Aleutian Islands (C ALEU-E) between the Islands of Four Mountains (169°W) and Tanaga Island (178°W), counts of non-pups at trend sites in 2006 and 2007 were pooled by averaging. In the western portion of the central Aleutian Islands (C ALEU-W), there were no surveys in 2006 and 2007 permitting only comparisons between 2004 and 2008. In the W ALEU, only the rookery on Buldir Island was missed in 2006 and there were no surveys in 2007 (Table 1).

Because the 2008 survey dates in SE Alaska were earlier than in other years, we analyzed the effect that day of the year may have had on counts in the SE Alaska and E GULF regions. We used generalized linear models and estimating equations (SAS procedure GENMOD; SAS 2002) to *a posteriori* analyze counts of adult and juvenile sea lions in 10 clusters of rookeries and haul-outs in both regions (Figure 3):

- E GULF Clusters
 - 1-Eastern haul-outs: CAPE HINCHINBROOK and CAPE ST. ELIAS
 - 2-Prince William Sound haul-outs: GLACIER, PERRY, and THE NEEDLE
 - 3-Central haul-outs: AIALIK CAPE, CAPE FAIRFIELD, POINT ELRINGTON, and RUGGED
 - 4-Western haul-outs: GRANITE CAPE, SEAL ROCKS (KENAI), and STEEP POINT
 - 5-Rookeries: CHISWELL ISLANDS, SEAL ROCKS, and WOODED (FISH)
- SE Alaska Clusters
 - 6-Southern, outside haul-outs: CORONATION and TIMBERED
 - 7-Central, outside haul-outs: CAPE OMMANEY, JACOB ROCK, and KAIUCHALI (BIORKA)
 - 8-Northern, outside haul-outs: CAPE CROSS, HARBOR POINT and INIAN
 - 9-Inside haul-outs: GRAN (LEDGE) POINT, SUNSET, and YASHA
 - 10-Rookeries: BIALI ROCK, FORRESTER COMPLEX, HAZY, and WHITE SISTERS

The response variable was the total non-pup count in the cluster, and the factors included in the model were:

- year (0=1990), year², day (1=1 June), region, cluster, year*region, year²*region, day*region, and cluster*day.

We assumed a negative binomial distribution and set the maximum iterations to 1000. We ran 3 different models that used different groups of clusters:

- 10 clusters (shown above with 5 in each region)
- 7 clusters
 - E GULF: 1, 2, 3-4, and 5
 - SE Alaska: 6-8, 9, and 10
- 5 clusters
 - E GULF: 1, 2-4, and 5
 - SE Alaska: 6-9 and 10

Model fits were compared with QAIC and the model with 5 clusters was superior to the other two; results from only the 5-cluster model will be discussed.

Surveys conducted prior to 2004 used oblique 35 mm photography. Differences in resolution between oblique 35 mm and vertical high resolution photographs requires an adjustment factor of -3.64% be applied to all counts from vertical photographs in order to properly analyze regional time series that include counts from years prior to 2004 (Fritz and Stinchcomb 2005).

Results and Discussion

Counts of adult and juvenile Steller sea lions at 1990s trend sites within the range of the western DPS in Alaska in 2004-2008 are listed in Table 1, while those at all other sites within the range of the western DPS in Alaska are listed in Table 2. Counts at all sites in SE AK within the range of the eastern DPS from surveys in 2002 and 2008 are shown in Table 3.

Counts of adult and juvenile Steller sea lions on all 1990s trend sites within the range of the western DPS in Alaska increased by 748, or 3%, between 2004 and 2008 (Table 5B; Figure 3). There was considerable variation, however, in the change in counts between 2004 and 2008 by region (Table 5B and C; Figure 4):

- In the C GULF, W GULF and E ALEU, counts increased between 337 and 430, or between 6 and 10%, while
- In the C ALEU and W ALEU, counts declined by 1,108 and 407, or -16% and -30%, respectively;
- In the E GULF, counts increased by 1,090, or 35%.

In the C GULF, what appears to be an increase of 10% between 2004 and 2008 is actually an increase of 17% ($\Delta=692$) between 2004 and 2007 followed by a decline of 6% ($\Delta=-312$) between 2007 and 2008 (Table 5C; Figure 4). Similarly, in the W GULF, counts increased 8% ($\Delta=431$) between 2004 and 2007 but then declined by 2% ($\Delta=-79$) between 2007 and 2008. Only in the E ALEU did counts continue to increase between 2004 and 2008, with increases of 3% ($\Delta=163$) between 2004 and 2007 and 5% ($\Delta=323$) between 2007 and 2008.

By contrast, counts in the C ALEU and W ALEU declined throughout the last 4 years (Tables 5B and C; Figures 4 and 5). In the C ALEU-E (Islands of Four Mountains-Tanaga), a 16% decline between 2004 and 2006/07 ($\Delta=-701$) was followed by an additional, though smaller 2% decline ($\Delta=-65$) between 2006/07 and 2008 (Table 5C; Figure 5). Increases in non-pup counts in the C ALEU-E area between 1996 and 2004 were the reason why the C ALEU as whole was largely stable for most of the last decade.

Surveys conducted in the C ALEU in 2008 preceded the 7 August eruption of the volcano on Kasatochi Island, which greatly altered the physical structure of the island and deposited a thick layer of gravel, boulders and ash on the rookery area and extended the beach hundreds of yards. The fate of the approximately 350 pups and 550 non-pups counted on the rookery on 21 June (approximately 6 weeks before the eruption) is not known. However, on 28 August, US Fish and Wildlife Service scientists observed approximately 250 non-pups and 2 pups on the southwest side of the island (J. Williams, USFWS, personal communication). To the west in the C ALEU-W (Delarofs-Kiska), counts dropped 13% ($\Delta=-342$) between 2004 and 2008 (there are no survey data for 2006 or 2007). In the W ALEU, there are no survey data for 2007 and limited data (missing Buldir) for 2006; it appears that most of the decline between 2004 and 2008 in the W ALEU occurred in the first 2 years (-19%; $\Delta=-230$) and was smaller in the last 2 years (-11%; $\Delta=-111$).

Total non-pup counts in the area from the C GULF through the W ALEU declined slightly (-1%; $\Delta=-342$) between 2004 and 2008 (Table 5B). This indicates that the increase in western DPS counts as a whole between 2004 and 2008 is largely due to the 35% increase in counts in the E GULF. Analysis of trends west of the E GULF in more detail reveals that total counts from the C GULF through C ALEU-E increased (3%; $\Delta=585$) between 2004 and 2007, but then declined slightly (-1%; -131) between 2007 and 2008 due to declines in the C GULF, W GULF and C ALEU-E; in the area west of the E GULF, only the E ALEU had a higher non-pup count in 2008 than in 2007. These trends suggest overall stability of the non-pup Steller sea lion population in the C GULF through C ALEU-E area, which is the core of the range of the western DPS in Alaska. Within this core, increases in the E ALEU are largely balanced by declines to the east and west. West of this core (C ALEU-W and W ALEU), non-pup counts have not stabilized and have continued to decline since the late 1970s (Fritz et al. 2008).

In the E GULF, total non-pup counts at trend sites varied considerably between 2004 and 2008. The increase in the E GULF alone was almost as great as the combined increases in the C GULF, W GULF, and E ALEU between 2004 and 2008, and this was despite a decline ($\Delta=-265$) in E GULF counts between 2004 and 2007. The 1,223 increase in animals counted between 2007 and 2008 in the E GULF to C ALEU-E area was due entirely to a jump of 1,355 in the E GULF alone (Table 5C). Looking at this increase in more detail we found that it was due to higher counts at the four easternmost sites in the E GULF outside of Prince William Sound (haul-outs on Cape St. Elias and Cape Hinchinbrook, and rookeries on Seal Rocks and Wooded (Fish) Island) and that more than half occurred on a single site (Cape St. Elias; Table 1; Figure 7). Since 2004, non-pup counts at these four sites have varied considerably:

- Increased over 4-fold (318 to 1400) at Cape St. Elias;
- Declined 400 between 2004 and 2007, then increased over 100 between 2007 and 2008 at Cape Hinchinbrook;
- Increased (+278) between 2004 and 2006, decreased (-316) between 2006 and 2007, and increased again (+221) in 2008 at Seal Rocks; and
- Ranged between 282 and 619 at Wooded (Fish).

It is unlikely that the large increase in non-pup counts observed in the E GULF between 2007 and 2008 (or even between 2004 and 2008) is a result of production at E GULF or neighboring C GULF rookeries. Total pup production at the two primary E GULF rookeries (Seal Rocks and Wooded-Fish) declined at the rate of -3.5% per year between 1992 and 2005, and at -8.9% per year at the three primary C GULF rookeries (Outer, Marmot and Sugarloaf Islands) between 1989 and 2005 (Fritz et al. 2008). By contrast, pup production increased at 2.2% per year between 1990 and 2005 at the three primary rookeries in SE AK (Forrester Complex, Hazy Island and White Sisters Island), and increased overall in the region at 3.1% per year (NMFS 2008).

Thus, these observations:

- an overall increase in non-pups in the E GULF,
- high variability in non-pup counts between sites and years in the E GULF,
- declining pup production in the E & C GULF, and
- increasing pup production in SE AK

are consistent with the hypothesis that some fraction of the non-pups counted in the E GULF region in the last several surveys (2006-2008) are eastern DPS animals that forage in the northern Gulf of Alaska in late spring (through early June) before moving back to SE AK in late June-early July. If this hypothesis is true, we should count more sea lions in early June in the E GULF, particularly at the easternmost sites, and count fewer in late June-early July; in SE AK, we should observe the opposite pattern: lower counts early and higher counts late. Total counts at SE AK trend sites in 2002 and 2008 generally support this hypothesis (Table 3). The survey in 2002 was conducted 'late' (in early July), and resulted in a total count of 15,284 non-pups with 9,989 on trend sites. By contrast, the survey in 2008 was conducted 'early' (in early June), and 939 fewer non-pups were counted on all sites and 1,201 fewer on trend sites. The Steller sea lion population in SE AK was increasing in the three decades prior to 2002 (Pitcher et al. 2007; NMFS 2008) and there is no evidence to suggest that it declined between 2002 and 2008. Instead, it may be the timing of the surveys in these two regions in 2008 compared to previous years that gives the appearance of a decline in SE AK and contributes to the apparent increase in the E GULF.

Results of analyses of E GULF and SE AK non-pup counts from 1990-2008 using generalized linear models, though not statistically significant, generally support the proposed hypothesis of regional movement between the E GULF and SE AK in June (Figure 8). Only at the easternmost E GULF haul-outs (cluster 1) does the model estimate higher counts early in the survey period (early June) than later (late June or early July; Figure 8C). At the western E GULF haul-outs (clusters 2-4), estimated counts late in the survey period were slightly higher than those early (Figure 8A), but the slope here was much smaller than that estimated for the SE AK haul-outs (clusters 6-9; Figure 8D). Slightly increasing estimated counts at rookeries (clusters 5 and 10) during the survey period are not unexpected since adult females would be arriving at these locations to give birth and breed. These patterns of non-pup counts at haul-outs in the E GULF and SE AK in June through early July are consistent with, but do not prove, the regional movement hypothesis. In 2008, then, we may have counted animals on the four easternmost sites in the E GULF (surveyed 'early') that 'should' have been counted as part of the eastern DPS. Over 85% of the non-pups counted on Cape St. Elias and Cape

Hinchinbrook during the 2006-2008 surveys (all of which were conducted 'early' prior to 14 June) were juveniles or adult females, the most likely age-sex classes to make such movements at this time. If we had surveyed SE AK 'late' instead of 'early', we could have counted some of these animals in both the E GULF and SE AK. Based on the magnitude of the 'decline' in SE AK between 2002 and 2008, and the 'increase' in the E GULF between 2004 and 2008, the number of non-pups moving from the E GULF back to SE AK by late in the survey period may be as high as 1,000, with most being juveniles and adult females. At this time, however, we have no quantitative estimate of the number of eastern DPS animals from SE AK that could be counted on haul-outs or rookeries early in the survey period in the E GULF.

Summary

We conclude that the recent (2004-2008) overall trend in the population of adult and juvenile Steller sea lions in the range of the western DPS in Alaska is stable or declining slightly. This follows a 4-year period of population increase (at approximately 3% per year) between 2000 and 2004 which is the only increasing period observed since trend information began to be collected in the 1970s. There continues to be considerable regional variability in recent (2004-2008) trends (percentages listed below are % change between years):

- the E ALEU is the only consistently increasing region (+7%);
- the C ALEU and W ALEU, which comprised over 30% of the population in 2004 but less than 25% in 2008, declined at relatively high rates (-30% and -16%, respectively);
- the C GULF and W GULF increased between 2004 and 2007, but declined slightly between 2007 and 2008; and
- the E GULF increased by 35%, but likely because of immigration from SE AK.

Counts in the area from the C GULF through the W ALEU (85% of the 2008 population) declined slightly (-1%) between 2004 and 2008, indicating that the overall increase observed (3%) was entirely in the E GULF, which likely had some level of immigration from the eastern DPS.

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Table 1. Counts of adult and juvenile (non-pup) Steller sea lions at TREND ROOKERIES AND HAUL-OUTS in the range of the western distinct population segment (DPS) in Alaska from high resolution aerial photographs taken in June-July 2004, 2006, 2007 and 2008. These are trend sites that have been surveyed regularly since 1991. Rookeries labeled Y* are 'new' rookeries, which were not included as rookeries in the designation of critical habitat (CH) in 1993 but have produced at least 50 pups since 1975. Rookeries labeled N* are listed CH rookeries, but have no record of at least 50 pups since 1975. Counts are unadjusted.

| SITENAME | REGION | ROOKERY | 2004 | 2006 | 2007 | 2008 |
|--------------------------|--------|---------|------|-------|------|-------|
| CAPE ST. ELIAS | E GULF | | 318 | 414 | 728 | 1,400 |
| CAPE HINCHINBROOK | E GULF | | 496 | 237 | 95 | 229 |
| SEAL ROCKS | E GULF | Y | 841 | 1,119 | 803 | 1,024 |
| WOODED (FISH) | E GULF | Y | 523 | 619 | 282 | 603 |
| GLACIER | E GULF | | 620 | 466 | 531 | 509 |
| THE NEEDLE | E GULF | | 123 | 127 | 145 | 88 |
| POINT ELRINGTON | E GULF | | 132 | 58 | 37 | 169 |
| CAPE PUGET | E GULF | | 0 | 0 | 0 | 0 |
| CAPE FAIRFIELD | E GULF | | 0 | 0 | 10 | 47 |
| RUGGED | E GULF | | 0 | 0 | 0 | 8 |
| AIALIK CAPE | E GULF | | 1 | 103 | 161 | 77 |
| CHISWELL ISLANDS | E GULF | Y* | 72 | 71 | 74 | 68 |
| SEAL ROCKS (KENAI) | E GULF | | 3 | 4 | 2 | 0 |
| OUTER (PYE) | C GULF | Y | 222 | 251 | 268 | 249 |
| GORE POINT | C GULF | | 0 | 0 | 0 | 0 |
| EAST CHUGACH | C GULF | | 0 | | 0 | 0 |
| PERL | C GULF | | 49 | | 241 | 144 |
| NAGAHUT ROCKS | C GULF | | 1 | | 2 | 21 |
| ELIZABETH/CAPE ELIZABETH | C GULF | | 28 | | 0 | 0 |
| SUGARLOAF | C GULF | Y | 667 | 733 | 662 | 849 |
| USHAGAT/NW | C GULF | | 3 | 0 | 0 | 0 |
| USHAGAT/SW | C GULF | Y* | 101 | 141 | 74 | 96 |
| USHAGAT/ROCKS SOUTH | C GULF | | 8 | 9 | 0 | 45 |
| LATAK ROCKS | C GULF | | 56 | | 115 | 108 |
| SEA OTTER | C GULF | | 127 | | 100 | 1 |
| RK NEAR SEA OTTER | C GULF | | 10 | | 0 | 47 |
| AFOGNAK/TONKI CAPE | C GULF | | 0 | | 0 | 16 |
| SEA LION ROCKS (MARMOT) | C GULF | | 2 | | 1 | 13 |
| MARMOT | C GULF | Y | 703 | 686 | 551 | 644 |
| LONG ISLAND | C GULF | | 32 | | | 59 |
| KODIAK/CAPE CHINIAK | C GULF | | 87 | | 241 | 130 |
| UGAK | C GULF | | 0 | | 0 | 0 |
| KODIAK/GULL POINT | C GULF | | 109 | | 148 | 109 |
| KODIAK/CAPE BARNABAS | C GULF | | 0 | | 140 | 84 |
| TWOHEADED | C GULF | | 266 | | 228 | 204 |
| SITKINAK/CAPE SITKINAK | C GULF | | 80 | | 104 | 115 |
| KODIAK/CAPE UGAT | C GULF | | 2 | 167 | 248 | 285 |
| KODIAK/STEEP CAPE | C GULF | | 0 | 14 | 61 | 38 |
| SHAKUN ROCKS | C GULF | | 104 | 67 | 113 | 81 |

