

Administration of the Marine Mammal Protection Act of 1972

JANUARY 1, 1986 TO DECEMBER 31, 1986



U.S. DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
WASHINGTON, DC 20240



Administration of the
MARINE MAMMAL PROTECTION ACT OF 1972
Annual Report
January 1, 1986 - December 31, 1986

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DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
MARINE MAMMAL PROTECTION ACT

Report of the Department of the Interior

The Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361-1407, 86 Stat. 1027 (1972), 95 Stat. 979 (1981), 98 Stat. 440 (1984), and 100 Stat. 3741 (1986)) states in Section 103(f) that:

"Within six months after the effective date of this Act [December 21, 1972] and every twelve months thereafter, the Secretary shall report to the public through publication in the Federal Register and to the Congress on the current status of all marine mammal species and population stocks subject to the provisions of this Act. His report shall describe those actions taken and those measures believed necessary including where appropriate, the issuance of permits pursuant to this title to assure the well-being of such marine mammals."

The responsibility of the Department of the Interior is limited by Section 3(11)(B) of the Act to those marine mammals that are members of the orders Carnivora (polar bear, sea otter and marine otter), Pinnipedia (walrus), and Sirenia (manatee and dugong). Accordingly, published herewith is the report of the Department of the Interior for the period of January 1, 1986, to December 31, 1986, on the administration of the Act with regard to those mammals.

Issued at Washington, D.C., dated **SEP 2 1987**


Director

ADMINISTRATION OF THE MARINE MAMMAL PROTECTION ACT OF 1972

January 1, 1986 - December 31, 1986

Report of the Department of the Interior

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INTRODUCTION

AUTHORITY

The passage of the Marine Mammal Protection Act of 1972, hereafter referred to as the Act, gave the Department of the Interior responsibility for manatees, polar bears, walruses, sea and marine otters, and dugongs. Within the Department of the Interior, the Fish and Wildlife Service (Service) is responsible for managing these marine mammals and for enforcing the moratorium on taking and importing marine mammals and marine mammal parts.

The Service administers requests for waiving the moratorium and for the transfer of management authority to States, issues permits, conducts research programs, enforces provisions of the Act, publishes rules and regulations to manage marine mammals, cooperates with the States, and participates in international activities and agreements. In addition, the Service lists and delists species as endangered or threatened and undertakes other Endangered Species Act-related responsibilities and maintains a close working relationship with the Marine Mammal Commission and its Committee of Scientific Advisors.

General information on distribution and migration, abundance and trends, general biology, ecological problems, allocation problems, regulations and research can be found in the 1979 annual report. Thus, it is not repeated here. There were no significant changes during this report period in the status of any of the species of marine mammals whose management is the Service's responsibility.

SPECIES LIST

Species List and Status of Marine Mammals with Service Jurisdiction
Under the Marine Mammal Protection Act and the Endangered Species Act

<u>Species</u>		<u>Marine Mammal</u>	<u>Endangered</u>
<u>Scientific Name</u>	<u>Common Name</u>	<u>Protection Act</u>	<u>Species Act</u>
<u>Ursus maritimus</u>	Polar bear	Yes	No
<u>Enhydra lutris</u> <u>lutris</u>	Sea otter-Alaska	Yes	No
<u>Enhydra lutris</u> <u>neréis</u>	Sea otter-Southern	Yes	Threatened
<u>Lutra felina</u>	Marine otter	Yes	Endangered
<u>Odobenus rosmarus</u>	Walrus	Yes	No
<u>Dugong dugon</u>	Dugong	Yes	Endangered
<u>Trichechus manatus</u>	West Indian manatee	Yes	Endangered
<u>Trichechus inunguis</u>	Amazonian manatee	Yes	Endangered
<u>Trichechus</u> <u>senegalensis</u>	West African manatee	Yes	Threatened

APPROPRIATIONS

The most recent funding authorization by Congress for the Service was under Section 114 of the amended Marine Mammal Protection Act (16 U.S.C. 1361-1407, 86 Stat. 1027 (1972); 95 Stat. 979 (1981) for Fiscal Year (FY) 1984; and 98 Stat. 440 (1984) for Fiscal Years 1985 through 1988). The Calendar Year (January 1, 1986 - December 31, 1986) covered by this report, however, overlaps FY 1986 and FY 1987, and funds authorized and appropriated for both fiscal years are shown below.

Reporting Year (January 1 to December 31, 1986) Funding (in \$000)

	<u>Marine Mammal Protection Act Section 114</u>	
	<u>Authorized</u>	<u>Appropriated</u>
Fiscal Year 86	\$3,000	\$1,815
Fiscal Year 87	\$3,000	\$2,273

Distribution of appropriations (in \$000):

	<u>Actual</u> <u>FY 86</u>	<u>Projected</u> <u>FY 87</u>
<u>Marine Mammal Protection Act</u>		
Research and Development		
Alaskan sea otter	\$ 226	\$ 440
Walrus	177	200
Polar Bear	581	770
Total Research	<u>\$ 984</u>	<u>\$1,410</u>
Management		
Permit activities	\$ 25	\$ 25
Law enforcement activities	416	462
Other management activities	390	376
Total Management	<u>\$ 831</u>	<u>\$ 863</u>
Grand Total	<u>\$1,815</u>	<u>\$2,273</u>
<u>Endangered Species Act</u>		
Section 6 (Grants-to-States)		
California - Sea otter	\$ 88	\$ 101
Florida - Manatee	38	115
Total Section 6	<u>\$ 126</u>	<u>\$ 226</u>
Section 15		
Research and Development		
Endangered/threatened otters	\$ 362	\$ 697
Manatee	248	348
Monk seal	2	2
Total Section 15 Research	<u>\$ 612</u>	<u>\$1,047</u>
Management		
Endangered/threatened otters	\$ 377	\$ 382
Manatee	87	87
Monk seal ^{1/}	25	25
Total Section 15 Management	<u>\$ 489</u>	<u>\$ 494</u>
Grand Total	<u>\$1,227</u>	<u>\$1,767</u>

^{1/} Although the National Marine Fisheries Service has primary responsibility for the monk seal, the species utilizes the Hawaiian Islands National Wildlife Refuge and Johnston Atoll National Wildlife Refuge, thereby becoming a management responsibility of the Service pursuant to the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee).

SUMMARY OF 1986 PROGRAM

OUTER CONTINENTAL SHELF OPERATIONS AND ENVIRONMENTAL STUDIES

The Service participates in the Department of the Interior's (Department) Outer Continental Shelf Development Program primarily by providing advice, review, and input at various stages in the leasing process. The Service provides technical expertise on the management of fish and wildlife resources and related habitat.

