DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

[I.D. 081202A]

New Information Indicates Fine-scaled Stock Structure for Harbor Seals in Alaska

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

ACTION: Notice of information; request for comments.

SUMMARY: Recent studies indicate that stock structure of harbor seals in Alaska is more finely scaled than Stock Assessment Reports (SARs), compiled pursuant to the Marine Mammal Protection Act (MMPA), currently indicate. Under Section 119 of the MMPA, NMFS has entered into a co-management agreement with conserve Alaska harbor seals jointly with the Alaska Native Harbor Seal Commission (ANHSC). NMFS and the ANHSC have outlined a process for proceeding with further evaluating and revising harbor seal stock structure. This notice invites the public to provide additional information and viewpoints that should be considered throughout the stock structure evaluation process.

DATES: Comments must be received before close of business on September 25, 2002.

ADDRESSES: Comments should be forwarded to P. Michael Payne, Assistant Regional Administrator for Protected Resources, Alaska Regional Office, NMFS, Juneau, Alaska 99802.


SUPPLEMENTARY INFORMATION:
Electronic Access

This notice and a map of the areas in Alaska where seal groupings appear discrete may be found at www.fakr.noaa.gov/protectedresources.

Background

Section 3 of the MMPA defines a population stock (referred to as “stock” in this notice) as “...a group of marine mammals of the same species or smaller taxon in a common spatial arrangement that interbreed when mature.” Section 117 of the MMPA requires that NMFS publish stock assessment reports for each marine mammal stock under its jurisdiction. These stock assessment reports (SARs) provide a summary of information on each stock’s geographic range, abundance, and annual productivity. Additionally, SARs provide information about human-caused sources of mortality or serious injury for each marine mammal stock. An accurate characterization of stocks is necessary to meet the goals of the MMPA.

While the MMPA does not provide further guidance for identifying marine mammal stocks other than the definition above, NMFS describes its recommended approach to stock identification in its guidelines for preparing stock assessment reports. This approach is based on language in the purposes and policies sections of the MMPA that asserts that population stocks of marine mammals should not be permitted to diminish beyond the point at which they cease to be a functioning element of the ecosystem of which they are a part. The guidelines further note that a stock is a management unit that identifies a demographically isolated biological population. At the same time, the guidelines acknowledge the difficulties in obtaining comprehensive stock structure information due to resource constraints.

The guidelines state that careful consideration needs to be given to how stocks are defined, particularly where mortality may be greater than sustainable levels (above the calculated Potential Biological Removal level). An inappropriately defined stock could lead to localized depletions or extirpations.

Long-term movements and dispersal of marine mammals impact the genetic makeup of these animals. For instance, a small amount of breeding among individuals can be enough to prevent strong genetic differences from developing among adjacent groups of animals. When genetic differences are found among groups of seals, this indicates that gene flow and movement or dispersal, among the groups is extremely low. Therefore, results of studies that show significant genetic differences provide a minimum estimate of the degree of population or stock structure. In other words, if a genetic analysis reveals some number of distinct, genetically differentiated units, a minimum of that number of demographically isolated units is virtually certain.

Under Section 119 of the MMPA, NMFS signed a co-management agreement (Agreement) with the ANHSC, a representative body for native subsistence users of harbor seals in...
Alaska, in April 1999. The goals of this Agreement include promoting the sustained health of harbor seals (Phoca vitulina) in Alaska and the culture and way of life of Native Alaskans who rely on the harvest of harbor seals for subsistence purposes. In the Agreement, NMFS and the ANHSC agreed to identify and resolve, as early as possible, and through a consultative process, any conservation issues that may arise associated with harbor seals. Over the past two years, the Alaska Scientific Review Group (SRG), a regional scientific advisory group formed pursuant to the MMPA; the Marine Mammal Commission, a national scientific advisory group formed pursuant to the MMPA; and the Alaska Harbor Seal Co-management Committee, a group of NMFS and ANHSC advisors formed pursuant to the Co-management Agreement, have all raised the need to redefine harbor seal stock structure in Alaska.