Table 1 (continued)

| SITENAME | REGION | ROOKERY | 2004 | 2006 | 2007 | 2008 |
|----------------------------|--------|---------|-------|-------|-------|-------|
| TAKLI | C GULF | | 85 | 157 | 92 | 67 |
| PUALE BAY | C GULF | | 58 | 2 | 1 | 2 |
| UGAIUSHAK | C GULF | | 0 | 0 | 2 | 0 |
| SUTWIK | C GULF | | 206 | 114 | 127 | 93 |
| CHOWIET | C GULF | Y | 541 | | 424 | 559 |
| CHIRIKOF | C GULF | Y | 303 | | 300 | 300 |
| NAGAI ROCKS | C GULF | | 330 | | 449 | 234 |
| CHERNABURA | W GULF | Y | 828 | | 1,228 | 1281 |
| LIGHTHOUSE ROCKS | W GULF | Y* | 111 | 153 | 152 | 164 |
| KAK | W GULF | | 17 | 24 | | 1 |
| MITROFANIA | W GULF | | 182 | 103 | 116 | 129 |
| SPITZ | W GULF | | 1 | 0 | 11 | 1 |
| KUPREANOF POINT | W GULF | | 53 | 116 | 53 | 72 |
| CASTLE ROCK | W GULF | | 70 | 15 | 38 | 28 |
| ATKINS | W GULF | Y | 651 | 663 | 585 | 558 |
| THE HAYSTACKS | W GULF | | 38 | 1 | 41 | 3 |
| THE WHALEBACK | W GULF | | 102 | 99 | 83 | 102 |
| NAGAI/MOUNTAIN POINT | W GULF | | 80 | 56 | 148 | 60 |
| SEA LION ROCKS (SHUMAGINS) | W GULF | | 36 | 142 | 44 | 54 |
| UNGA/ACHEREDIN POINT | W GULF | | 264 | 152 | 229 | 202 |
| JUDE | W GULF | Y* | 474 | 338 | 445 | 465 |
| PINNACLE ROCK | W GULF | Y | 1,011 | 1,167 | 1,057 | 1,094 |
| CLUBBING ROCKS | W GULF | Y | 911 | 1,037 | 1,063 | 952 |
| CHERNI | W GULF | | 0 | 0 | 0 | 0 |
| SOUTH ROCKS | W GULF | | 528 | 320 | 457 | 451 |
| BIRD ROCK | W GULF | | 57 | 62 | 97 | 155 |
| | W GULF | | 17 | 0 | 0 | 0 |
| UNIMAK/CAPE SARICHEF | E ALEU | | 250 | 6 | 0 | 167 |
| AMAK+ROCKS | E ALEU | | 733 | 410 | 220 | 265 |
| SEA LION ROCK (AMAK) | E ALEU | Y | 456 | 447 | 385 | 360 |
| UGAMAK COMPLEX | E ALEU | Y | 1,304 | 1,319 | 1,493 | 1,619 |
| AIKTAK | E ALEU | | 101 | 111 | 43 | 42 |
| TIGALDA/ROCKS NE | E ALEU | | 141 | 202 | 236 | 359 |
| TIGALDA/SOUTH SIDE | E ALEU | | 46 | 83 | 105 | 91 |
| ROOTOK | E ALEU | | 96 | 96 | 141 | 60 |
| TANGINAK | E ALEU | | 4 | 6 | 4 | 1 |
| AKUN/BILLINGS HEAD | E ALEU | Y | 307 | 338 | 523 | 386 |
| AKUTAN/REEF-LAVA | E ALEU | | 119 | 103 | 57 | 128 |
| AKUTAN/CAPE MORGAN | E ALEU | Y | 1,021 | 1,249 | 1,172 | 1,135 |
| OLD MAN ROCKS | E ALEU | | 71 | 112 | 81 | 89 |
| EGG | E ALEU | | 5 | 0 | 0 | 0 |
| OUTER SIGNAL | E ALEU | | 0 | 0 | 0 | 10 |
| UNALASKA/CAPE SEDANKA | E ALEU | | 0 | 0 | 0 | 0 |
| UNALASKA/BISHOP POINT | E ALEU | | 265 | 285 | 196 | 204 |
| UNALASKA/MAKUSHIN BAY | E ALEU | | 20 | 88 | 154 | 115 |
| UNALASKA/SPRAY CAPE | E ALEU | | 0 | 0 | 0 | 0 |
| UNALASKA/CAPE IZIGAN | E ALEU | | 238 | 329 | 304 | 188 |

Table 1 (continued)

| SITENAME | REGION | ROOKERY | 2004 | 2006 | 2007 | 2008 |
|-----------------------|--------|---------|-------|------|------|------|
| BOGOSLOF/FIRE ISLAND | E ALEU | Y | 380 | 358 | 405 | 390 |
| UMNAK/CAPE ASLIK | E ALEU | | 119 | 73 | | 63 |
| POLIVNOI ROCK | E ALEU | | 91 | 42 | 96 | 93 |
| THE PILLARS | E ALEU | | 4 | 0 | 0 | 0 |
| OGCHUL | E ALEU | Y | 139 | 132 | 152 | 200 |
| VSEVIDOF | E ALEU | | 48 | 41 | 35 | 50 |
| ADUGAK | E ALEU | Y | 259 | 429 | 473 | 636 |
| ULIAGA | C ALEU | | 0 | 99 | | 66 |
| KAGAMIL | C ALEU | | 1 | 0 | | 0 |
| CHUGINADAK | C ALEU | | 129 | 79 | | 53 |
| CARLISLE | C ALEU | | 0 | 0 | | 27 |
| HERBERT | C ALEU | | 38 | 66 | | 105 |
| YUNASKA | C ALEU | Y | 260 | 255 | 279 | 282 |
| CHAGULAK | C ALEU | | 0 | 13 | | 59 |
| AMUKTA+ROCKS | C ALEU | | 2 | 18 | 56 | 35 |
| SEGUAM/FINCH POINT | C ALEU | | 2 | | 0 | 0 |
| SEGUAM/SW RIP | C ALEU | | 40 | | 31 | 39 |
| SEGUAM/SADDLERIDGE | C ALEU | Y | 923 | | 668 | 835 |
| SEGUAM/TURF POINT | C ALEU | | 58 | | 8 | 3 |
| SEGUAM/LAVA COVE | C ALEU | | 0 | | 0 | 0 |
| SEGUAM/LAVA POINT | C ALEU | | 5 | | 0 | 0 |
| SEGUAM/WHARF POINT | C ALEU | | 90 | | 121 | 49 |
| AGLIGADAK | C ALEU | N* | 61 | | 15 | 14 |
| AMLIA/EAST CAPE | C ALEU | | 34 | | 55 | 117 |
| AMLIA/SVIECH. HARBOR | C ALEU | | 144 | | 113 | 100 |
| TANADAK (AMLIA) | C ALEU | | 1 | | 0 | 30 |
| SAGIGIK | C ALEU | | 30 | | 10 | 14 |
| ATKA/NORTH CAPE | C ALEU | | 383 | 279 | 140 | 32 |
| ATKA/CAPE KOROVIN | C ALEU | | 4 | 0 | 30 | 39 |
| SALT | C ALEU | | 0 | | 0 | 4 |
| KASATOCHI/NORTH POINT | C ALEU | Y | 667 | 610 | 613 | 550 |
| OGLODAK | C ALEU | | 86 | 111 | 58 | 99 |
| IKIGINAK | C ALEU | | 0 | 8 | 16 | 0 |
| FENIMORE | C ALEU | | 30 | 10 | 9 | 4 |
| ANAGAKSIK | C ALEU | | 2 | 52 | 14 | 20 |
| GREAT SITKIN | C ALEU | | 0 | 0 | 0 | 0 |
| LITTLE TANAGA STRAIT | C ALEU | | 49 | | 15 | 36 |
| KAGALASKA | C ALEU | | 48 | 0 | 3 | 42 |
| ADAK | C ALEU | Y | 1,008 | | 779 | 621 |
| KANAGA/N CAPE | C ALEU | | 7 | 13 | 2 | 14 |
| KANAGA/CAPE MIGA | C ALEU | | 0 | 0 | 0 | 0 |
| KANAGA/SHIP ROCK | C ALEU | Y* | 229 | | 331 | 322 |
| TANAGA/BUMPY POINT | C ALEU | | 33 | | 33 | 22 |
| TANAGA/CAPE SASMIK | C ALEU | | 122 | | 63 | 95 |
| GRAMP ROCK | C ALEU | Y | 679 | | | 593 |
| UGIDAK | C ALEU | | 25 | | | 16 |
| TAG | C ALEU | Y | 242 | | | 255 |
| KAVALGA | C ALEU | | 56 | | | 63 |

Table 1 (continued)

| SITENAME | REGION | ROOKERY | 2004 | 2006 | 2007 | 2008 |
|--------------------------------------|---------------|----------------|---------------|---------------|---------------|---------------|
| UNALGA+DINKUM ROCKS | C ALEU | | 19 | | | 0 |
| ULAK/HASGOX POINT | C ALEU | Y | 531 | | | 537 |
| AMATIGNAK/KNOB POINT | C ALEU | | 1 | | 0 | 3 |
| AMATIGNAK/NITROF POINT | C ALEU | | 76 | 38 | | 49 |
| SEMISOPOCHNOI/POCHNOI | C ALEU | N* | 55 | 41 | | 32 |
| AMCHITKA/CAPE IVAKIN | C ALEU | | 0 | 0 | 0 | 0 |
| AMCHITKA/EAST CAPE | C ALEU | N* | 178 | 103 | | 103 |
| AMCHITKA/ST. MAKARIUS | C ALEU | | 0 | 0 | 0 | 0 |
| AMCHITKA/COLUMN ROCK | C ALEU | Y | 85 | | | 71 |
| AYUGADAK | C ALEU | Y | 152 | | | 152 |
| RAT | C ALEU | | 45 | | | 0 |
| SEA LION ROCK (KISKA) | C ALEU | | 0 | | | 0 |
| TANADAK (KISKA) | C ALEU | | 34 | | | 1 |
| KISKA/SOBAKA-VEGA | C ALEU | | 101 | | | 52 |
| KISKA/CAPE ST STEPHEN | C ALEU | Y | 210 | | | 229 |
| KISKA/LIEF COVE | C ALEU | Y | 170 | | | 162 |
| KISKA/PILLAR ROCK | C ALEU | | 0 | | | 0 |
| | | | | | | |
| BULDIR | W ALEU | Y | 108 | | | 43 |
| SHEMYA | W ALEU | | 17 | 18 | | 4 |
| AL Aid | W ALEU | | 125 | 86 | | 86 |
| AGATTU/CAPE SABAK | W ALEU | Y | 325 | 282 | | 202 |
| AGATTU/GILLON POINT | W ALEU | Y | 374 | 308 | | 281 |
| ATTU/MASSACRE BAY | W ALEU | | 0 | 0 | | 0 |
| ATTU/CHIRIKOF POINT | W ALEU | | 75 | 30 | | 42 |
| ATTU/CHICHAGOF POINT | W ALEU | | 54 | 13 | | 25 |
| ATTU/KRESTA POINT | W ALEU | | 0 | 0 | | 0 |
| ATTU/CAPE WRANGELL | W ALEU | Y | 257 | 260 | | 247 |
| | | | | | | |
| Western DPS Trend Site Counts | | | 27,437 | 19,058 | 23,144 | 28,185 |
| Other Site Counts (Table 2) | | | 1,600 | 2,231 | 3,012 | 3,060 |
| Total Count | | | 29,037 | 21,289 | 26,156 | 31,245 |

Table 2. Counts of adult and juvenile (non-pup) Steller sea lions at NON-TREND HAUL-OUTS in the range of the western stock in Alaska from high resolution aerial photographs taken in June-July 2004, 2006, 2007 and 2008. Counts are unadjusted.

| SITENAME | REGION | 2004 | 2006 | 2007 | 2008 | COMMENT |
|----------------------------|--------|------|------|------|------|---|
| HOOK POINT | E GULF | 96 | 101 | 132 | 261 | |
| STEEP POINT | E GULF | 1 | 11 | 90 | 92 | |
| MIDDLETON | E GULF | 4 | 0 | 0 | 0 | |
| POINT ELEANOR | E GULF | | 0 | 0 | 0 | |
| PERRY | E GULF | | 218 | 437 | 227 | |
| PLEIADES | E GULF | | 0 | 0 | 0 | |
| POINT LaTOUCHE | E GULF | 0 | 0 | 0 | 0 | |
| DANGER | E GULF | 12 | 10 | 119 | 2 | |
| PROCESSION ROCKS | E GULF | 36 | 67 | 77 | 102 | |
| CAPE JUNKEN | E GULF | 0 | 0 | 0 | 0 | |
| CAPE RESURRECTION | E GULF | 3 | 0 | 12 | 0 | |
| GRANITE CAPE | E GULF | 1 | 89 | 25 | 4 | |
| | | | | | | 2007 count of 90 and 2008 count of 92 applied to Steep Point |
| Rocks b/n Steep and Rabbit | E GULF | | | | | |
| RABBIT | E GULF | 0 | 0 | 0 | 0 | |
| | | | | | | 2006 count of 103, 2007 count of 161, and 2008 count of 77 applied to Aialik Cape |
| NEAR AIALIK CAPE | E GULF | | | | | |
| HOOF POINT | E GULF | | 52 | | 0 | |
| FLAT | C GULF | 4 | | 44 | 0 | |
| SHAW | C GULF | 81 | 162 | 1 | 0 | |
| NUKA POINT | C GULF | 0 | 0 | 0 | 0 | |
| PERL ROCKS | C GULF | 0 | | 0 | 0 | |
| WEST AMATULI | C GULF | 0 | 0 | 0 | 0 | |
| SUD | C GULF | 0 | 0 | 0 | 0 | |
| KODIAK/CAPE | | | | | | |
| PARAMANOF | C GULF | 0 | 0 | 0 | 0 | |
| CAPE DOUGLAS | C GULF | 0 | 0 | 0 | 0 | |
| KODIAK/MALINA POINT | C GULF | 0 | 0 | 0 | 0 | |
| NOISY | C GULF | 0 | 0 | 0 | 0 | |
| KODIAK/CAPE KULIUK | C GULF | 0 | 0 | 0 | 0 | |
| CAPE NUKSHAK | C GULF | 0 | 0 | 0 | 0 | |
| CAPE UGYAK | C GULF | 0 | 0 | 0 | 0 | |
| KODIAK/SUNDSTROM | C GULF | 0 | | 0 | 0 | |
| CAPE GULL | C GULF | 0 | 0 | 0 | 0 | |
| CAPE KULIAK | C GULF | | 0 | 4 | 0 | |
| KODIAK/CAPE ALITAK | C GULF | 0 | | 0 | 0 | |
| KODIAK/CAPE UYAK | C GULF | | 0 | 0 | 0 | |
| KODIAK/STURGEON | | | | | | |
| HEAD | C GULF | | 0 | 0 | 0 | |
| KODIAK/CAPE IKOLIK | C GULF | 108 | 52 | 33 | 57 | |
| KODIAK/TOMBSTONE | | | | | | |
| ROCKS | C GULF | 0 | 0 | 0 | 0 | |

Table 2 (continued)

| SITENAME | REGION | 2004 | 2006 | 2007 | 2008 | COMMENT |
|--|--------|------|------|------|------|---------|
| KILOKAK ROCKS | C GULF | 85 | 144 | 198 | 101 | |
| AIUGNAK COLUMNS | C GULF | 1 | 24 | 7 | 3 | |
| AGHIYUK | C GULF | 27 | 5 | 9 | 0 | |
| OLGA ROCKS NE | W GULF | 11 | 28 | 36 | 48 | |
| OLGA ROCKS SW | W GULF | 117 | 102 | 95 | 128 | |
| SUSHILNOI ROCKS | W GULF | 290 | 327 | 289 | 286 | |
| CATON | W GULF | 109 | 368 | 416 | 542 | |
| ATKULIK | W GULF | 0 | 0 | | 0 | |
| CHANKLIUT | W GULF | 0 | 0 | | 0 | |
| SEAL CAPE | W GULF | 0 | 0 | | 0 | |
| BIG KONIUJI | W GULF | 0 | 0 | 0 | 0 | |
| TWINS | W GULF | 0 | 0 | 0 | 0 | |
| NAGAI/RK W OF CAPE WEDGE | W GULF | 0 | 0 | 0 | 0 | |
| EGG (SAND POINT) | W GULF | 0 | 0 | 0 | 0 | |
| UNGA/CAPE UNGA | W GULF | 0 | 0 | 0 | 0 | |
| OMEGA | W GULF | 0 | 1 | 0 | 0 | |
| WOSNESENSKI | W GULF | 166 | 113 | 110 | 98 | |
| HUNT | W GULF | 0 | 0 | 0 | 0 | |
| HAGUE ROCK | W GULF | 0 | 0 | 0 | 1 | |
| SOZAVARIKA | W GULF | 0 | 0 | | 0 | |
| SANAK | W GULF | 0 | 0 | 0 | 0 | |
| UMGA | W GULF | 0 | 0 | 0 | 0 | |
| UNIMAK/CAPE LAZAREF | E ALEU | 0 | | 0 | 0 | |
| UNIMAK/OKSENOF POINT | E ALEU | | | 269 | 762 | |
| UNIMAK/CAPE LUTKE | E ALEU | 0 | 0 | 0 | 0 | |
| UNIMAK/SCOTCH CAP | E ALEU | 0 | 0 | 0 | 0 | |
| Rock b/n Unimak/Sennett Point and Unimak/Cape Sarichef | E ALEU | | 19 | 6 | 0 | |
| KALIGAGAN | E ALEU | 1 | 0 | 6 | 1 | |
| UNIMAK/SENNETT POINT | E ALEU | 0 | 1 | 0 | 0 | |
| BASALT ROCK | E ALEU | 1 | 4 | 0 | 0 | |
| AKUN/AKUN BAY | E ALEU | 0 | 0 | 18 | 8 | |
| AKUN/JACKASS POINT | E ALEU | 0 | 0 | 0 | 0 | |
| AKUN/AKUN HEAD | E ALEU | 0 | 0 | 0 | 0 | |
| AKUTAN/BATTERY POINT | E ALEU | 0 | 0 | 0 | 0 | |
| AVATANAK | E ALEU | | 15 | 42 | 0 | |
| BABY | E ALEU | 0 | 4 | 0 | 0 | |
| INNER SIGNAL | E ALEU | 38 | 0 | 47 | 54 | |
| UNALASKA/PRIEST ROCK | E ALEU | 0 | 1 | 3 | 2 | |
| UNALASKA/WHALEBONE CAPE | E ALEU | 0 | 0 | 0 | 0 | |
| UNALASKA/CAPE WISLOW | E ALEU | 0 | 0 | 0 | 0 | |