During the report period, the Service participated in several lease sale processes and reviewed measures for the protection of marine mammals. The Department held two oil and gas lease sales, both in the Gulf of Mexico: Central Gulf of Mexico (Sale 104, 4/30/86), and the Western Gulf of Mexico (Sale 105, 8/27/86). Neither sale will impact marine mammals. In addition, the Service reviewed the Environmental Impact Statement for proposed Sale 97, Beaufort Sea. The potential impact of oil spills, noise, and other disturbances to polar bear and walrus is discussed in the Environmental Impact Statement. The combined effects on these species from activities associated with the proposal are expected to be minor.

RESEARCH AND DEVELOPMENT

The National Wetlands Research Center (Slidell, Louisiana) terminated a group of studies known as Ecological Characterizations, which had been funded by the Minerals Management Service in support of Outer Continental Shelf leasing. This ecological information base is designed to assist in comprehensive coastal resource planning and management. Each characterization contains a narrative section on important marine mammal species in the region, their seasonal distribution, migration routes, and habitat preferences and requirements. A Northwestern Florida Ecological Atlas was published.

The National Ecology Center (Fort Collins, Colorado), National Wetlands Research Center (Slidell, Louisiana), and Alaska Fish and Wildlife Research Center (Anchorage, Alaska) conducted research in FY 1986 under the Act. Emphasis was given to determining the ecological effects of human activities related to development and exploitation of the marine environment on marine wildlife and ecosystems. Approximately 36 publications were in press or published at the end of FY 1986. Research conducted by the Service or under contract during FY 1986 is summarized below.

Service Conducted Research

1. Polar bear
 - a. Determine distribution, timing, and importance of polar bear denning in northern Alaska.

Twenty-six dens were located in Alaska by radio telemetry during the 1986 fiscal year; an additional nine dens were located during the autumn of 1986. This is equal to the number of dens reported in this area prior to 1983; the number of dens recorded since 1983 now totals over 70. In FY 1987 a manuscript describing polar bear maternity denning will be prepared for submission to the journal Arctic.

b. Determine size and trend of Alaskan polar bear populations.

During March, April, and May, Alaskan polar bears captured in the northern portion of the State were permanently marked with ear tags and lip tattoos. Assessment of critical population parameters will be achieved by analysis of mark/recapture data, catch/effort analysis, and mathematical simulations.

Collection of mark and recapture population data and radio telemetry data continued in FY 1986. Satellite collars were deployed for the first time in the Chukchi Sea, and additional satellite radio collars were deployed in the Beaufort Sea. Two manuscripts were published during FY 1986.

1). Amstrup, S. C., I. Stirling, and J. W. Lentfer. Past and present status of polar bears in Alaska. Wildl. Soc. Bull. 14(3): 241-254.

2). Amstrup, S. C. Polar Bear. Pages 790-804 in R. L. DiSilvestro, ed. "Audubon Wildl. Rept. 1986." The National Audubon Society, New York, NY.

c. Determine movement and distribution patterns of Alaskan polar bears.

Polar bears fitted with conventional radio collars as part of other work units were relocated monthly. Locations and activities of satellite collared bears were recorded approximately every 3 days. Records of behavior, ice conditions, interactions with other bears and with humans were recorded along with movement and distribution information.

Preliminary assessments of movements allowed preparation of the first published population size estimate for the Beaufort Sea population. Significant progress has been made in developing computer programs to handle this voluminous movements data set, and detailed analyses will begin in earnest in FY 1987.

d. Determine biological parameters of polar bears of western and northern populations.

Satellite radio-transmitters were fitted for the first time to Chukchi Sea bears, and the subsequent data have already provided new insights into the distribution of bears in this previously uninvestigated part of the State. Satellite telemetry studies will continue in western and northern portions of Alaska as will analyses of other indicators of population status.

2. Sea otter and marine otter

- a. Determine the abundance, size, and status of sea otter populations.

Two ground-based surveys were completed as part of the collaborative population assessment efforts by the Service and the California Department of Fish and Game. Data obtained from a study to determine the probability of sighting sea otters in shore-based surveys were analyzed, and a manuscript was written and submitted for publication. Work continued on a paper reviewing census and survey methods, size, and trends in the California sea otter population. Surveys of beached carcasses were continued on a systematic basis, and a paper summarizing results to date was presented at the 1986 meeting of the American Society of Mammalogists. The project biologist assisted in a study funded by the Marine Mammal Commission to determine the rate of sea otter mortality due to incidental entanglement in the nearshore set-net fishery. A manuscript on the status of a translocated sea otter population in the State of Washington was completed and submitted for publication. Surveys of sea otter populations at Amchitka and Attu Islands in Alaska were conducted as part of ongoing Service studies at these islands.

- b. Determine the physiology, behavior, and life history of sea otters in California.

A new permit was obtained to tag up to 80 otters per year, but the permit was received late during the tagging season and no otters were tagged before the end of FY 1986. Observations of previously tagged individuals continued. Data analysis continues on the movements and home ranges of tagged females, and data analysis on dispersal patterns of juvenile sea otters has begun. Analysis of data collected in a study to determine individual variation in diet and foraging behavior of tagged sea otters continues, and a manuscript is being prepared. Replicated bimonthly surveys were continued to determine the association between sea otters and the distribution of kelp canopies. Observations of tagged adult female sea otters were continued. Existing data on female reproduction from Alaska and California were summarized and analyzed and a manuscript prepared. A tagging and volunteer observer program, in collaboration with the Monterey Bay Aquarium, has continued. A study designed to compare foraging behavior among and within areas where sea otters have been established for varying lengths of time was initiated, and data collection is near completion.

- c. Determine the interactions between sea otters and nearshore aquatic communities.

Studies continued on seasonal and interannual variations in size and composition of kelp canopies in central California, based on aerial infrared photography. Photographic studies included documentation of recovery of kelp forests, a key component of sea otter habitat, from

severe storms of winter 1982-83. Techniques available for automatic processing of data from aerial photography were surveyed and evaluated. Experimental studies of competitive interaction among sympatric kelps were continued in sea otter habitat. Plans for studies of population dynamics of red abalone were developed. Portions of sea otter habitat that are normally inaccessible were surveyed in Fiscal Year 1985 using SCUBA and a report has been prepared. An experimental study of relationships of kelp canopy type and fish abundance in sea otter habitat was completed, and a manuscript has been submitted to the Service editorial office for review. A symposium on relationships of sea otters and nearshore aquatic communities was held, and preparation of the proceedings for publication has begun.

d. Determine the status of the marine otter.

A biological survey of the marine otter was undertaken in Chile. One site where this species occurs was investigated and found to be suitable for future studies.

3. Walrus

- a. Develop techniques to monitor movements for population assessment, haulout patterns, determine age/sex composition and behavior, and refine population estimates.

A Research Cooperative Education Program was established with the Cooperative Fish and Wildlife Research Unit of the University of Maine. Objectives of the agreement include the development of techniques (capture and satellite telemetry) necessary to quantify the spatial/temporal distribution and behavior of walrus that introduce biases in the joint U.S.-U.S.S.R. walrus survey results. The telemetry package and sensors have been designed, and preliminary trials of an electronic synapse block for capture have been completed, and planning for the first field season at Round Island, Alaska, has been initiated.