Consistent with the provisions of the Agreement, the Co-management Committee met in June 2001, to determine how to proceed with reviewing and using the newly available results of the genetics studies in a management context. The Co-management Committee agreed upon the following 3-phase process: (1) to inform all constituents about the results and availability of the genetics data; (2) to solicit additional input and discuss relevant information such as harbor seal abundance, distribution, and movement, as well as traditional and local knowledge; and (3) to make recommendations to NMFS regarding the use of all appropriate information in revising harbor seal stock structure in Alaska.

The steps identified for this process included peer-review and publication of the genetics analysis by NMFS scientists; publication of a Federal Register notice to notify interested parties about the genetics results and to solicit additional information and viewpoints related to the stock structure for harbor seals; and discussion of all pertinent information in the co-management process to evaluate and revise harbor seal stock structure. The genetics analyses have been peer-reviewed at several scientific meetings and the results are in the process of being published in technical journals (for more information about these analyses, consult the contacts listed under For Further Information Contact).

Since June 2001, the results of these studies, and the process for incorporating these results into the marine mammal stock assessment reports, have also been discussed at several SRG meetings and at a meeting convened by the Co-management Committee to review the harbor seal research plan. The ANHSC also discussed this issue at its meeting in Dillingham, Alaska April 29 through May 1, 2002. NMFS is now publishing this Federal Register notice to solicit comments from interested constituents on additional information and viewpoints regarding population stock structure of harbor seals in Alaska.

Following receipt of these comments, NMFS and the ANHSC will incorporate all available information, scientific and non-scientific, into its discussions and recommendations for a proposed revision to the currently recognized harbor seal population stock structure.

Recent Scientific Studies Relevant to Stock Structure

Following is a summary of recent genetic analyses, telemetry and seal movement data, and population trend studies related to Alaska harbor seal stock structure.

**Genetics Studies:** Recent genetic analyses indicate a much finer level of genetic differentiation among Alaska harbor seals than the current Stock Assessment Reports indicate, (three harbor seal stocks throughout the state). These analyses identify twelve genetically and demographically independent groups of seals indicating that a minimum amount of movement by seals occurs between or among the following areas: the Pribilof Islands; Bristol Bay; Tugidak Island; the northeast side of Kodiak Island; the southwest corner of Cook Inlet; the south side of the Kenai Peninsula; Prince William Sound; Glacier Bay; the inside waters (shieldsed from the Gulf of Alaska by large islands) of northern Southeast Alaska; the outside waters (open to the Gulf of Alaska) of northern Southeast Alaska; the inside waters of southern Southeast Alaska; and the outside waters of southern Southeast Alaska (for a map of these areas see Electronic Access).

Due to data collection limitations, some areas of the harbor seal’s range cannot be included in any of the genetic groupings. Therefore, these genetic data do not represent all animals or areas in Alaska inhabited by harbor seals. However, other scientific data can be used to define distinct groups of animals in areas where genetic information is lacking. Available telemetry and seal movements data, as well as population trend data, for instance, may be used to supplement genetic data and infer differences among groups of harbor seals in different locations.

**Results of Movement and Telemetry Studies:** Satellite tagging provides useful information on the behavior and ranges of individual seals as well as insight into how stocks may be structured. Telemetry studies are important because they track movements that suggest the locations where harbor seals forage and provide information on geographic dispersal. The results of most telemetry studies on harbor seals in Alaska indicate that the animals move short distances (less than 50 kilometers). In fact, most studies indicate that the majority of adult harbor seals remain close to the location where they were tagged. For this reason, harbor seals in Alaska are generally characterized as non-migratory. The movements of adult seals support the conclusion that harbor seals exist in discrete groups among various locations.

The telemetry studies also provide information regarding geographic and habitat features that animals do not cross that may represent long-term barriers to gene flow among groups of seals. For instance, extensive tagging data from the Kodiak Archipelago indicate minimal movement of harbor seals across Shelikof Strait to the Alaska Peninsula, suggesting that this deep-water trench may be an effective barrier to harbor seal dispersal.

Other studies of harbor seal movement patterns suggest that at least two additional areas in Alaska may contain harbor seals that are discrete from seals in adjacent areas. These two areas include the Aleutian Islands west of Unimak Pass and the northeastern Gulf of Alaska coast between Cape Suckling and Icy Strait (see Electronic Access). Harbor seals in the Aleutian Islands may also be considered discrete from seals to the east (on the north side of the Alaska Peninsula) based primarily on distance between haulout sites and potential oceanographic barriers between this region and the remainder of Alaska.