Table 2 (continued)

| SITENAME | REGION | 2004 | 2006 | 2007 | 2008 | COMMENT |
|--|---------------|--------------|--------------|--------------|--------------|---|
| UNALASKA/CAPE STARICHKOF | E ALEU | 0 | 0 | 0 | 0 | |
| Unlisted Rock b/n Rootok and Tigalda | E ALEU | | 15 | 42 | | |
| Unlisted Rock b/n Bishop and Kovrizhka | E ALEU | | | | 0 | 2007 count of 10 applied to Unalaska/Bishop Point |
| UNALASKA/KOVRIZHKA | E ALEU | 0 | 0 | 0 | 0 | |
| UNALASKA/RK NEAR MAKUSHIN | E ALEU | | | | 0 | 2006 count of 60 applied to Unalaska/Makushin Bay |
| UMNAK/CAPE IDAK | E ALEU | | 0 | 0 | 0 | |
| EMERALD | E ALEU | 0 | | 0 | 0 | |
| UMNAK/REINDEER POINT | E ALEU | | 0 | | 0 | |
| UMNAK/CAPE CHAGAK | E ALEU | | 0 | | 0 | |
| UMNAK/AGULIUK POINT | E ALEU | | 0 | | 0 | |
| SAMALGA | E ALEU | 1 | 0 | 0 | 0 | |
| TAGALAK | C ALEU | 91 | 134 | 162 | 86 | |
| SILAK | C ALEU | 38 | 32 | 88 | 32 | |
| ADAK/CAPE MOFFET | C ALEU | 0 | 0 | 0 | 0 | |
| ADAK/ARGONNE POINT | C ALEU | 35 | 12 | 10 | 0 | |
| BOBROF | C ALEU | 49 | 21 | | 0 | |
| SEMISOPOCHNOI/PETREL | C ALEU | 0 | 43 | | 0 | |
| SEMISOPOCHNOI/SW KNOB | C ALEU | 17 | 0 | | 0 | |
| SEMISOPOCHNOI/TUMAN POINT | C ALEU | 0 | 0 | | 0 | |
| SEGULA/GULA POINT | C ALEU | | 1 | | 0 | |
| AMLIA/CAPE MISTY | C ALEU | 21 | | 72 | 0 | |
| KONIUJI/NORTH POINT | C ALEU | 0 | 0 | 0 | 0 | |
| CHUGUL | C ALEU | 39 | 69 | 73 | 12 | |
| IGITKIN/SW POINT | C ALEU | 0 | 0 | 0 | 0 | |
| ADAK/CRONE ISLAND | C ALEU | 0 | | | 60 | |
| KANAGA/CAPE CHUNU | C ALEU | 9 | | 82 | 69 | |
| ILAK | C ALEU | 45 | | | 18 | |
| SKAGUL/S. POINT | C ALEU | 1 | | | 1 | |
| OGLIUGA | C ALEU | 49 | | | 0 | |
| AMCHITKA/OMEGA POINT | C ALEU | 0 | 0 | 0 | 0 | |
| AMCHITKA/CHITKA POINT | C ALEU | 0 | | 0 | 0 | |
| AMCHITKA/BIRD | C ALEU | 0 | | 0 | 0 | |
| TWIN ROCKS (KISKA) | C ALEU | 13 | | | 1 | |
| KISKA/SOUTH HEAD | C ALEU | 0 | 0 | | 0 | |
| KISKA/WITCHCRAFT POINT | C ALEU | 0 | | | 7 | |
| KISKA/GERTRUDE-BUKHTI | C ALEU | 0 | 0 | | 0 | |
| INGENSTREM ROCKS | W ALEU | 0 | 1 | | 0 | |
| NIZKI | W ALEU | 0 | 0 | | 0 | |
| DAN'S ROCKS | W ALEU | 0 | 0 | | 0 | |
| Total Other Sites | | 1,600 | 2,231 | 3,012 | 3,060 | |

Table 3. Counts of adult and juvenile (non-pup) Steller sea lions at TREND (1) and NON-TREND (0) HAUL-OUTS and ROOKERIES (Y) from high resolution aerial photographs taken in July 2002 and June 2008. Counts from trend sites labeled 1* were omitted from the Total Southeast Alaska Trend-Site since there are no counts of these sites from 2002. The Brothers count is the sum of counts from The Brothers/SW and The Brothers/NW. For 2002, Forrester Complex count includes Forrester/Horn Rk, Forrester/East Rk, Forrester/West Rock, Forrester/Lowrie, Forrester North Rk, and Forrester/Sea Lion Rk. The Forrester Complex count for 2008 includes Forrester/Horn Rk, Forrester/Forrester Island, Forrester/Lowrie, Forrester North Rk, and Forrester/Sea Lion Rk.

| SITENAME | REGION | TREND | ROOKERY | 2002 | 2008 |
|-----------------------------------|--------|-------|---------|-------|-------|
| LITTLE ISLAND | SE AK | 0 | | | 0 |
| POINT MARSH | SE AK | 0 | | 104 | 4 |
| WEST ROCK | SE AK | 0 | | 640 | 841 |
| WOLF ROCK | SE AK | 0 | | 207 | 300 |
| SAKIE POINT | SE AK | 0 | | | 0 |
| CAPE BARTOLOME | SE AK | 0 | | 41 | 0 |
| CAPE ADDINGTON | SE AK | 0 | | 1074 | 718 |
| GRINDALL | SE AK | 0 | | 130 | 374 |
| TIMBERED | SE AK | 0 | | 442 | 288 |
| HAZY | SE AK | 1 | Y | 2,050 | 1,686 |
| EASTERLY | SE AK | 0 | | | 255 |
| CORONATION | SE AK | 1 | | 46 | 279 |
| South of Cape Ommaney | SE AK | 0 | | | 102 |
| CAPE OMMANEY | SE AK | 0 | | 344 | 117 |
| LARCH BAY | SE AK | 0 | | | 28 |
| SEA LION ROCK (PUFFIN BAY) | SE AK | 0 | | 264 | 0 |
| ETOLIN | SE AK | 0 | | | 0 |
| PATTERSON POINT | SE AK | 0 | | | 0 |
| BIALI ROCK | SE AK | 1 | Y | 626 | 408 |
| FORRESTER COMPLEX | SE AK | 1 | Y | 3,699 | 2,894 |
| JACOB ROCK | SE AK | 1 | | 203 | 101 |
| KAIUCHALI (BIORKA) | SE AK | 0 | | 46 | 31 |
| HORN CLIFF | SE AK | 0 | | | 0 |
| YASHA | SE AK | 0 | | 920 | 379 |
| ST. LAZARIA | SE AK | 0 | | | 0 |
| PINTA ROCKS | SE AK | 0 | | | 0 |
| TURNABOUT | SE AK | 1* | | | 0 |
| ROUND ROCK | SE AK | 0 | | | 0 |
| THE BROTHERS | SE AK | 1 | | 981 | 765 |
| SEA LION ISLANDS | SE AK | 1* | | | 137 |
| POINT LULL | SE AK | 0 | | | 153 |
| SAIL | SE AK | 0 | | 0 | 3 |
| FALSE POINT PYBUS | SE AK | 0 | | 0 | 0 |
| SUNSET | SE AK | 0 | | 348 | 384 |
| POINT LEAGUE (STEVENS PASSAGE) | SE AK | 0 | | 0 | 1 |
| WHITE SISTERS | SE AK | 1 | Y | 1,156 | 1,132 |
| TENAKEE CANNERY POINT | SE AK | 0 | | | 0 |

Table 3 (Continued)

| SITENAME | REGION | TREND | ROOKERY | 2002 | 2008 |
|--------------------------|---------------|--------------|----------------|--------------|--------------|
| | SE AK | 1 | | 1 | 1 |
| | SE AK | 0 | | | 0 |
| POINT MARSDEN | SE AK | 0 | | | 0 |
| CAPE BINGHAM | SE AK | 0 | | 0 | 0 |
| CIRCLE POINT | SE AK | 0 | | | 0 |
| THE SISTERS | SE AK | 0 | | | 0 |
| DOROTHY | SE AK | 0 | | | 0 |
| GRAVES ROCK | SE AK | 1 | Y | 1,001 | 1,305 |
| INIAN | SE AK | 0 | | 206 | 116 |
| VENISA | SE AK | 0 | | 0 | 0 |
| POINT CAROLUS | SE AK | 0 | | 0 | 0 |
| BENJAMIN | SE AK | 0 | | 0 | 0 |
| HARBOR POINT | SE AK | 1 | | 186 | 178 |
| SOUTH MARBLE | SE AK | 0 | | 238 | 786 |
| CASE (TLINGIT) POINT | SE AK | 0 | | | 0 |
| CAPE FAIRWEATHER | SE AK | 1* | | | 0 |
| MET POINT | SE AK | 0 | | | 0 |
| ELDRED ROCK | SE AK | 0 | | | 0 |
| GRAN (LEDGE) POINT | SE AK | 0 | | 331 | 583 |
| Total Trend Sites | | | | 9,949 | 8,748 |
| Total Other Sites | | | | 5,335 | 5,597 |

Table 4. Counts of adult and juvenile Steller sea lions at rookeries on Ugamak Island in June 2004-2008 by land-based observers and from aerial survey photographs. Land-based counts are lower than aerial survey counts because the entire beach cannot be seen from the cliff-side observation points. The average ratio of aerial:land counts from each rookery was multiplied by the 2008 land-based count to estimate the 2008 adult and juvenile aerial survey count (**bold and italics**). Ugamak/South = Ugamak/Ugamak Bay.

| Rookery | Year | Land-Based | | Aerial Survey | | Ratio | Average Ratio |
|--------------|------|------------|-------|---------------|------------|-------|---------------|
| | | Date | Count | Date | Count | | |
| Ugamak/North | 2004 | 14-Jun | 419 | 14-Jun | 644 | 1.54 | 1.49 |
| | 2005 | 25-Jun | 453 | 25-Jun | 650 | 1.43 | |
| | 2007 | | | 25-Jun | 669 | | |
| | 2008 | ~ 17-Jun | 476 | | 707 | | |
| Ugamak/South | 2004 | 14-Jun | 398 | 14-Jun | 575 | 1.44 | 1.26 |
| | 2005 | 25-Jun | 478 | 25-Jun | 518 | 1.08 | |
| | 2007 | | | | 654 | | |
| | 2008 | ~ 17-Jun | 608 | | 769 | | |

Table 5. Summary of 1990s trend sites surveyed (A) and counts of adult and juvenile (non-pup) Steller sea lions at 1990s Trend Sites (B & C) within the range of the western stock from vertical high resolution aerial photographs taken in June 2004-2008. Counts are unadjusted.

| A. Number of 1990s Trend Sites Surveyed | | | | |
|--|-------------|-------------|-------------|-------------|
| Region | 2004 | 2006 | 2007 | 2008 |
| E GULF | 13 | 13 | 13 | 13 |
| C GULF | 33 | 14 | 32 | 33 |
| W GULF | 20 | 19 | 19 | 20 |
| E ALEU | 27 | 27 | 26 | 27 |
| C ALEU | 58 | 24 | 34 | 58 |
| W ALEU | 10 | 9 | 0 | 10 |
| Total | 161 | 106 | 124 | 161 |

| B. Counts of Non-Pup Steller Sea Lions at 1990s Trend Sites | | | | | | | |
|--|---------------|-------------|-------------|---------------|-----------------|---------------|--|
| Only Completely Surveyed Regions | | | | | | | |
| Region | 2004 | 2006 | 2007 | 2008 | Δ(08-04) | % diff | |
| E GULF | 3,129 | 3,218 | 2,865 | 4,219 | 1,090 | 35% | |
| C GULF | 4,180 | | | 4,587 | 407 | 10% | |
| W GULF | 5,431 | | | 5,768 | 337 | 6% | |
| E ALEU | 6,217 | 6,259 | | 6,647 | 430 | 7% | |
| C ALEU | 7,145 | | | 6,037 | -1,108 | -16% | |
| W ALEU | 1,335 | | | 928 | -407 | -30% | |
| Total | 27,437 | | | 28,185 | 748 | 3% | |
| C GULF-W ALEU | 24,308 | | | 23,966 | -342 | -1% | |

| C. Counts of Non-Pup Steller Sea Lions at the Subset of 1990s Trend Sites | | | | | | | |
|--|---------------|-------------|---------------|---------------|-----------------|-----------------|--|
| Includes regions missing 1 trend site (removed from all years) | | | | | | | |
| Region | 2004 | 2006 | 2007 | 2008 | Δ(07-04) | Δ(08-07) | |
| E GULF ¹ | 3,129 | 3,218 | 2,865 | 4,219 | -265 | 1,355 | |
| C GULF ² | 4,148 | | 4,840 | 4,528 | 692 | -312 | |
| W GULF ³ | 5,414 | | 5,845 | 5,767 | 431 | -79 | |
| E ALEU ⁴ | 6,098 | 6,186 | 6,261 | 6,584 | 163 | 323 | |
| C ALEU-E ⁵ | 4,486 | 3,785 | | 3,721 | -701 | -65 | |
| C ALEU-W ⁶ | 2,659 | | | 2,317 | | | |
| W ALEU ⁷ | 1,227 | 997 | | 886 | | | |
| Total | 27,161 | | | 28,020 | | | |
| E GULF-C ALEU-E | 23,275 | | 23,595 | 24,818 | 320 | 1,223 | |
| C GULF-C ALEU-E | 20,146 | | 20,731 | 20,599 | 585 | -131 | |

- ¹ Complete
- ² Missing Long
- ³ Missing Kak
- ⁴ Missing Umnak/Cape Aslik
- ⁵ Is. 4 Mtns to Tanaga; pooled 2006-07
- ⁶ Delarofs to Kiska
- ⁷ Missing Buldir

Figure 1. Terrestrial rookery and haulout sites in the range of eastern and western stocks of Steller sea lions in Alaska surveyed in 2008 and used in the analysis of population trends. Boundaries of the eastern, central, and western regions of the Gulf of Alaska (GOA) and Aleutian Islands (AI) are shown. The eastern and western stocks breed on rookeries east and west of 144°W, respectively.