4. Hawaiian monk seal

- a. Determine status of the Hawaiian monk seal.

No field work was conducted, but the Service worked with National Marine Fisheries Service personnel on various research and management actions needed for the recovery of this species.

5. Manatee and dugong

- a. Determination of the status, distribution, movements, and population biology of all taxa of Sirenians.

A cooperative survey of the status and distribution of manatees in Venezuela was completed. Aerial surveys continued on the eastern Florida coast. The statewide scar catalog was updated, and Lee County aerial survey data analysis continued. A manuscript on distribution and movements in northwestern Florida was drafted. A review of manatee distribution information for the southeastern United States was initiated. Field work for the evaluation of manatee aerial counting methodology was completed at Crystal River.

- b. Determination of basic reproductive, behavioral, and physiological characteristics of the West Indian manatee.

A summary manuscript on reproduction is in preparation. Field data continue to be collected in studies of wild females of known age at Blue Spring and Crystal River. Analysis of cow/calf behavioral interactions and vocalization has been delayed until next year.

- c. Determination of ecosystem relationships of the West Indian manatee.

A diagnostic, microscopic catalog of forage plants was completed and the analysis of plant fragments in stomach contents salvaged from carcasses has progressed satisfactorily. Hurricane-depressed vegetation was monitored monthly at Crystal River and has shown substantial recovery.

- d. Determination of causes of mortality and biological studies on materials salvaged from carcasses of the West Indian manatee in the United States and Puerto Rico.

Organization and coding of all mortality data for computer analysis have been completed. A number of skeletal specimens have been cleaned and shipped to collections, but a considerable backlog remains. Retrieval of specimens outside of Florida was coordinated.

- e. Determination of summer movements and areas of special seasonal significance to the West Indian manatee.

Capture and tagging operations in Fort Myers, Florida, were successful. Sixteen manatees were tagged with improved VHF transmitters and three with satellite-monitored transmitters. Movements and non-winter habitat use data continue to be gathered from some of these individuals. Three manatees were also tagged with satellite-monitored transmitters on Florida's Atlantic Coast in preparation for more intensive work scheduled for FY 1987. Satellite-monitored telemetry of manatee movements has advanced to a fully operational technique.

Contracted Research

1. San Nicolas Island ecological study. Principal investigator: W. Doyle, University of California - Santa Cruz (\$90,000 Endangered Species Act Section 15).

ENFORCEMENT

The Service's Division of Law Enforcement investigates known, alleged, or potential violations of the Act involving illegal take or importation of marine mammals or their products for which the Service is responsible. In addition, it assists the National Marine Fisheries Service by making apprehensions and conducting investigations in cases involving endangered or threatened species under that agency's jurisdiction. Results of these efforts are referred to the National Marine Fisheries Service for its consideration and appropriate action. However, under a National Marine Fisheries Service/Service Memorandum of Understanding, the Service retains authority over those investigations that involve endangered or threatened species under the jurisdiction of the Department of the Interior. Violations are referred to the Department's Office of the Solicitor for civil action or to the Department of Justice for criminal action.

Two hundred and twenty-five marine mammal investigations were pending as of December 31, 1986, and Service agents initiated 171 new investigations during 1986. Two hundred and one marine mammal investigations were closed during the year, leaving 195 investigations pending as of December 31, 1986. Thus far, of those cases that have been adjudicated and entered into the Service's computerized information system, \$3,400 in fines have been imposed.

Alaska Law Enforcement Actions

During this reporting period, Service special agents in Alaska were involved in two separate covert investigations targeting Marine Mammal Protection Act violations.

Operation Taxidermy, one of the largest concerted efforts combating illegal commercialization of wildlife in Alaskan history, was terminated January 29, 1987. However, much of the investigative work, covert and otherwise, took place during FY 1986. A specific target of this investigation was the unlawful dealing in polar bear hides. Agents were able to document at least 20 separate transactions involving polar bear. This investigation also showed a flourishing trade in walrus ivory and related products with an aggregate weight of approximately 800 pounds of items being seized on January 29, 1987.

Attorneys from the Anchorage U.S. Attorney's Office and from the Department of Justice in Washington, D.C., are handling prosecution and are seeking substantial fines and jail sentences for the major violators.

On June 12, 1986, a second, smaller covert operation was terminated. This investigation focused on the unlawful take and sale of sea otters in south-central Alaska. As a result, five persons entered guilty pleas in Federal court. Each received 1-year probation, served 5 days in jail, and collectively provided 450 hours of community service.

Portions of this "takedown" were filmed and aired on national television during a segment of NBC's 1986 News Magazine.

After exhausting all appeals of a 1985 conviction, a St. Lawrence Island Native was ordered to serve 30 days of a 6-month jail sentence for selling walrus ivory to a Service undercover agent. This person also received 2 years' probation.

Numerous minor violations were handled routinely by District Agents through forfeiture and abandonment of small quantities of ivory and other products.

In May 1985, Special Agents seized from four gift shops in Kodiak, Alaska, numerous products (pillows, teddy bears, pussy willows, cattails) allegedly made by an Alaskan Native from sea otter fur. The seizures were made because the marine mammal products were not commonly made or used by Alaskan Natives prior to December 21, 1972, and, therefore, they cannot be sold under Section 101(b) of the Act. All of the items allegedly were made by an Alaskan Native who has since filed a law suit in U.S. District Court against the Service, contending that all of these items have been traditionally made by Alaskan Natives. In July of 1986, the district court issued an order upholding the Service's definition of "authentic native articles of handicrafts and clothing," reserving for a trial on the merits the issue of whether the seized items fit within the regulatory definition.

Alaska Law Enforcement Summary

Marine Mammal Cases opened in 1986	25
Marine Mammal Cases closed in 1986	26
Marine Mammal Cases pending as of December 31, 1986	71

PERMITS AND REGISTRATIONS

The Act prohibits the take or import of marine mammals and marine mammal products although exceptions may be made under permit for scientific research or public display in appropriate cases. These permits may be issued only if determined by the Service that there would be no adverse effects on the health and well-being of marine mammal populations and their marine ecosystems. A registered agent permit may also be issued to authorize the buying or selling of raw marine mammal parts or products by non-Alaskan Natives (i.e., persons other than Alaskan Indians, Eskimos, or Aleuts) in narrowly defined circumstances. Registered tannery permits may be issued to enable marine mammal hides to be tanned to facilitate trade of these products among Alaskan Natives.

Section 104 of the Act authorizes the Director of the Service, acting on behalf of the Secretary of the Interior, to issue permits for scientific research, public display, and registration as a tannery or agent. These provisions are implemented in Title 50 of the Code of Federal Regulations -- 50 CFR 18.23 (d) for registered agent/tannery and 50 CFR 18.31 for scientific research or public display permits.