The Cape Suckling to Icy Strait region of the eastern Gulf of Alaska consists of an extensive expanse of open-ocean coastline with few haulout sites. The sites that exist in this area are clustered in relatively isolated bays and inlets along the coastline that are separated from each other by long distances of relatively straight, open coastline. Inferences from the telemetry data suggest that seals in this region are geographically isolated from other adjacent groups of seals.

**Results from Population Trend Analyses:** The results of counts at population trend-sites throughout the Gulf of Alaska provide additional...
evidence that harbor seals have a finer scale stock structure than the current SAR indicates. These counts indicate stable or increasing harbor seal numbers in Southeast Alaska, except for Glacier Bay which shows a declining trend; several distinct trends in the central Gulf of Alaska; and possibly a declining trend in the Bering Sea.

Southeast Alaska: Trend-sites for the Southeast Alaska stock were established in Ketchikan (1983), in Sitka (1984), and in Glacier Bay (1992). Current trend data for the Ketchikan trend-sites show an increasing trend among harbor seals of 7.4 percent per year (1984-1998). The Sitka area exhibits a relatively stable trend of 1.1 percent per year (1984–1999). Glacier Bay experienced a decreasing trend of –7.5 percent per year between 1992–98. These trend data indicate that Southeast Alaska is likely occupied by more than one discrete harbor seal group.

Gulf of Alaska: The Kodiak Archipelago and Prince William Sound represent the principal trend-site areas for the current Gulf of Alaska stock of harbor seals. Tugidak Island, in the Kodiak Archipelago, is the main long-term trend index site. The Tugidak Island trend-site has demonstrated an historical decline of approximately 90 percent from the mid-1970s to the 1990s. However, counts at the Tugidak Island site have indicated a 6.7 percent per year increase from 1994–1999 during the pupping period, and 4.9 percent increase per year during the molting period. Recent trend data from the greater Kodiak area (1993-1999) suggest an increasing trend of 5.6 percent per year. Overall, however, seal abundance in this area remains substantially below abundance levels in the 1970s. In Prince William Sound, counts from surveys conducted during the harbor seal molt period have declined by 58 percent since the first trend count surveys were conducted in the early 1980s. Thus, the population trend data support genetic evidence that the Gulf of Alaska is likely to contain more than one stock of harbor seals.

Bering Sea: A trend route was recently established in the eastern Bering Sea area along the north side of the Alaska Peninsula in Bristol Bay. The Bristol Bay trend route (1998-2001) indicates a declining trend of -1.3 percent per year. Total counts of harbor seals in the Bering Sea were also obtained in the 1970s and are considerably higher than the more recent counts on the Bristol Bay trend-site route. Recent population trends (1990-2000) for the land-based trend route in Nanvak Bay indicate an increasing rate of 9.2 percent per year during the pupping period and 2.1 percent per year during the molting period. Counts in the Bering Sea are complicated by the sympatric ranges of harbor seals and spotted seals (P. largha); the two species are indistinguishable from aerial surveys.

Request for Comments
The purposes of this notice are: (1) to inform interested constituents that several lines of evidence indicate that harbor seals have a finer-scale stock structure in Alaska than current Stock Assessment Reports indicate; (2) to advise the public that NMFS and ANHSC are evaluating harbor seal stock structure through a co-management process; and (3) to solicit additional information and viewpoints that the public would like NMFS and ANHSC to consider throughout the evaluation of harbor seal stock structure.

David Cottingham,
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DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
South Atlantic Fishery Management Council; Public Meetings
AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of public meetings.

SUMMARY: The South Atlantic Fishery Management Council (Council) will hold meetings of its SOPPS (Statement of Organization Practices and Procedures) Committee, Information and Education Committee, Protected Resources Committee, NEPA (National Environmental Policy Act) Committee, Advisory Panel Selection Committee, Shrimp Committee, Spiny Lobster Committee, Snapper Grouper Committee, Highly Migratory Species Committee, Dolphin Wahoo Committee. A public hearing on the revised Atlantic Dolphin Wahoo Fishery Management Plan (FMP) will be held and a public comment period will be held to address...