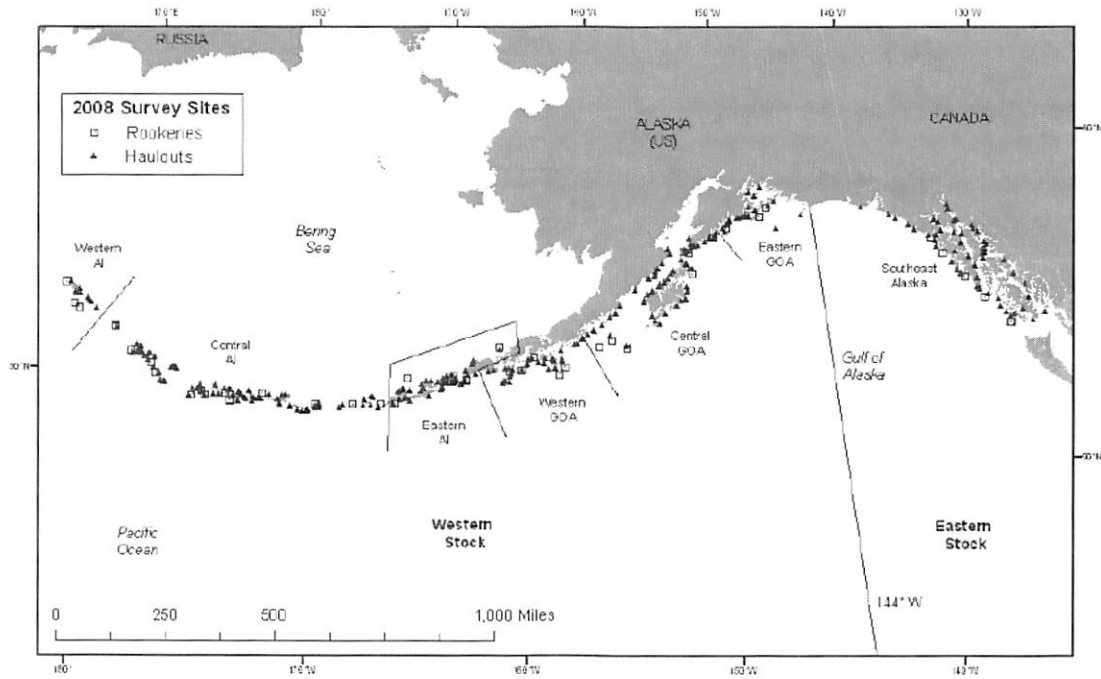


Figure 2. Field camp (land-based) and aerial survey counts of adult and juvenile Steller sea lions in June 2004-2008 at Ugamak/North (A) and Ugamak/South (also called Ugamak/Ugamak Bay; B) rookeries. Aerial survey data for 2008 (open squares) were estimated from ratio of aerial to land-based counts in 2004 and 2005; data in Table 4.

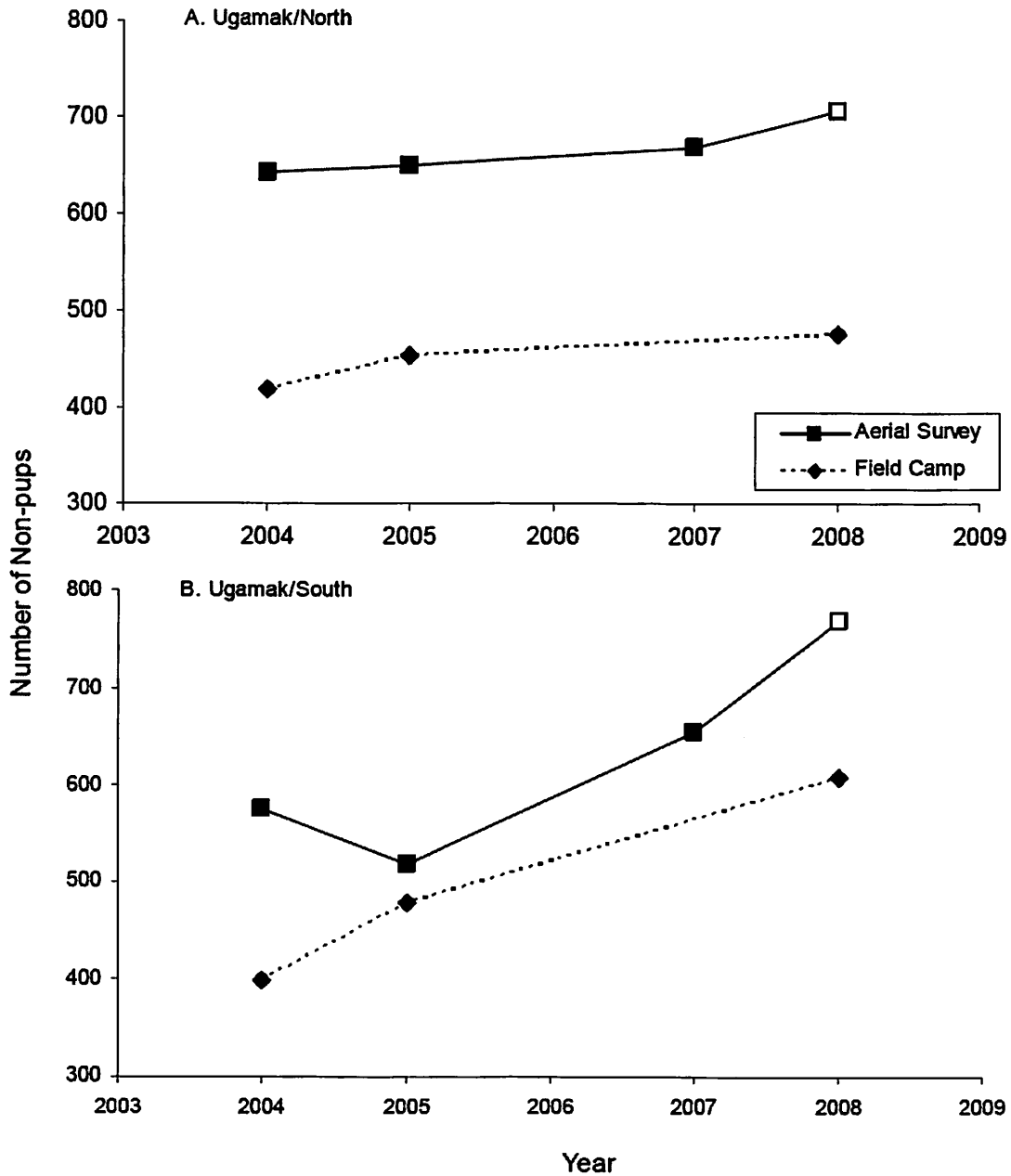


Figure 3. Clusters of haul-out and rookery sites used in analysis of non-pup Steller sea lion counts in the SE Alaska and E GULF regions.

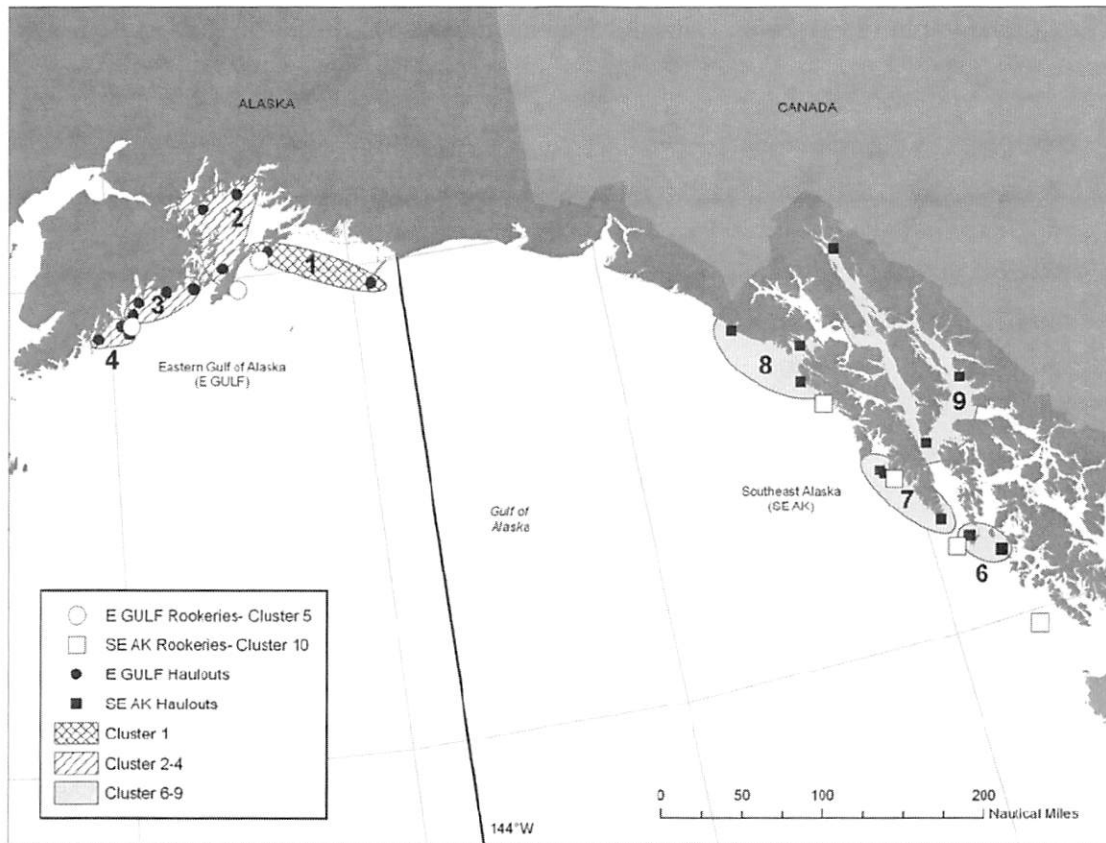


Figure 4. Counts of adult and juvenile (non-pup) Steller sea lions at 1990s trend sites (Table 1) in the range of the western stock in Alaska, 1991-2008. Totals for 2004 and 2008 are reduced 3.64% from the actual totals to reflect the higher counts obtained on vertical high-resolution (used in 2004 and 2008) than oblique 35 mm photographs (1991-2002; Fritz and Stinchcomb 2005).

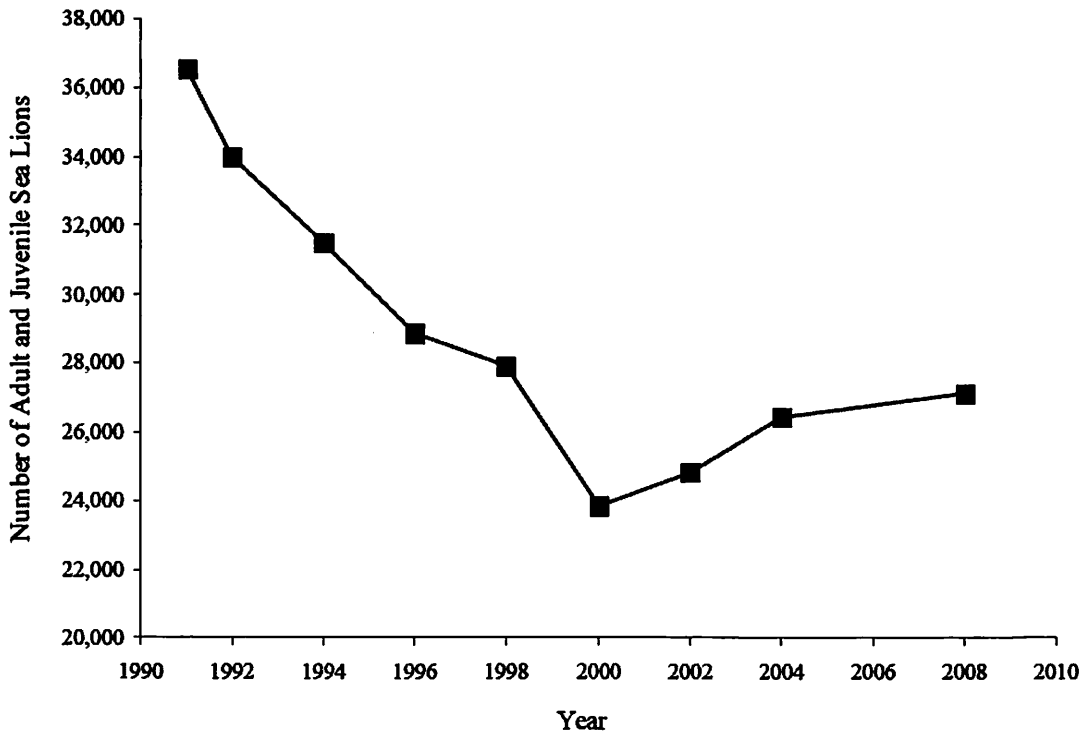


Figure 5. Counts of adult and juvenile (non-pup) Steller sea lions at 1990s trend sites (Table 1) by region in the range of the western stock in Alaska, 1991-2008. Region totals for 2004-2008 are reduced 3.64% from the actual totals to reflect the higher counts obtained on vertical high-resolution (used in 2004 and 2008) than oblique 35 mm photographs (1991-2002; Fritz and Stinchcomb 2005).

A. In the Gulf of Alaska, only the E GULF has a complete time-series of trend sites counts from 1991-2008; in the C GULF and W GULF, Long and Kak Islands were missed, respectively, in 2007. Separate time series were created without these sites for these two regions.

B. In the Aleutian Islands, the C ALEU has a complete series of trend site counts through 2004 and for 2008; in the E ALEU, Umnak/Cape Aslik was missed in 2007 while in the W ALEU, Buldir Island was missed in 2006. Separate time series were created without these sites for these two regions.

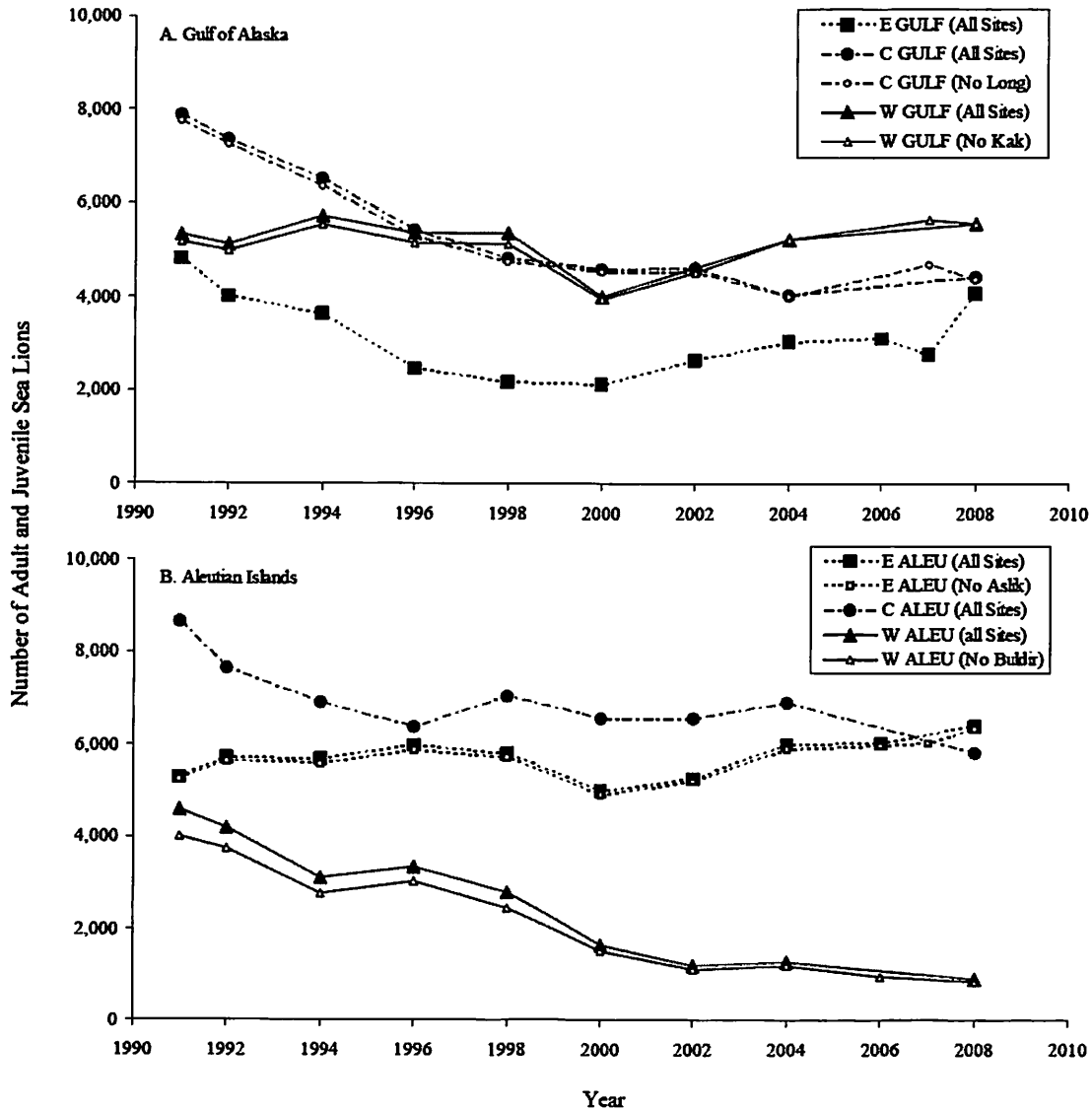


Figure 6. Counts of adult and juvenile (non-pup) Steller sea lions at 1990s trend sites (Table 1) in the eastern and western portions of the C ALEU sub-area, 1991-2008. Region totals for 2004-2008 are reduced 3.64% from the actual totals to reflect the higher counts obtained on vertical high-resolution (used in 2004 and 2008) than oblique 35 mm photographs (1991-2002; Fritz and Stinchcomb 2005). Western C ALEU includes counts at all trend sites between 177°E and 178°W (Kiska Island through the Delarof Islands). Eastern C ALEU includes counts at all trend sites between 169°-178°W (Islands of Four Mountains through Tanaga Island); counts for 2006 and 2007 were pooled by averaging and plotted at year = 2006.5.