During 1986, six new permits for scientific research were issued, and nine were amended, and/or renewed. Ten permits were issued for public display. Five permits were issued (including renewals and an amendment) for registered agent/tannery.

The following is a brief description of the permit actions taken in 1986.

Scientific Research Permits

New Permits:

- ° PRT 710118, U.S. Fish and Wildlife Service, Marine Mammal Section, San Simeon, California, issued for the period 11/2/86 through 12/2/87, authorized capture, tagging and release of up to 35 California sea otters for the purposes of blood sampling, premolar extraction, surgical implantation of a radio transmitter, and other research in concert with PRT 672624.
- ° PRT 708155, U.S. Fish and Wildlife Service, Alaska Office of Fish and Wildlife Research, Anchorage, Alaska, issued for the period 8/27/86 through 9/30/87, authorized capture, tagging and release of up to 200 northern (Alaskan) sea otters in the vicinity of Kodiak, Afognak, and Shuyak Islands, Alaska, for the purpose of implanting with radio transmitters, blood sampling, premolar extraction, lip tattooing, and growth measurements.
- ° PRT 705521, Hubbs Marine Research Institute, San Diego, California, issued for the period 6/17/86 through 9/30/86, authorized chase and capture of up to 75 northern sea otters in the vicinity of northeastern Simpson Bay and Orca Inlet, Alaska. Up to 40 would be temporarily maintained in a lagoon for up to 2 weeks, flipper-tagged, bleach-marked, subjected to attractant and repellent tests, and released.
- ° PRT 706641, Janmark, Inc., Chula Vista, California, issued for the period 7/2/86 through 6/30/88, authorized importation from Canada of 15 blood samples from free-ranging polar bears to analyze reproductive condition from blood progesterone levels.
- ° PRT 702986, Rio Grande Zoological Park, Albuquerque, New Mexico, issued for the period 4/9/86 through 4/9/87, authorized importation from Canada of one adult female polar bear and two cubs to study benefits to the human community of exhibiting this species and to collect growth, development, physiological and nutritional data on the species and establish a studbook for genetic management.
- ° PRT 707688, Dr. Donald B. Siniff, University of Minnesota, Minneapolis, Minnesota, issued for the period 9/22/86 through 9/21/87, authorized the capture of up to 40 California sea otters of which up to 15 could be implanted with radio transmitters. The purpose was to predict the effects of translocation on individuals of both resident and translocated animals.

Permit Renewals/Amendments:

- PRT 696107, Department of Fish and Game, Sacramento, California, was renewed for the period 3/10/86 through 2/28/88, authorized the herding and capture of up to 100 California sea otters for tagging, and 6 otters for premolar extraction.
- PRT 690715, U.S. Fish and Wildlife Service, Alaska Office of Fish and Wildlife Research, Anchorage, Alaska, was renewed for the period 3/19/86 through 3/31/88, authorized take, tagging, marking, fitting with radio transmitters, and release of up to 255 Pacific walrus as well as salvage of dead walrus carcasses and parts.
- PRT 701871, Department of Vertebrate Zoology, National Museum of Natural History, Washington, D.C., renewed for the period 1/7/86 through 12/31/89, authorized import, export, reimport and reexport of dead salvaged material of all marine mammals for deposition and exchange with other established foreign scientific institutions.
- PRT 688824, John Gilbert Morris, Florida Institute of Technology, Department of Biological Science, Melbourne, Florida, amended for the period 2/19/86 through 1/31/87, to continue authorized scientific research on West Indian manatees, the only change being replacement of three subpermittees.
- PRT 672624, U.S. Fish and Wildlife Service, Marine Mammal Section, San Simeon, California, renewed for the period 7/31/86 through 7/31/89, authorized capture, tagging and release of up to 80 California sea otters annually. The permit was amended 9/17/86 to authorize subdermal implanting with miniature transponders up to 150 California sea otters annually that have been captured and tagged under this permit and other valid research permits as well as otters collected for rehabilitation.
- PRT 690038, U.S. Fish and Wildlife Service, Alaska Office of Fish and Wildlife Research, Anchorage, Alaska, amended for the period 4/29/86 through 10/31/90, authorized use of Telazol as the drug of choice to chemically immobilize polar bears taken under this permit. The permit was again amended 11/10/86 to increase the number of bears that may be radio-collared from 40 to 60 annually and the number that may be instrumented with satellite packages from 20 to 60 annually.
- PRT 684532, U.S. Fish and Wildlife Service, Marine Mammal Section, San Simeon, California, amended for the period 12/23/86 through 10/31/87, authorized radio-tagging, tetracycline-marking, peduncle tagging, tail notching, freeze-branding, rehabilitation, salvage of dead and injured manatees and export of salvaged dead manatee parts.
- PRT 678319, Dr. Donald B. Siniff, University of Minnesota, Minneapolis, Minnesota, amended and renewed for the period 7/21/86 through 10/31/88, authorized take of up to 960 Alaskan sea otters for tag, recapture and growth studies and up to 160 radio transmitter implants.

- ° PRT 688234, Dr. Donald B. Siniff, University of Minnesota, Minneapolis, Minnesota, amended for the period 5/20/86 through 12/31/87, authorized capture, tagging, measurement and release as well as three recaptures each of dependent California sea otter pups weighing at least 7 pounds and born of currently implanted females.

Public Display Permits

- ° PRT 712512, Chicago Zoological Society, Brookfield, Illinois, issued for the period 12/4/86 through 12/30/87, authorized the importation of one captive-born polar bear from the Adelaide Zoo, Adelaide, Australia.
- ° PRT 708661, Kamogawa Sea World, Chiba Prefecture, Japan, issued for the period 9/9/86 through 12/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 708659, Kanazawa Aquarium, Ishikawa Prefecture, Japan, issued for the period 9/9/86 through 12/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 693086, Manitoba Department of Business Development and Tourism, Winnipeg, Canada, issued for the period 1/24/86 through 1/31/87, authorized the import and reexport of one mounted polar bear for public display.
- ° PRT 708641, Minamichita Beachland Aquarium, Aichi Prefecture, Japan, issued for the period 9/10/86 through 12/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 710248, Nagasaki Aquarium, Nagasaki, Japan, issued for the period 10/17/86 through 12/31/86, authorized the capture and export of one male and two female northern sea otters.
- ° PRT 708664, Nagasaki Biopark, Nagasaki Prefecture, Japan, issued for the period 9/10/86 through 10/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 708653, Okhotsk Aquarium Foundation, Hokkaido Prefecture, Japan, issued for the period 9/10/86 through 12/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 708646, Shimoda Floating Aquarium, Shizuoka Prefecture, Japan, issued for the period 9/25/86 through 12/31/86, authorized the capture and export of one male and three female northern sea otters.
- ° PRT 709567 Vancouver Public Aquarium Association, Vancouver, Canada, issued for the period 10/22/86 through 12/31/86, authorized the capture and export of one male and one female northern sea otter.