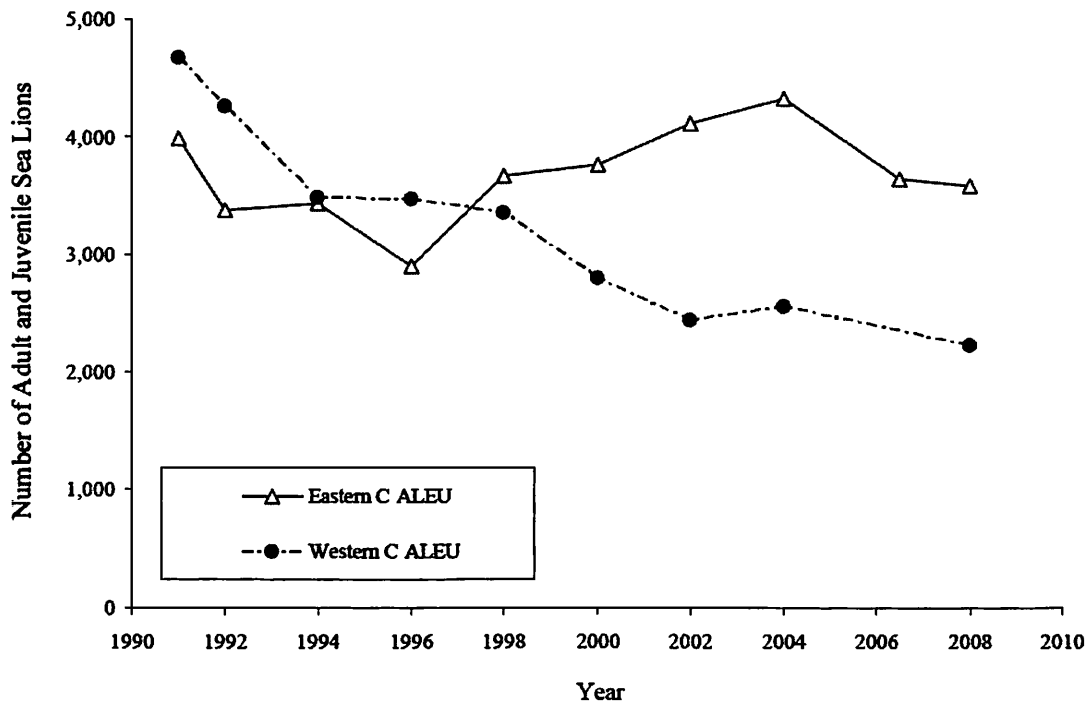


Figure 7. Change in the number of adult and juvenile (non-pup; NP) Steller sea lions counted at trend haul-out and rookery sites between 2004 and 2008 across the range of the western distinct population segment in Alaska.

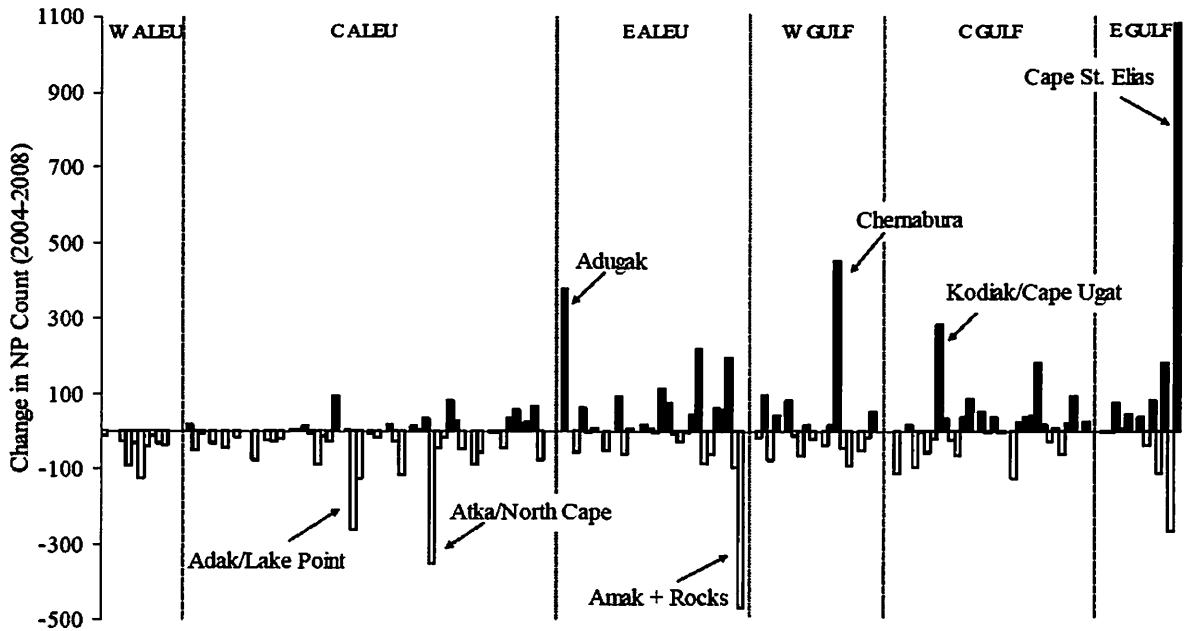
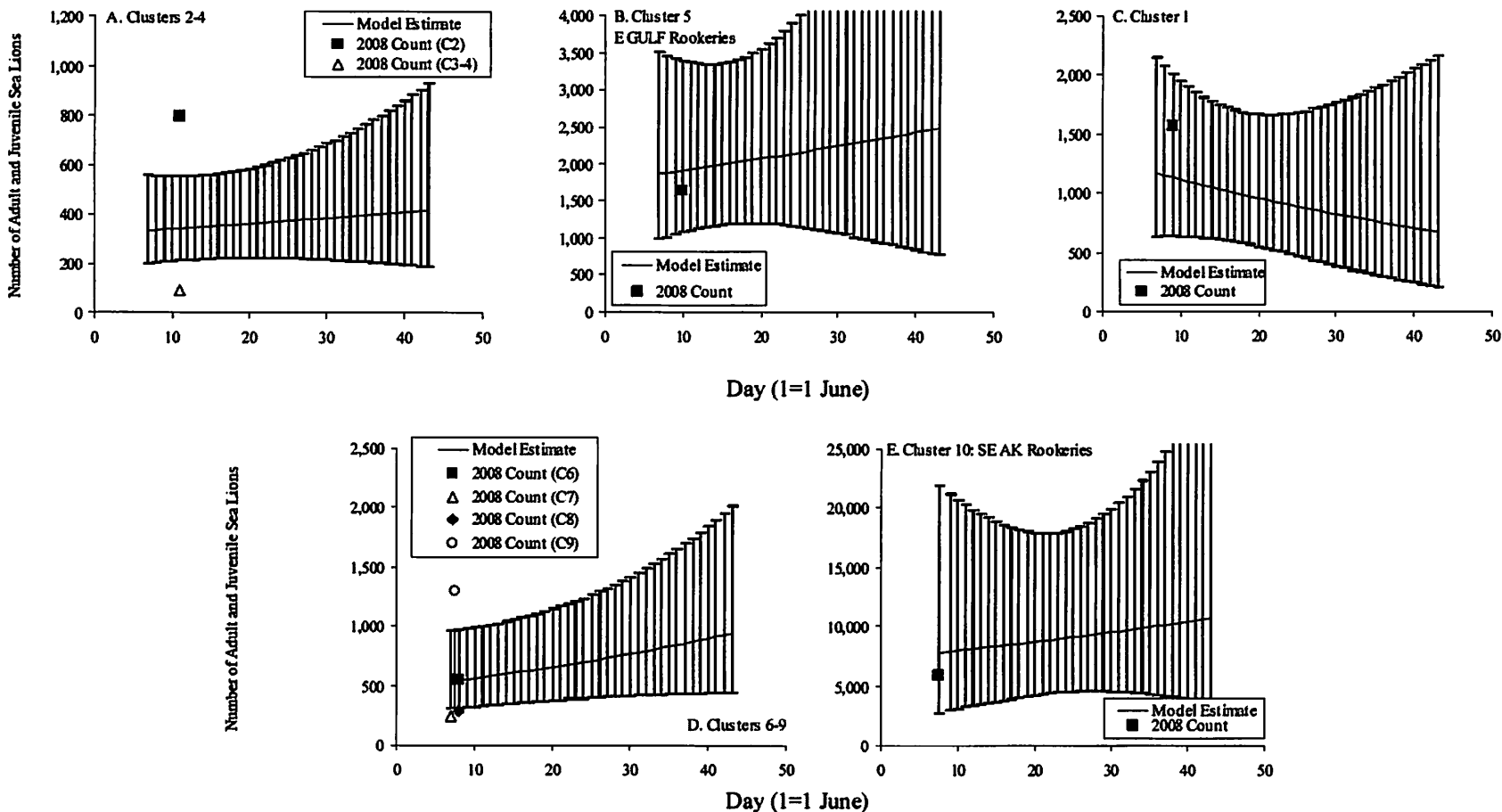


Figure 8. Counts of adult and juvenile Steller sea lions in clusters of haul-outs and rookeries in the eastern Gulf of Alaska (E GULF) and southeast Alaska (SE AK) in 2008 plotted against day of the year (1=1 June). Actual counts are plotted as points, and model estimates as lines with 95% confidence bounds. See text for details of model structure.



No. Right whale

PRIEST 2008 Aerial Survey Sighting and Effort Results

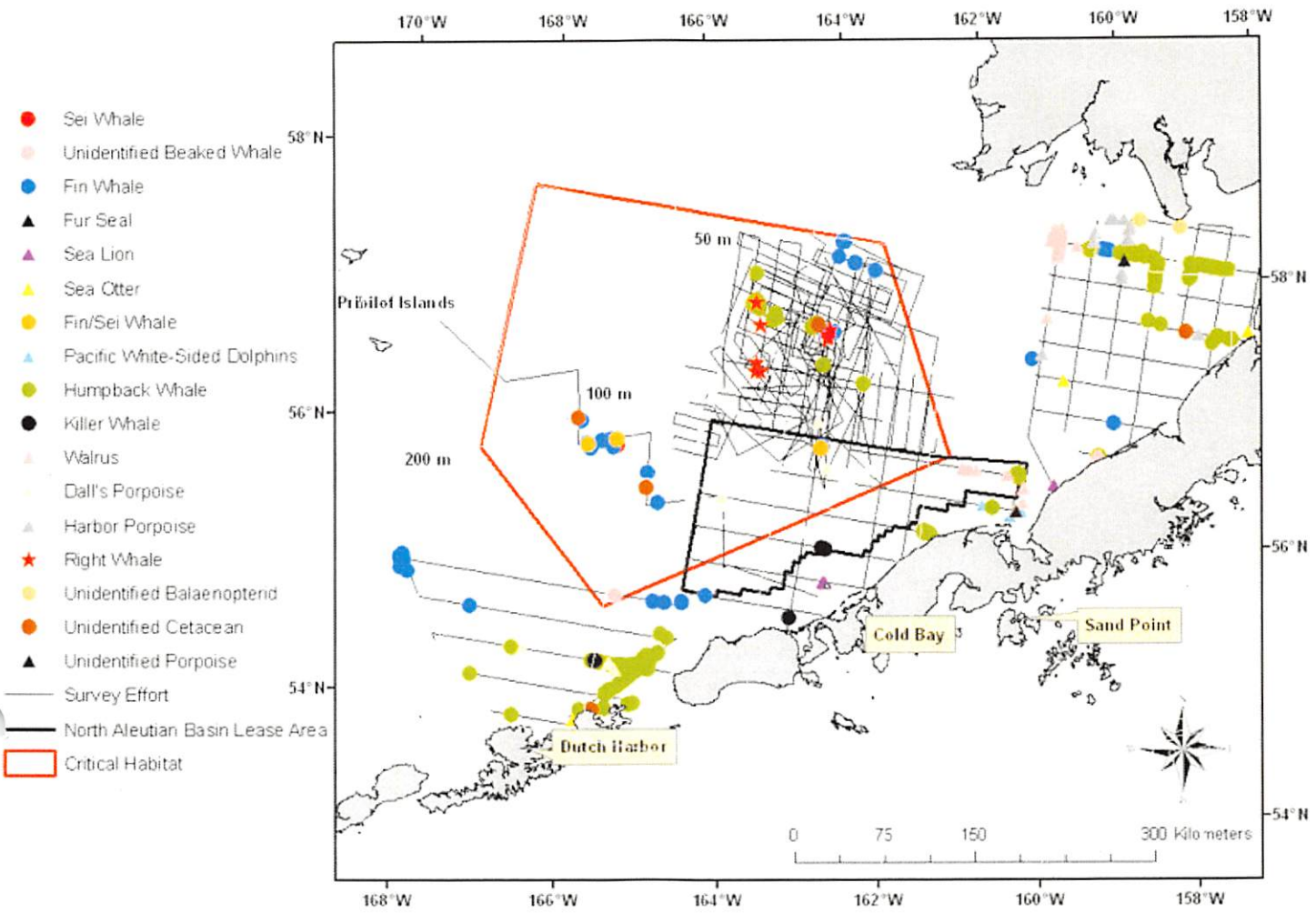
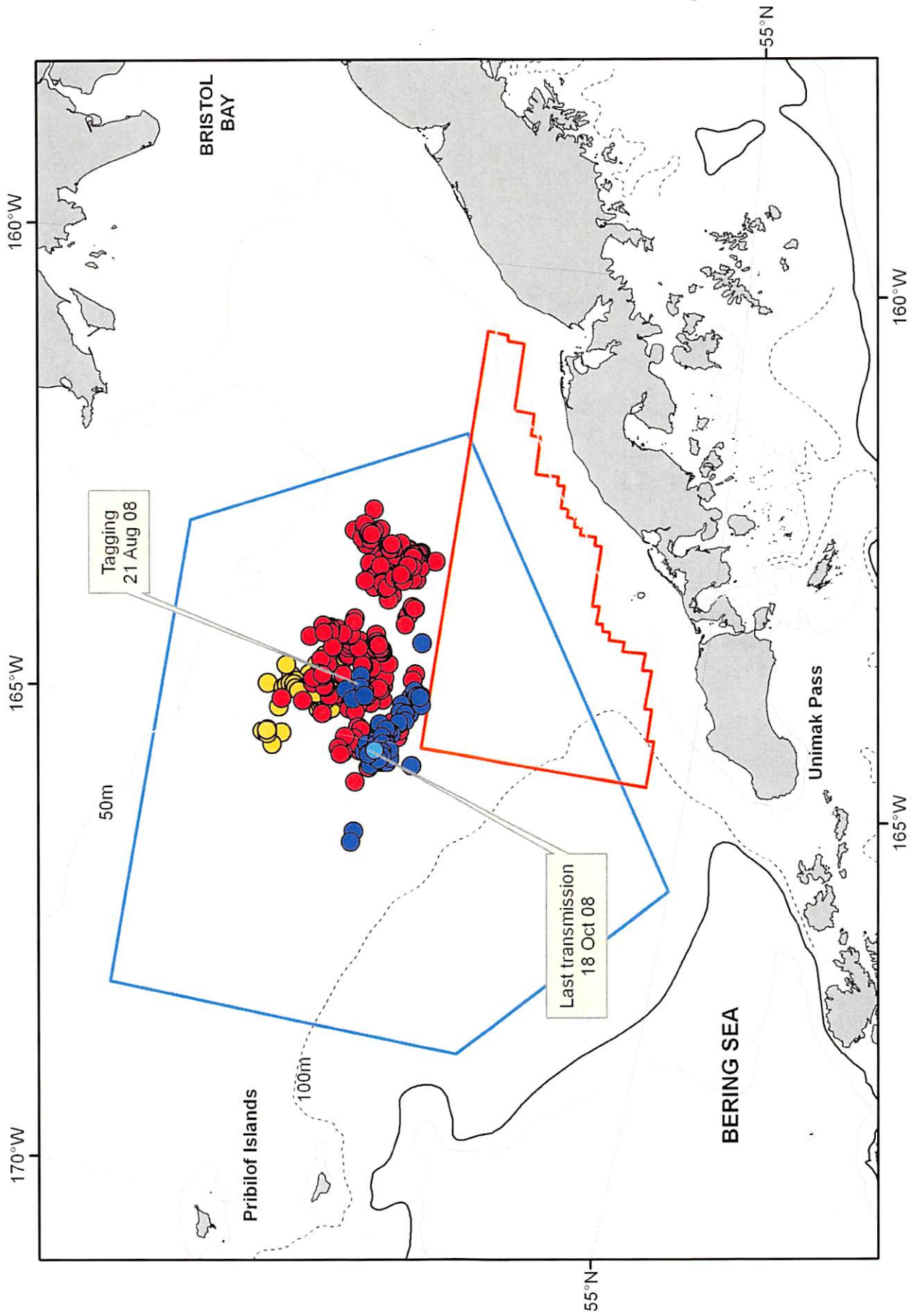
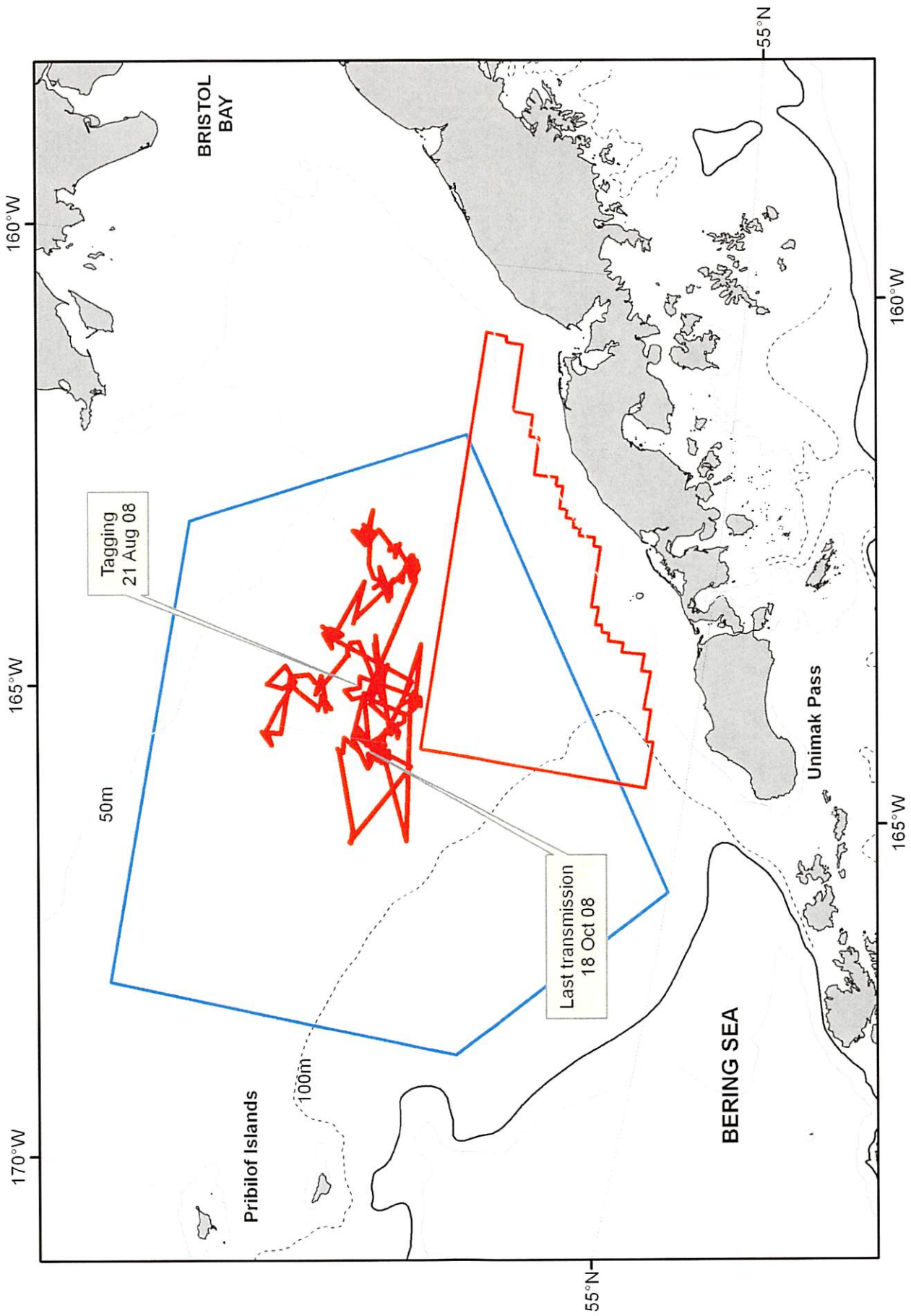