Registered Agent Permits

- ° PRT 675421, Alaska Wildlife Studio, Anchorage, Alaska, issued for the period 5/27/86 through 5/31/88.
- ° PRT 696567, Arctic Trading Post Inc., Nome, Alaska, issued for the period 4/10/86 through 4/30/88.
- ° PRT 672258, Jerry Austin, St. Michael, Alaska, issued for the period 8/22/86 through 8/30/88.
- ° PRT 712969, Oscar H. Bailey, Seward, Alaska, issued for the period 12/4/86 through 12/4/88.
- ° PRT 704234, The Bear's Den, Olympia, Washington, issued for the period 6/20/86 through 6/30/88.

INTERNATIONAL ACTIVITIES

Excess Foreign Currency Program

During this report period, the Service received new congressional authorization for the use of excess foreign currencies in Pakistan. In addition, the Service continued to work in Egypt and India using carryover funds authorized in previous years. Those authorizations were requested under Section 8 of the Endangered Species Act, that allows such funds to be expended on projects deemed by the Secretary of the Interior to be necessary for the conservation of endangered or threatened species.

In June, the Service sponsored a 2-week trip to Pakistan by a marine ecologist to investigate, among other things, the status of the Indus River dolphin (Platanista indi) at the Indus River reserve at Sukkur. Once widespread throughout the Indus system, this species is now considerably reduced to less than 200 animals, from hunting pressure and reduced natural flow of water in the rivers. The U.S. ecologist conferred with Pakistani wildlife officials on research and management activities and proposals. This visit led to the Service's sponsorship of two Pakistani representatives to the Workshop on the Biology and Conservation of Platanistoid Dolphins in Wuhan, People's Republic of China. The Pakistani representatives (one research biologist and one manager) presented a joint paper at that workshop entitled "Indus Dolphin, Its Distribution and Conservation in the Indus." The workshop was a useful forum for biologists, conservationists, and research workers from all over the world to exchange ideas and discuss problems related to platanistoid dolphins.

The Service continued its support for the development of Ras Mohamed Natural Protectorate, Egypt's first marine park. This included assistance to the Protectorate Manager who received a 10-month Hubert Humphrey scholarship to study environmental conservation at Cornell University, Ithaca, New York.

US-USSR Environmental Agreement: Marine Mammal Project

In partnership with the National Marine Fisheries Service, the Service collaborated with the USSR Ministry of Fisheries and USSR Academy of Sciences in a broad program of laboratory, field, and museum research focusing on marine mammals of mutual interest and importance. During 1986 American and Soviet specialists took part in three exchanges totaling 4 man-months, all under the auspices of the bilateral US-USSR Environmental Agreement.

In March, the two countries shared the results of extensive aerial surveys of walrus rookeries conducted simultaneously during the fall of 1985 along the Arctic and Bering Sea coasts of Alaska and Eastern Siberia.

During June-July, four American biologists visited the USSR to formulate criteria at the Institute of Developmental Biology for distinguishing non-metrical variations in color patterns among harbor seals. Later in the summer, two Americans traveled to Nakhodka, USSR, to work with Soviet colleagues in processing and measuring skulls of sea otters from the Commander and Kurill Islands and the Kamchatka Peninsula.

Finally, 4 Soviet and 15 American scientists met in December in Seattle to review the results of joint studies carried out during 1985-1986 and to plan exchanges for 1987-1988. Additional information on all the international activities described above is available from the Service's Office of International Affairs, Room 2058, 18th and C Streets NW., Washington, D.C., 20240.

STATUS REPORTS

Reporting and Sealing Regulations

As authorized by Congress, the Service developed a proposed rule for sealing and reporting Native take of polar bear, walrus and sea otter. In addition to electronic and printed media messages, public meetings were held in 32 coastal Alaska villages, approximately 1,000 brochures that explained the rule were mailed as follow-up to meetings, and a public teleconference was held with 5 villages represented.

The 575 people who attended meetings made a recorded 560 comments/questions. More than one-half were unrelated to the proposal indicating a need for information on marine mammal issues. Questions of greatest interest related to who will seal and how sealing will be accomplished, penalties, the 30-day time period for sealing, beach found ivory, opposition to the rule, 180 days for sealing items collected after 1972, and registered agents.

Fifty-three written and telephone responses were received. The majority favored the proposal (45 percent), while 21 percent favored the proposal provided changes were made, and 34 percent were opposed to the rule. Native

groups opposed the rule (77 percent) while non-Native groups (86 percent) favored the rule. A majority of individual written responses favored the rule (52 percent), while 22 percent were resigned to the rule with changes, and 26 percent opposed the rule.

International Coordination

The Service participated in the following meetings: (1) the US/USSR Environmental Protection Agreement/Marine Mammal Project; (2) the International Union for Conservation of Nature and Natural Resources, Polar Bear Specialist Group; and (3) the Canadian/U.S. Polar Bear Technical Committee.

Sea Otter-Alaska

Problems continued to surface concerning increasing numbers of sea otters and various human uses of marine resources in Alaska. Even though sea otters are protected under the Marine Mammal Protection Act, conflicts (both real and perceived), are occurring, and these have led to individuals killing sea otters to protect their livelihoods. Concerns center around: (1) impacts of sea otters on shellfisheries, (2) impacts of fisheries on sea otter, (3) potential harvest of sea otters as a resource, (4) legal harvest by Natives under the Act, and (5) potential threats of development (especially offshore oil). Today, human-sea otter relationships are extremely complex, attitudes toward sea otters are varied, and discussions about how otter populations in Alaska should be managed are becoming more and more heated. The Service is presently formulating a management plan for Alaska's sea otters which will consider a wide range of alternatives, presenting the breadth of issues and possible solutions to conflicts.

The population survey conducted in the Kodiak Archipelago in 1985 showed similar numbers of otters to the 1984 survey, with some notable changes in distribution. Range expansion southward from Afognak Island around both sides of Kodiak Island is still apparently occurring. The Alaska Fish and Wildlife Research Center has initiated a research effort on northern Kodiak Island in order to evaluate the effects of sea otters on their environment. Such data are needed to understand sea otter/shellfishery interactions.

The 1986 population survey in southeast Alaska was initiated in response to the legal Native harvest of sea otters from this small, expanding population. In 1983, the population for southeast Alaska was estimated to be 1,400-1,850 animals, distributed as five sub-populations. In 1986, two of the five known sea otter populations were surveyed (those believed to be receiving hunting pressure from Natives). At this time, Native harvest does not appear to be adversely affecting the Yakobi-Chichagof population. At present harvest levels (exact numbers unknown), sea otters still appear to be expanding into their historic range, but the harvest may be slowing the rate of expansion.