Figure 1. PRIEST 2008 aerial sighting and effort map.

No. Right Whales



No. Right whale





Western Steller Sea Lion Population Status 2008

Lowell Fritz
NOAA Fisheries
National Marine Mammal Laboratory
Seattle, WA

With considerable help from:

Kathryn Sweeney, Carolyn Gudmundson and Tom Gelatt **NMML**
Morgan Lynn, Jim Gilpatrick and Wayne Perryman **SWFSC NMFS**
Mark Nelson, Nicole Cabana and Michael Merek **NOAA Aircraft Operations Center**
Don LeRo **Aircraft Imaging Solutions**



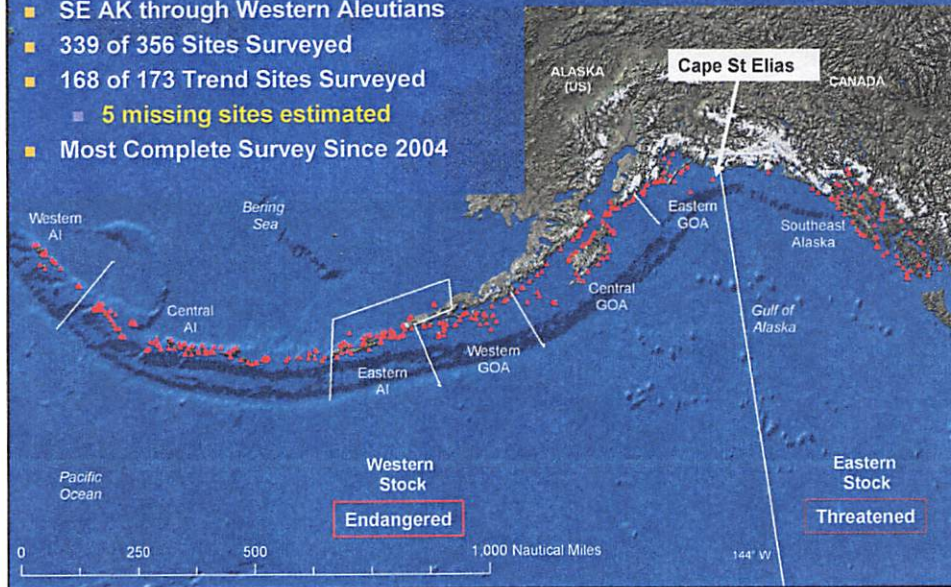
Outline

- Description of 2008 Survey
- Non-pup Counts 1991-2008
 - Emphasis on 2000-2008
- Pup Counts 1991-2008
 - Emphasis on 1998-2005/07
- Movement between SE Alaska and Prince William Sound
 - Effects on 2008 Survey Results



2008 Steller Sea Lion Aerial Survey

- 7 June – 6 July: Adults and Juveniles
- SE AK through Western Aleutians
- 339 of 356 Sites Surveyed
- 168 of 173 Trend Sites Surveyed
 - 5 missing sites estimated
- Most Complete Survey Since 2004



Aerial Survey Methods

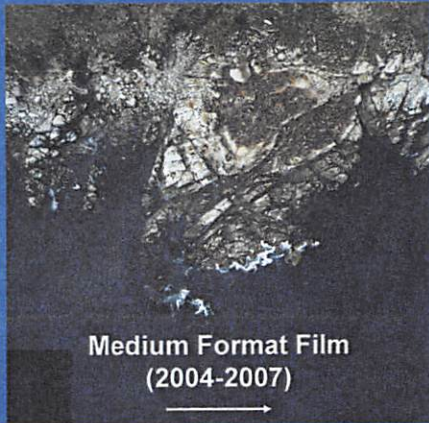
- Prior to 2004: Oblique 35 mm slide film
 - Animals counted manually off projected image
- Since 2004: Vertical High Resolution film or Digital
 - Animal count in PhotoShop by Age-Sex class
 - Higher resolution and vertical orientation yields 3.6% higher counts than 35 mm oblique
 - Comparison of 2004-2008 with pre-2004 requires use of correction factor



Atkins Rookery Western Gulf of Alaska



Oblique 35mm
(1975-2002)



Medium Format Film
(2004-2007)



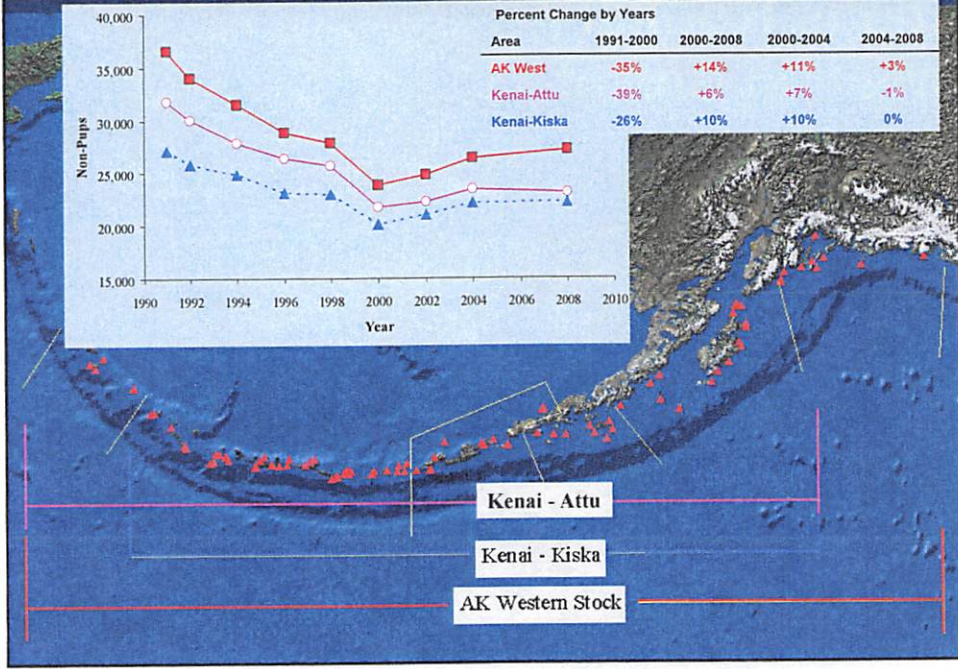
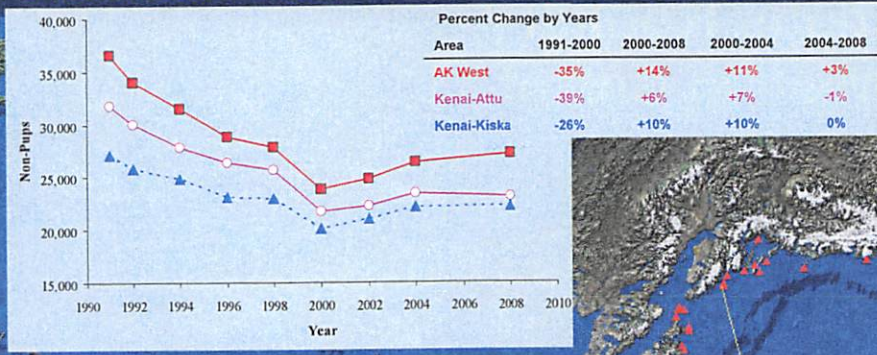
Digital with
50mm Lens
(2008)

Identifying Animals

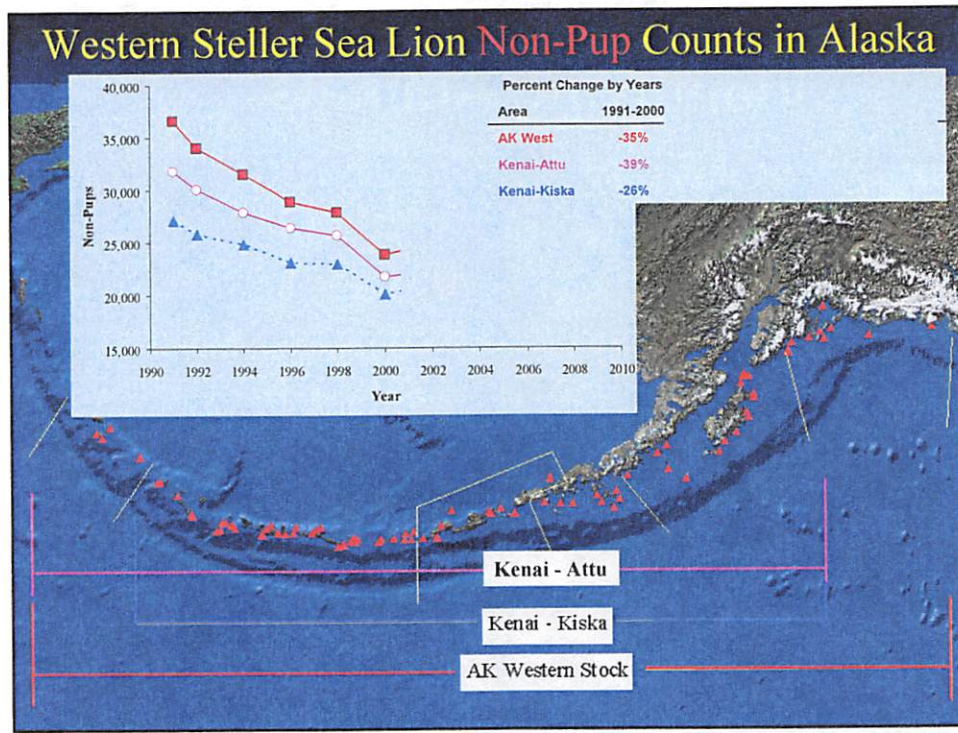
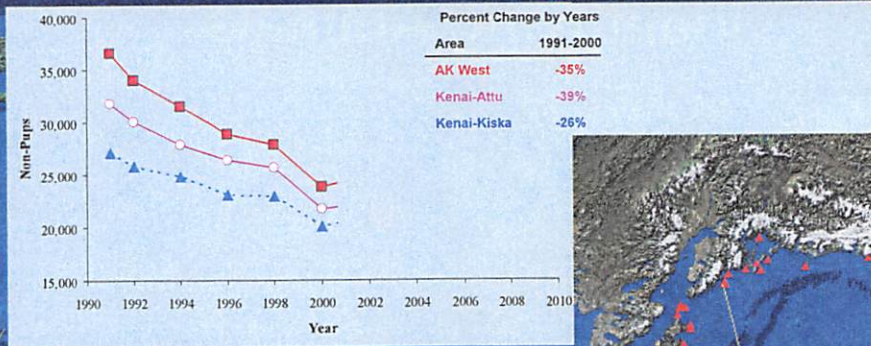


- Bulls
- Sub-Adult Males
- Females
- Juveniles
- Pups

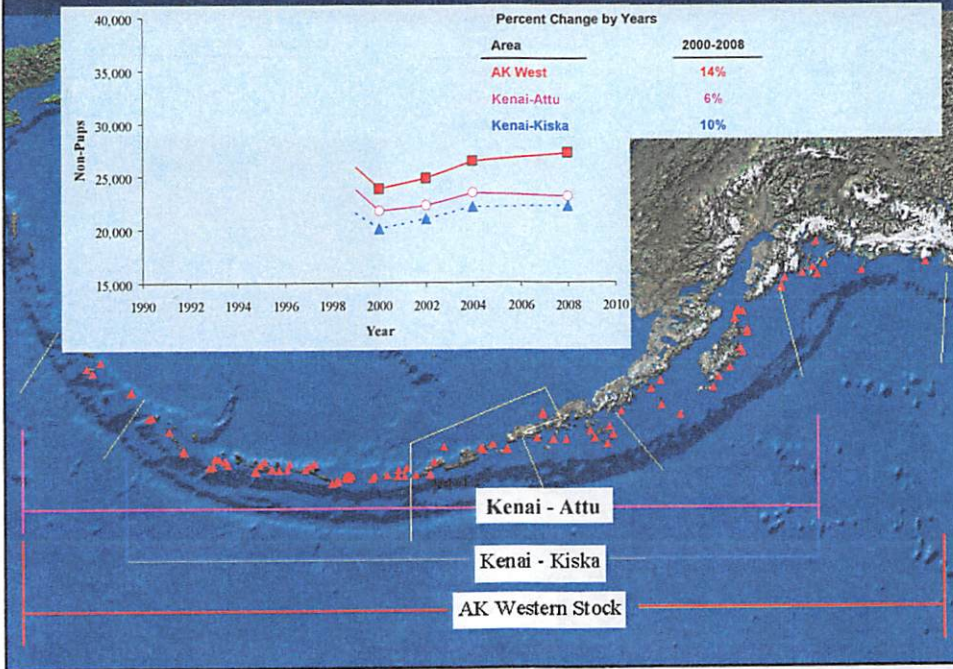
Western Steller Sea Lion Non-Pup Counts in Alaska