The 1986 population survey from Orca Inlet to Cape Suckling (near Cordova, Alaska) was also initiated in response to a perceived conflict situation. Small numbers of sea otters have been expanding in range from Prince William Sound along the Copper River flats since the early 1980's. Recently, however,

large numbers of otters have moved into this area, an area with intensive gill net fisheries. Conflicts between sea otters and fishermen have been observed and are anticipated to increase as more otters move into this area. Although cursory estimates of the incidental and intentional take of sea otters were made, further monitoring is needed. The Cordova area has been embroiled in sea otter/shellfisheries issues for several years. Incidental take of sea otters in commercial fishing operations in Alaska has been either unrecognized or thought to be negligible in the past.

Walrus

The Service has continued to participate with the Alaska Department of Fish and Game in the Eskimo Walrus Commission's Pacific Walrus Technical Committee, a group that provides scientific advice. As a result, cooperative efforts have been enhanced by developing a marine mammal harvest calendar and a Memorandum of Agreement for walrus management. These should be completed during 1987.* The Eskimo Walrus Commission (Commission) passed resolutions requesting the Service to study or assist them in studying unretrieved take and methods to reduce it. The Commission sent letters to all walrus hunters urging them to reduce their take of walrus, especially of females.

The take of walrus from six villages, that are being monitored, was down 10 percent from the previous 6-year average and down 25 percent from 1985. Take of females was reduced by 11 percent from the previous 6-year average and down 47 percent from 1985 (Table 1).

Table 1. Spring Walrus Take in Six Villages, 1980 through 1986.

<u>Year</u>	<u>Male</u>	<u>Female</u>	<u>Calves</u>	<u>Unknown</u>	<u>Totals</u>
1980	849	830	78	532	2,289
1981	1,578	1,336	369	31	3,314
1982	1,062	927	362	142	2,493
1983	865	629	307	337	2,138
1984	1,318	1,562	661	442	3,983
1985	943	2,046	434	106	3,529
1986	1,028	1,082	292	248	2,650
Totals	7,643	8,412	2,503	1,838	20,396

* Note. On May 21, 1987, the Memorandum of Agreement for walrus management was signed by the Service, the Alaska Department of Fish and Game, and the Eskimo Walrus Commission.

Coordination:

Efforts are underway to determine genetic differences between polar bear stocks common to Alaska as well as to attempt differentiation of stocks based upon differences in carbon isotope ratios.

During the reporting period, various sections of the "Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment" were drafted and submitted for review. The Service has continued participation in the Alaska Interagency Bear Biologist Conference, the Canadian Polar Bear Technical Committee and the annual Marine Mammal Commission meetings.

The Service continued to provide technical assistance to the North Slope Borough Fish and Game Management Committee in the development of a cooperative user group agreement with Canadian counterparts of the Inuvialuit Game Council. Recent findings indicate that the Beaufort Sea polar bear population is shared with the western parts of Canada. The Polar Bear Specialist Group of the International Union for Conservation of Nature and Natural Resources, and the Canadian Polar Bear Technical Group have passed resolutions urging coordinated research and management efforts with internationally shared populations. A Memorandum of Agreement (Agreement) between the North Slope Borough and Inuvialuit Game Council was ratified on November 6, 1986. Key components of the Agreement are as follows:

1. Develop a preliminary Beaufort Sea Polar Bear Management Plan.
2. Review the Management Plan annually or more often as desirable, and address the polar bear management issues including research information needs, harvest limits within sustainable yield, allocation between Canada and Alaska, and other conservation measures.
3. Set up an ad hoc technical committee to provide information and advice to the Joint Commission.
4. Seek support of the respective management agencies to implement the Management Plan.

Principles and objectives contained in the Agreement and that will be addressed in the Management Plan include: (a) management on a sustained yield basis with technical data to support management concepts; (b) promote wise use of polar bears and their by-products to achieve the ability for harvesters in Alaska to sell polar bear hides and by-products, to achieve the exchange of polar bear meat and products between traditional users in Alaska and Canada, and to achieve the export of polar bear hides and other polar bear products from the western Arctic of Canada into the United States; (c) conservation measures such as harvest limits, protection of pregnant females and those with cubs or in dens, and a management system to regulate harvest including mandatory hunter reporting requirements; and (d) refine the definition of the boundary of the range of the Beaufort Sea polar bear population and the Chuckchi Sea population. Portions of this Agreement are not endorsed by the Service because if implemented they would be contrary to the provisions of the Act.

Polar Bear

The Service continued to collect harvest data from coastal dwelling Alaskan Native hunters. A minimum of 112 polar bears were taken by hunters from 12 villages during the July 1, 1985, through the June 30, 1986, season (Table 2). The harvest was 15 percent below the average for the previous 5-harvest years; however, if the 1983/84 harvest year was discounted, the harvest was higher (13 percent) than the average for the more typical years. The 5-year average is 133 bears per year and the 4-year average is 99 bears per year. Only 16 percent of the harvest occurred in the North Slope area associated with the Beaufort (northern stock) area reflecting ice conditions which were not conducive to movement of bears along the coast. The average take for this area is 25 percent of the Statewide harvest. The sex ratio of known-sex individuals was 62 males to 38 females and is similar to previous years. The take during 1985/86 was 45 percent adults, 24 percent sub-adults age 4-5 years, and 31 percent dependent animals. The dependent animal category may be slightly over-represented since third year of life bears, that may have separated from their families, were included in the calculation. Of bears harvested for which age information is available (79 percent), average age of males was 6.6 years, females 7.7 years, and unknown-sex bears 3.5 years. Average ages between males and females was much closer than in preceding years. The chronology of harvest revealed that North Slope villages are harvesting bears primarily during the months of May through December while the western villages are taking bears during the months of January through June (Table 3).

Table 2. Alaskan Polar Bear Harvest for the Harvest Season July 1, 1985, to June 30, 1986.

<u>Village</u>	<u>Male</u>	<u>Female</u>	<u>Unknown Sex</u>	<u>Total</u>
Kaktovik	2			2
Nuiqsut			2	2
Barrow	1	2	9	12
Wainwright	3		1	4
Pt. Lay	2	3	2	7
Pt. Hope	3	3	5	11
Kivalina			2	2
Shishmaref	9	9	2	20
Wales	6	4	1	11
Little Diomede	3	2	1	6
Gambell	11	3	3	17
Savoonga	<u>12</u>	<u>5</u>	<u>1</u>	<u>18</u>
Total	52	31	29	112

Table 3. Polar Bear Take by Month in Alaska, 1985-1986 Harvest Season.

<u>Village</u>	Total	<u>Jan</u>	<u>Feb</u>	<u>Mar</u>	<u>Apr</u>	<u>May</u>	<u>Jun</u>	<u>Jul</u>	<u>Aug</u>	<u>Sep</u>	<u>Oct</u>	<u>Nov</u>	<u>Dec</u>
		Kaktovik	2							1			
Barrow	12					5			2	1	2	2	
Nuiqsut	2									2			
Wainwright	4					2					1	1	
Pt. Lay	7							1				5	1
Pt. Hope	8	5	2										1
Shishmaref	20	15											5
Wales	11	5	3	4	2								
Diomede	6			3									
Gambell	17	3	5	7	2								
Savoonga	18	11	4	3									
Total	107*	39	14	17	4	7	0	2	2	3	3	9	7

*Month of take is unknown for five bears.

Sea Otter-Southern

The southern sea otter population in California is a remnant of the sea otter species that once ranged throughout the northern and eastern Pacific Coast. In the mid-1700's, the sea otter was recognized as a valuable fur-bearing animal, and commercial exploitation began. The historical population in California is estimated to have been 16,000-18,000 individuals. By 1910, the species had been virtually exterminated from its entire range except for remnant populations in Russia, Alaska, the Queen Charlotte Islands (British Columbia), central California, and the San Benito Islands (Baja California). Even though the International Fur Seal Treaty of 1911 promoted protection of sea otters on the high seas, by 1920 the British Columbia and Baja populations were also extinct.

In 1913, the California State Legislature protected the sea otter from exploitation, although there were apparently very few sea otters left in California. Those that survived were probably concentrated in the Point Sur area. In 1938, 50 otters were noted at Bixby Creek in Monterey County, just north of Point Sur.

Fully protected against take, the population subsequently grew in number and range. By 1970 the population had become reestablished in about 10 percent of its historic California range. However, since 1970 little or no growth in numbers has been observed, although the range has expanded somewhat. In 1977 the southern sea otter, already afforded the protection of the Marine Mammal Protection Act, was listed as a threatened species under the authority of the

Endangered Species Act. The sea otter's physiological vulnerability to oil and greatly reduced population size and distribution, combined with threats of oil spills resulting from increasing tanker traffic near the central coast were the primary reasons for listing the southern sea otter.

The California Department of Fish and Game and the Service again conducted spring and fall surveys in 1986, as they have since 1982. To better understand winter distribution of otters, an additional survey was conducted during January and February. The area surveyed included the entire 220-mile established range of the southern sea otter population from Point Ano Nuevo in Santa Cruz County to the Santa Maria River in San Luis Obispo County plus additional peripheral habitat. The number of otters counted (Table 4) during the winter and spring (1986) survey was higher than any since 1982. In contrast the number of otters counted during the fall survey was the lowest since 1982. A trend appears to be emerging. Since 1982, fall counts, except one, are consistently low and spring surveys are higher. This may be partly because otters are more difficult to observe in the fall. The otters have dispersed throughout the range and the greater abundance of bull kelp during the fall obscures some otters. In the spring the giant kelp is more clumped and there is little bull kelp to contend with, therefore the otters are easier to count.

Table 4. Comparison of Southern Sea Otter Counts Conducted Since the Spring of 1982.

<u>Season</u>	<u>Number of Independent Otters</u>	<u>Number of Pups</u>	<u>Total</u>
1982 Spring	1124	222	1346
Fall	1194	144	1338
1983 Spring	1131	120	1251
Fall	1062	164	1226
1984 Spring	1181	123	1304
Spring*	1151	52	1203
Fall	No survey		
1985 Spring	1124	236	1360
Fall	1066	155	1221
1986 Winter	1231	181	1412
Spring	1345	225	1570
Fall	1088	113	1201

*California Department of Fish and Game aerial survey with ground truth stations.

Translocation:

A translocation of southern sea otters has been proposed to establish a second breeding colony, or experimental population, contained within a designated zone. The purposes for establishing a second colony are twofold: (1) to eliminate the possibility that more than a small proportion of the population would be decimated by any single natural or human-caused catastrophe; and (2) to obtain data for assessing translocation and containment techniques, population status, and the influence of sea otters on the structure and dynamics of the nearshore community in order to better understand the characteristics and impacts of a sea otter population at its optimum sustainable population level. Purpose 1 is linked directly to a primary recovery goal, pursuant to the Endangered Species Act, of the Southern Sea Otter Recovery Plan that requires that the possible effects of oil spills be minimized by, among other things, establishing one or more colonies outside the present range but within the species' historic range. Purpose 2 relates directly to the Service's goal under the Marine Mammal Protection Act that the population be restored to, and maintained within, the limits of its optimum sustainable population size, consistent with the maintenance of the health and stability of the marine ecosystem. The proposal would establish a translocation zone to which otters would be translocated and given protection similar to that of the parent population, and a management zone that would be maintained otter-free by nonlethal means. This proposed translocation zone is San Nicolas Island in the Southern California Bight and surrounding waters 10-19 nautical miles offshore from the 15-fathom isobath surrounding the Island. The management zone would include the remainder of the Southern California Bight south of Point Conception, including the other offshore islands and mainland coast. It would implement a significant form of zonal management, a concept recommended by the Marine Mammal Commission in 1980.

A Draft Environmental Impact Statement (Statement) and proposed rulemaking were prepared and distributed in August 1986. The draft Statement considers all available data and information and evaluates potential effects on the marine environment, the southern sea otter, and the socio-economics in the area. The Statement and proposed rule were made available for public review and comment through November 17, 1986.

During the comment period, public hearings were held in Brookings, Oregon, and Monterey and Ventura, California. The Final Environmental Impact Statement (Statement) and rule reflect the Department of the Interior's consideration of all comments received from the public and Federal, State, and local offices.

The Service was provided clear authority to translocate California sea otters and to implement long-term management of the proposed experimental population when the President signed Public Law 99-625 on November 7, 1986. The Service has adopted the guidelines, terms, and authorities of this law for the preparation of the Final Statement and final rule (regulations) that would govern a translocation based on Public Law 99-625.

Public Law 99-625 is a free-standing provision based on concepts similar to the Endangered Species Act. The impetus for this provision stems partly from a possible conflict between the goals of Section 10 (j) of the Endangered Species Act and the prohibitions on taking in the Marine Mammal Protection Act.

The law contains five key elements:

1. The authorization and procedure for the relocation, protection, and management of a second colony of California sea otters;
2. Requires designation of two zones: an inner "translocation zone" that must provide the habitat necessary for furthering the conservation of the sea otter and a buffer zone to protect the population from activities occurring elsewhere, and an outer "management zone", or otter-free zone, to minimize the potential conflicts between fisheries and other resource uses and the translocated population;
3. Establishes the status of members of the experimental population under the Endangered Species Act. The applicability of Section 7 and Section 9 requirements of this Act as well as the prohibitions on taking under the Marine Mammal Protection Act differ with respect to the two zones;
4. Allows those interests affected by the proposed sea otter translocation to obtain early consultation on the consequences of their activities; and,
5. Requires a description of the relationship of the translocation to the overall status and recovery of the southern sea otter and to future Section 7 Endangered Species Act determinations.

This law provides the authority and establishes the guidelines for carrying out the proposed translocation.

The Service issued the Final Statement in May 1987; implementation would probably occur in the fall of 1987 if a translocation alternative is ultimately selected.