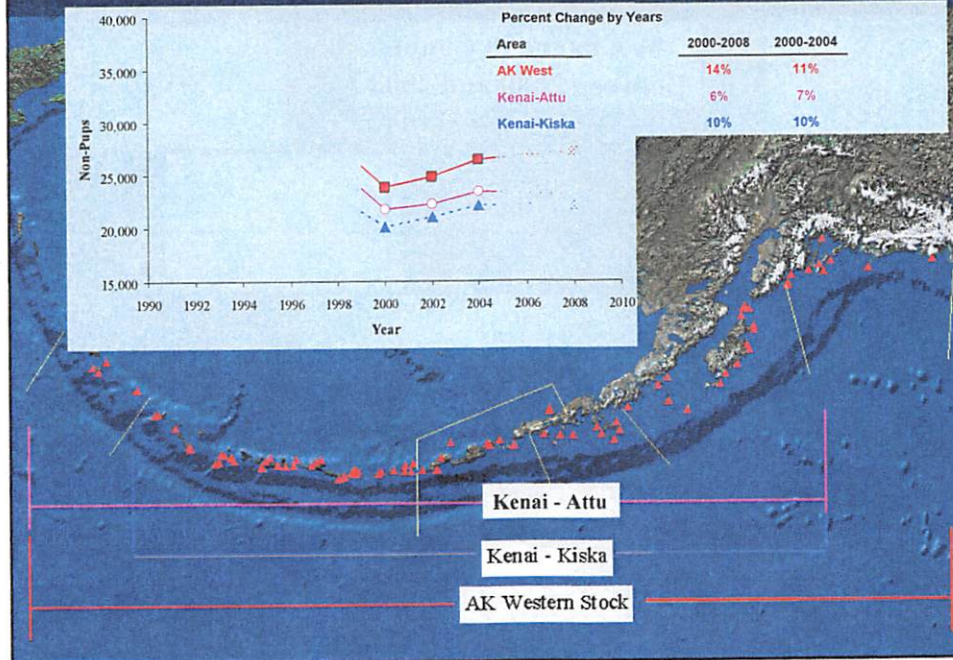
Western Steller Sea Lion Non-Pup Counts in Alaska



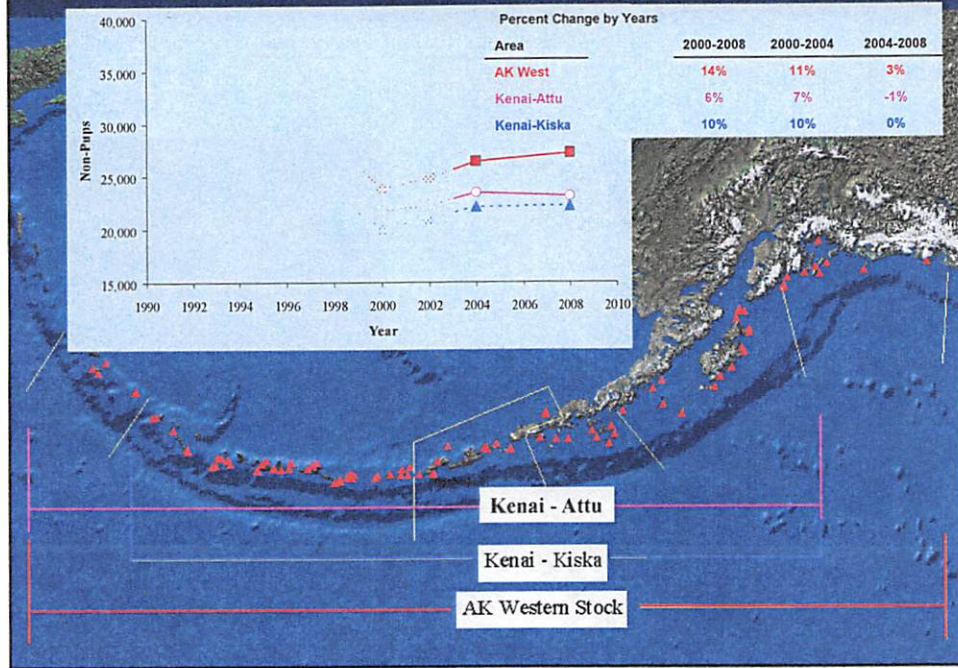
Western Steller Sea Lion Non-Pup Counts in Alaska



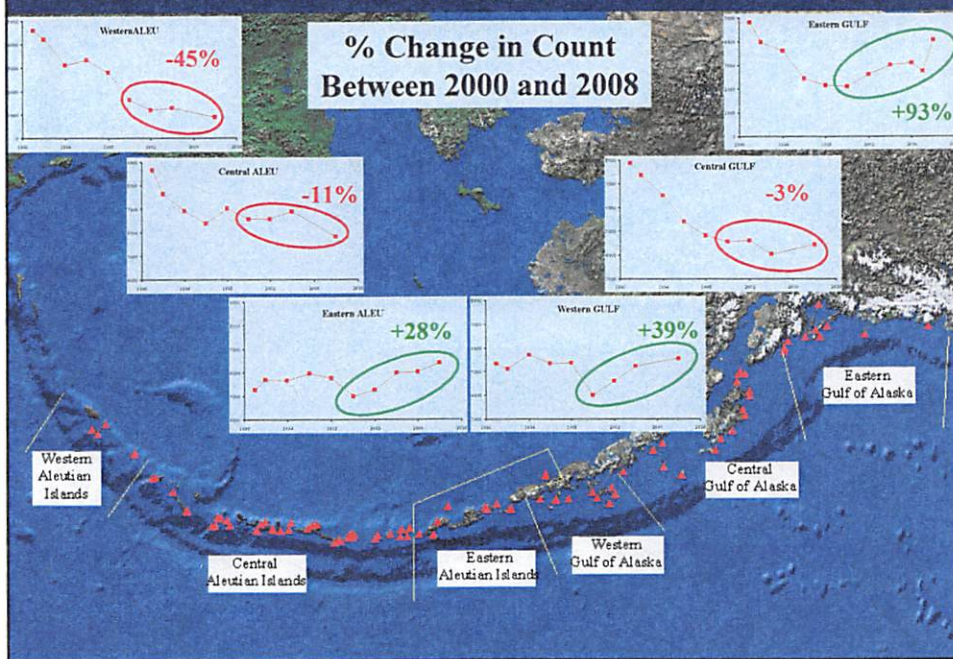
Western Steller Sea Lion Non-Pup Counts in Alaska

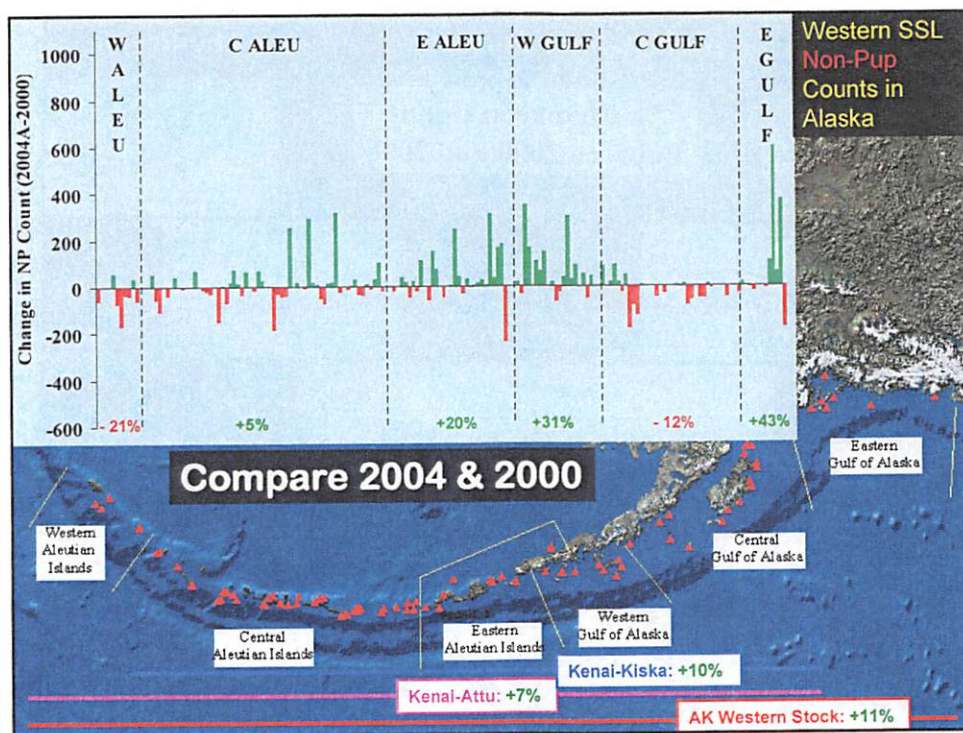
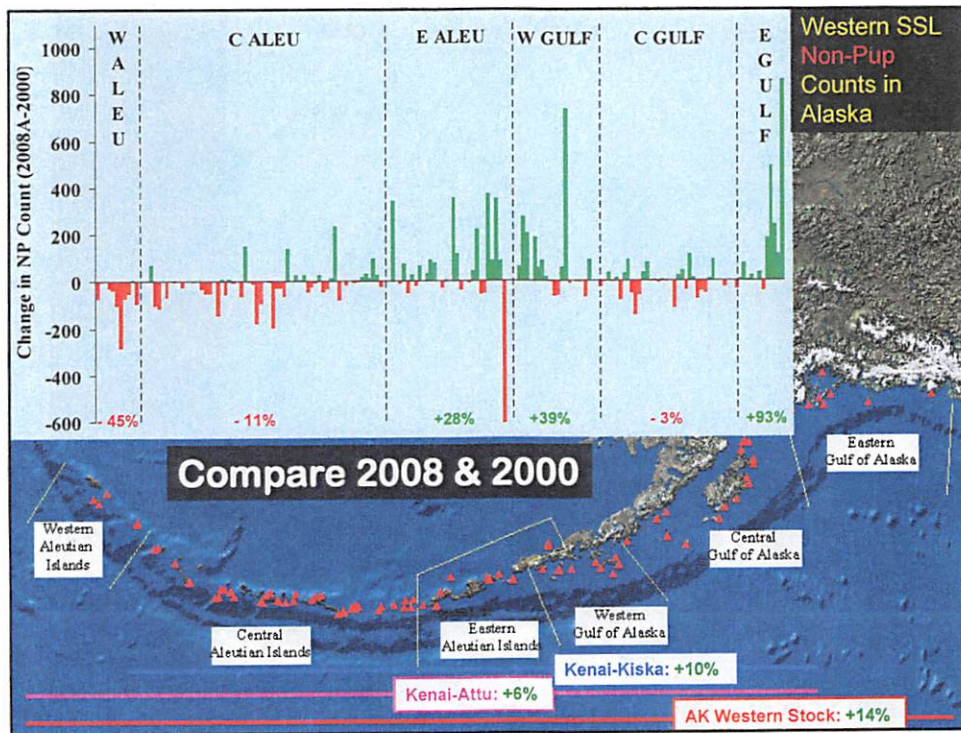


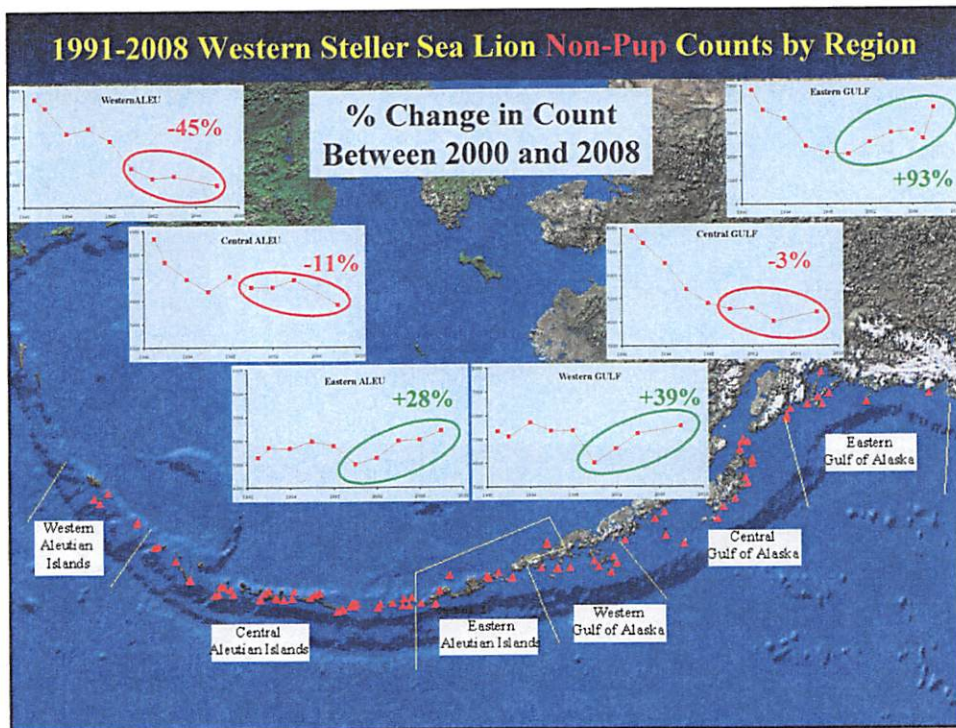
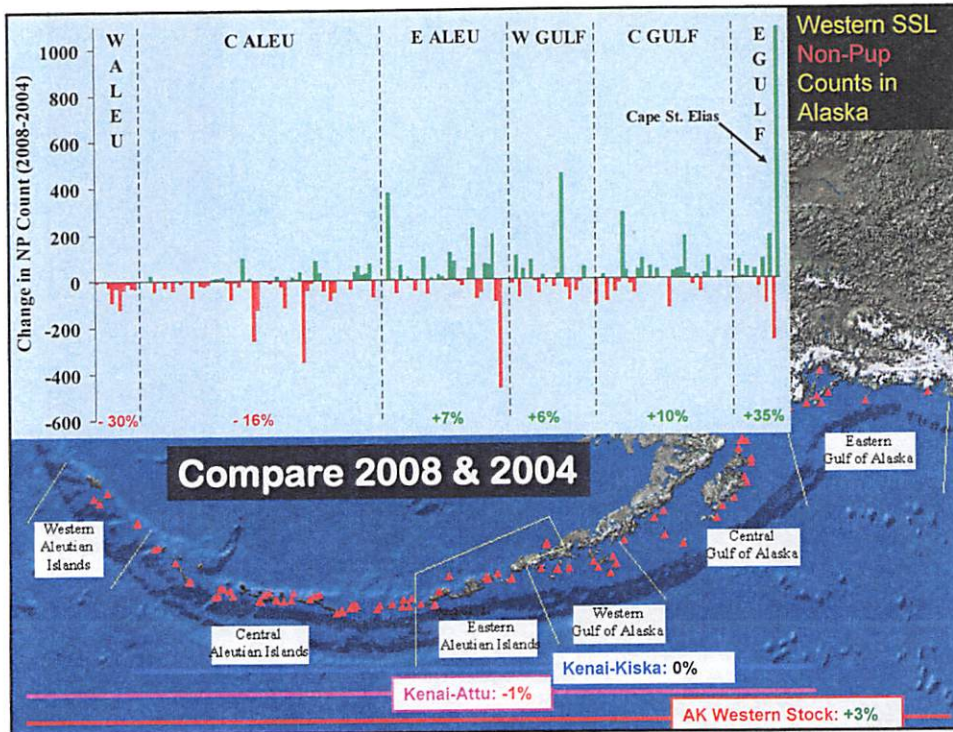
Western Steller Sea Lion Non-Pup Counts in Alaska



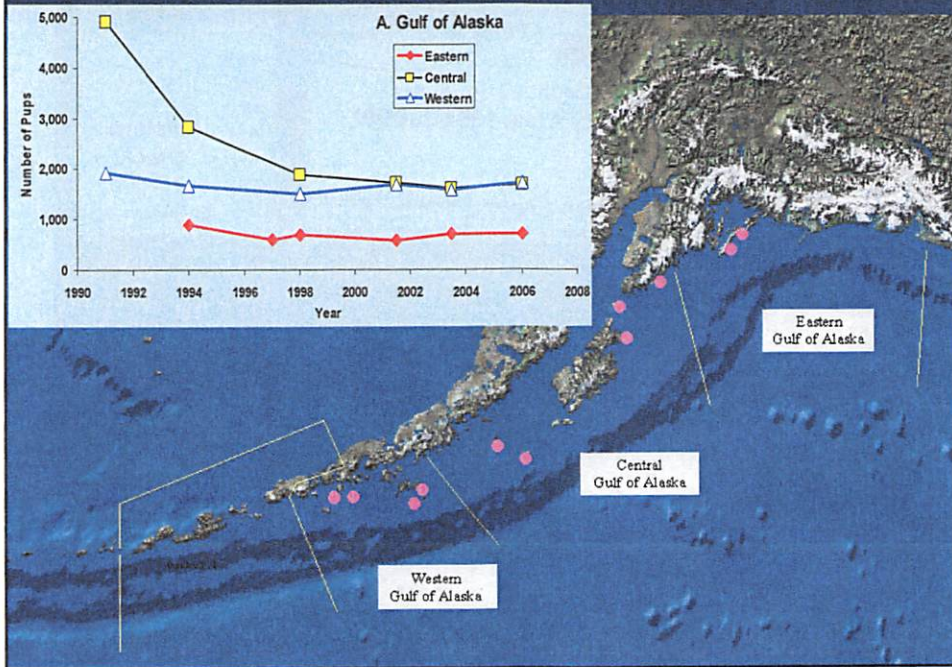
1991-2008 Western Steller Sea Lion Non-Pup Counts by Region



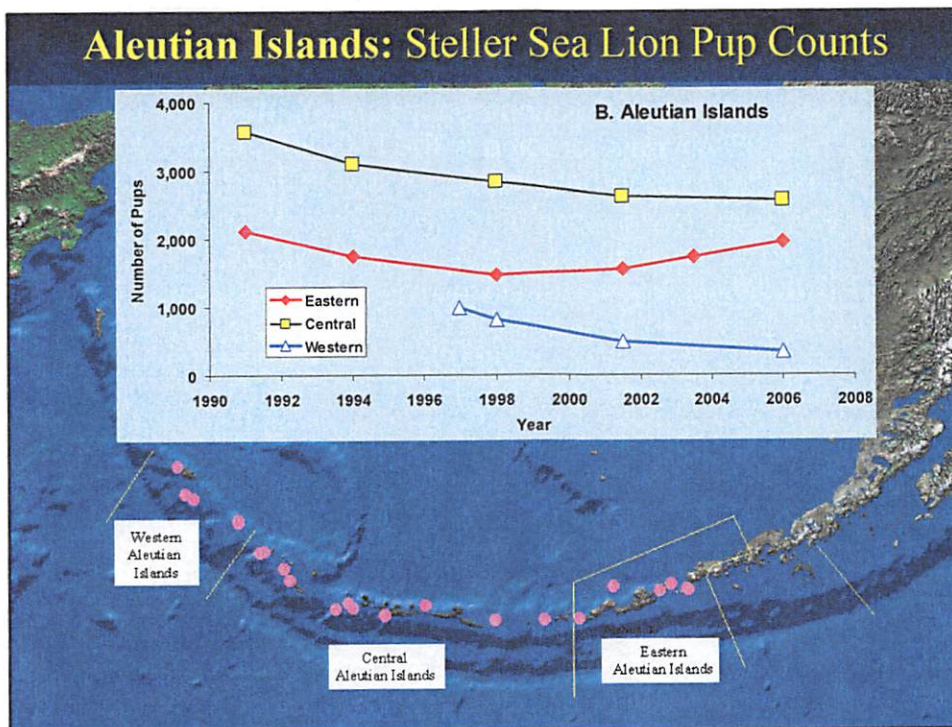


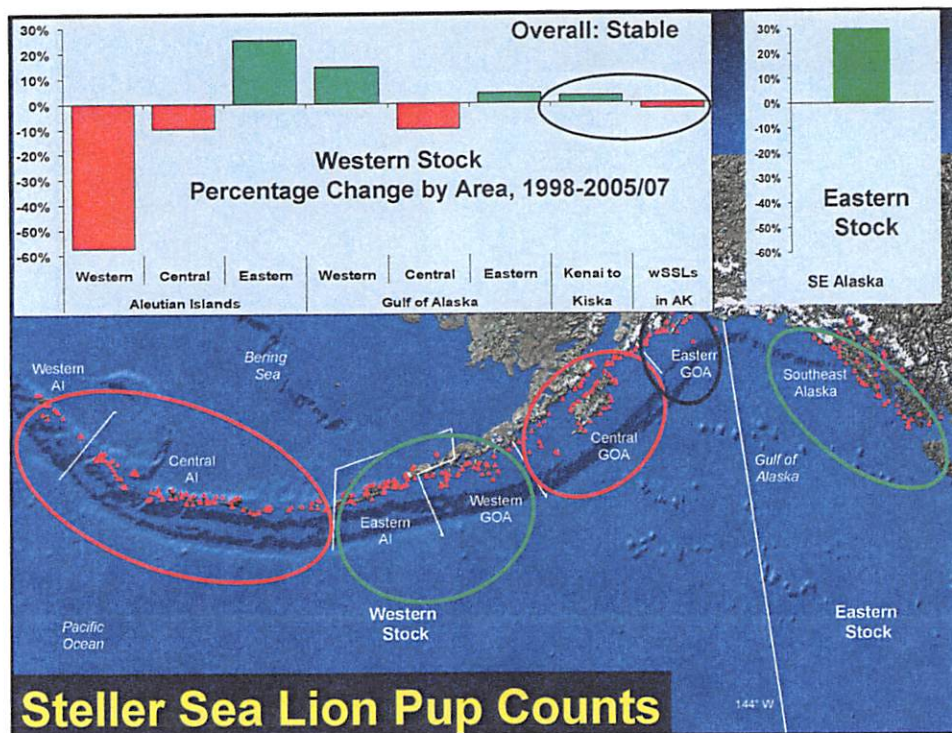


Gulf of Alaska: Steller Sea Lion Pup Counts



Aleutian Islands: Steller Sea Lion Pup Counts

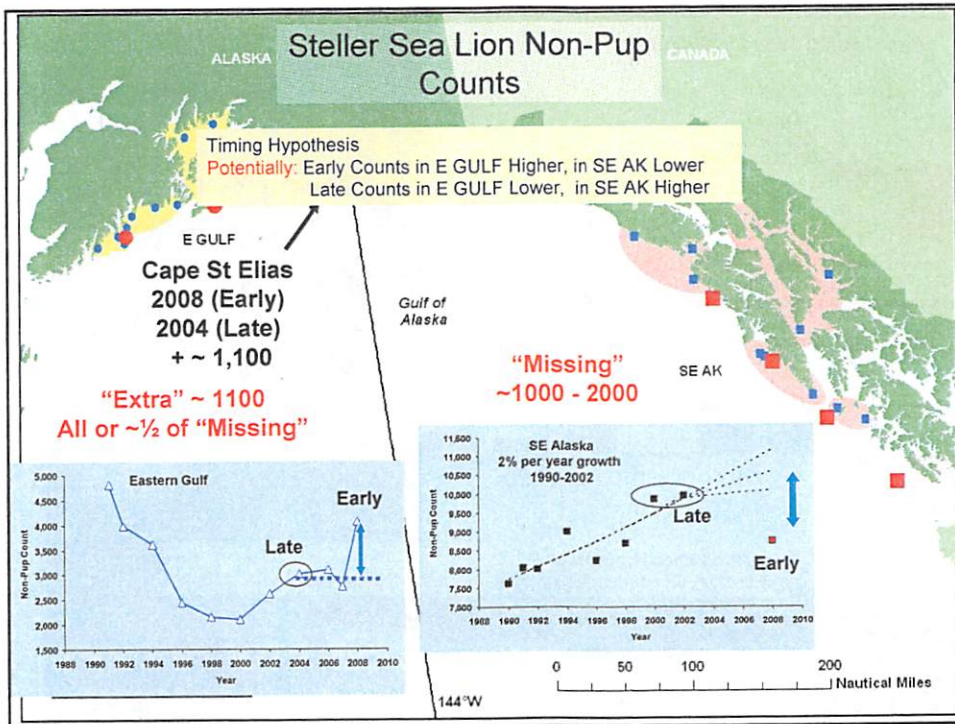
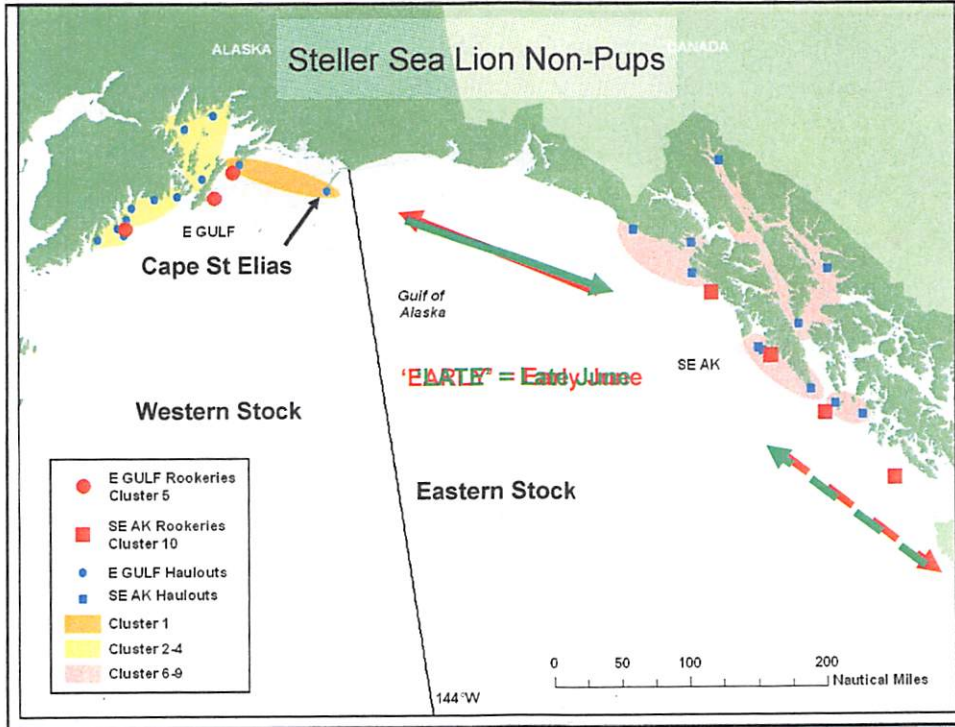


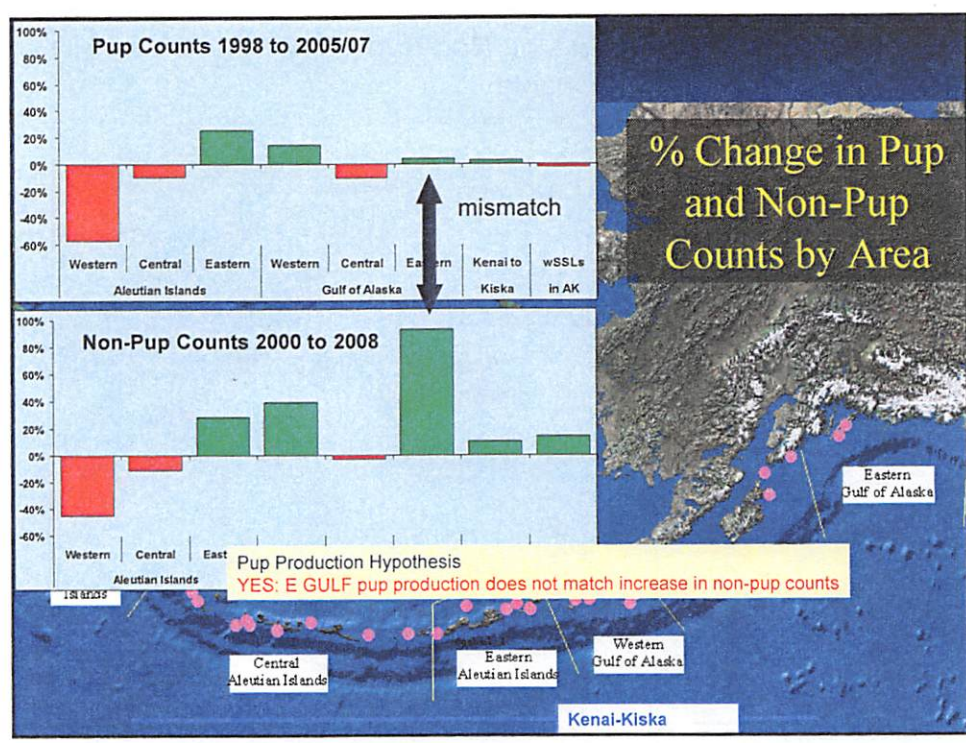
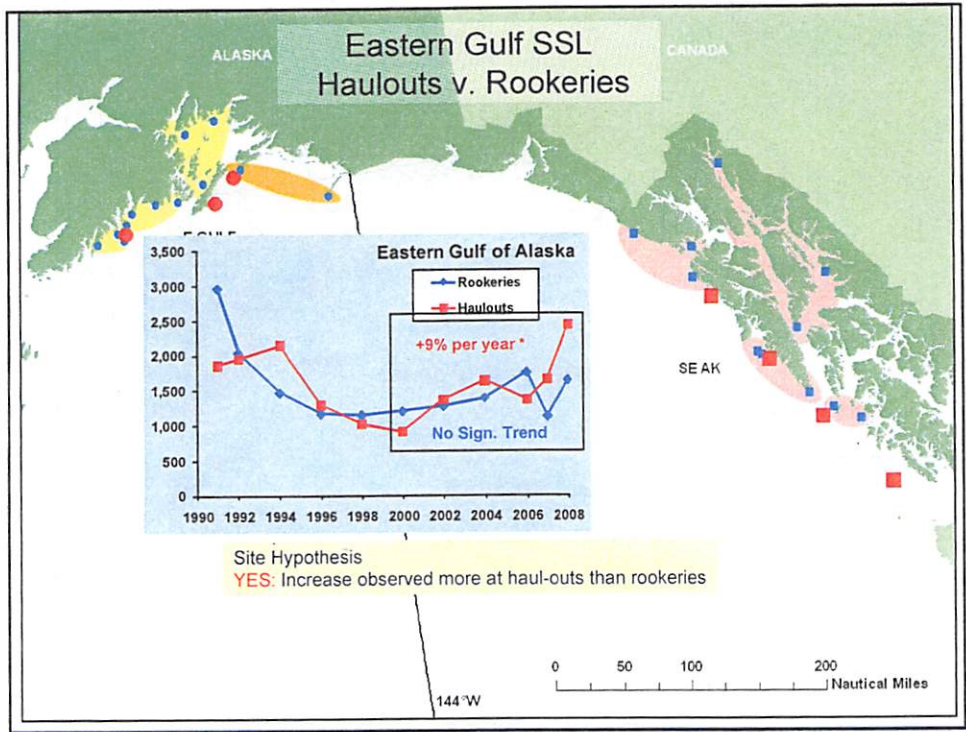


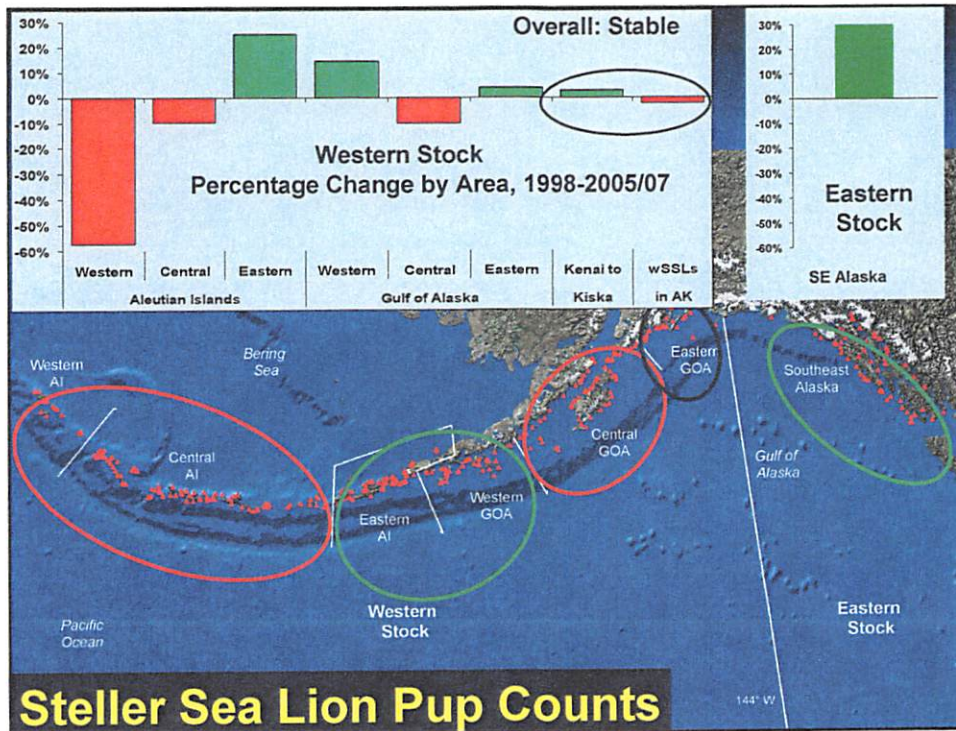
Movement between SE Alaska and Eastern Gulf

- **Hypothesis:** Some non-pups counted recently in the E GULF are eastern DPS animals foraging in the E GULF in early June ('EARLY') before moving back to SE AK in late June ('LATE')
- **E GULF vs SE AK Non-pup counts**
 - 2008 Survey was 'EARLY': Lower counts in SE AK, higher in E GULF
 - 2002 Survey was 'LATE': Higher counts in SE AK, lower in E GULF
 - **Modeling**
 - 1990-2008 counts in SE AK and E GULF by day of year, year, site type
 - Higher counts early in survey period in E GULF, higher later in SE AK
- **Haul-outs vs. Rookeries**
 - Increase more at haul-outs than rookeries: juveniles and females
- **Pup Counts**
 - Increase in E GULF non-pups not due to increase in E Gulf pups
- **Brand Resights in Summer**
 - Western SSL brands in SE AK
 - SE AK brands in E GULF
 - Net Movement to the West









Western Steller Sea Lion Population Status: 2008

- Non-pups – Adults and Juveniles
 - 2000-2004: Increase of at least 10%
 - 2004-2008: Stable or declining slightly throughout most of the western stock range in AK
 - Movement of eastern stock SSLs from SE AK to the E GULF along with 'EARLY' survey in 2008 likely contributed to higher non-pup counts in the E GULF
- Pups
 - Regional variability, but overall, stable or declining slightly 1998-2006