Incidental Take:

Several lines of direct and indirect evidence indicate that incidental drowning of sea otters in large mesh gill and trammel entangling nets may represent a significant source of mortality. From June 1982 to December 31, 1986, 43 otters were observed drowned or otherwise known to have drowned in commercial fishing nets: 6 in 1982, 6 in 1983, 16 in 1984, 12 in 1985, and 3 in 1986. However, only a small proportion of the entangling set-net effort within the sea otter's range was sampled for sea otter mortality. Therefore, the actual frequency of net-entanglement mortality for the California population is presumed to be substantially higher than indicated by the confirmed observations of 43 sea otters entangled in set-nets (through December 31, 1986). The calculated average number of sea otters drowned in these types of nets during the 1982-84 period was 80 per year or about 6 percent of the population annually. This source of mortality is considered by Service and California biologists to be the reason that the population has not grown during the last 10 to 15 years.

On May 24, 1985, the Governor of California signed into law restrictions on gill and trammel net fishing (with net mesh equal to or greater than 3.5 inches) within the 15-fathom (one fathom = 6 feet) isobath from Monterey to the Santa Maria River mouth. On September 20, 1986, to further protect sea otters, and other marine mammals and birds from entanglement, legislation was enacted prohibiting gill and trammel nets inside the 20-fathom isobath along parts of the central portion of the sea otter's range, specifically between Pt. Sur and Pfeiffer Point in Monterey County and between Cape San Martin in Monterey County and Pico Creek in San Luis Obispo County. However the Director of California Department of Fish and Game has the authority to extend the 20-fathom closure throughout the length of the State's Sea Otter Refuge that comprises about 100 miles of coastline between the Carmel River (just south of Monterey Bay) and Santa Rosa Creek (just south of San Simeon) should subsequent observations of drowned otters warrant it. The legislation also provided funds for a low-interest loan program for fishermen affected by the closures. Loans obtained under this program are to be applied to the development and purchase of alternative fishing gear.

Permanent closures to gill and trammel net fishing are now in effect within 15-, 20-, or 25-fathoms from Franklin Point (San Mateo County) to Point San Luis (San Luis Obispo County).

The emergency closures and protective legislation appear to have reduced the number of otters entangled in legally set nets, but no conclusion can yet be drawn on whether or how much the population growth rate will change. Based on beached-carcass counts, the observed sea otter mortality (from all causes) for calendar year 1986 consisted of 78 otters, 8 higher than 1985, but 53 less than 1984 (pre-closure year). The figures for beach-cast otters found in 1986 are 15 percent lower than the long-term (15-year) average.

The Service actively supported the State's conservation efforts by providing written and verbal testimony at public and legislative hearings, and meeting with California Department of Fish and Game and the State legislature. The Service made available the services of an experimental gear and gill net observer to assist the State with data gathering. The observer helped evaluate experimental gear designed to eliminate accidental entanglement of sea otters and other non-target species. Through the experimental gear testing, it was learned that a modified trawl may be an economically viable alternative to set-nets without incidentally entangling sea otters or other marine mammals or birds. In addition, the observer monitored compliance with State and Federal laws that protect sea otters from entanglement in nets.

The Service reassigned a 32-foot vessel, R/V Sea Otter, from Alaska to California to be used to investigate illegally set gill nets and to help the State enforce fishing closures throughout the otter's range. If translocation is implemented, the R/V Sea Otter will be used in the enforcement effort to protect the new colony.

On March 26-28, 1986, the Service co-sponsored with the Marine Mammal Commission and other agencies a Workshop on Measures to Address Marine Mammal/Fisheries Interactions in California. The objectives of the workshop were:

1. Describe, as clearly and accurately as possible, the effects of California coastal fisheries and related activities on marine mammals;
2. Describe, as clearly and accurately as possible, the effects of marine mammal-caused fish damage, fish loss, and gear damage on California coastal fisheries;
3. Identify research and monitoring activities needed to better determine the nature and magnitude of effects on the involved marine mammals and on the involved fisheries;
4. Identify measures that should or possibly could be taken to: (a) avoid or reduce adverse effects, and/or (b) evaluate the likely costs and benefits of potential mitigation measures;
5. Develop detailed project descriptions, including estimates of time and financial requirements, for each of the research, management, or other activities identified pursuant to objectives 3 and 4; and
6. Prepare a report that could be used in developing an action plan for better defining and resolving identified problems at a policy-level meeting of appropriate administrators of the responsible State and Federal agencies.

The workshop concluded that some species of marine mammals, including sea otters, are being significantly and adversely affected by fisheries and that certain fisheries, including the central coast halibut fishery, have been seriously affected due to the presence of marine mammals. Participants identified additional research needs as well as potential alternative methods of fishing and other management actions that may reduce conflicts between marine mammals (including otters) and fisheries.

Section 7 Consultations:

Pursuant to Section 7 of the Endangered Species Act, the Service reviews proposed federally funded, conducted, or permitted activities that may affect the southern sea otter and issues Biological Opinions and recommendations to minimize impacts. In 1986, the Service was engaged in nine formal Section 7 consultations on the sea otter in California. One "jeopardy" Biological Opinion was issued (Case No. 1-8-86-F-74). That Opinion was issued to the Minerals Management Service after analysis of their proposed hypothetical buildout of six oil and gas production platforms in the northern Santa Maria Basin within and adjacent to the current sea otter range. The reasonable and prudent alternative to the project as proposed was to consult on each Development and Production Plan on a case-by-case basis as they become available rather than on the hypothetical full development plan.

On February 6, 1986, the Office of Sea Otter Coordination concurred with the Environmental Protection Agency (Case No. 1-1-85-I-443) that offshore exploratory drilling would have no effect on sea otters; however, production phase drilling

produces large volumes of potentially harmful discharges and the Office of Sea Otter Coordination recommended that discharge permits (National Pollutant Discharge Elimination System permits) for Outer Continental Shelf tracts nearest the sea otter range be reviewed on a case-by-case basis through the Section 7 process on individual permits rather than issue a general permit.

On May 15, 1986, the Service issued a "no jeopardy" Biological Opinion (Case No. 1-6-86-F-26) to the Minerals Management Service regarding Platform Julius, an offshore oil production platform in the northern Santa Maria Basin, about 9-1/2 miles from the southern end of the sea otter range. An extensive sea otter-oil spill risk analysis was prepared for this consultation.

On September 25, 1986, the Service issued a "no jeopardy" Biological Opinion to the U.S. Army Corps of Engineers on their proposed maintenance dredging of Morro Bay in San Luis Obispo County (Case No. 1-1-86-F-55). The Corps also proposed to conduct benthic studies (primarily on sea otter prey species) to document the degree and duration of the impacts of dredging on the benthic species in the bay. The Corps also agreed to monitor sea otter behavior in the bay before and after dredging.

Various endangered species permit applications were reviewed for compliance with Section 7. Those permits involved capture and tagging (including transponders) of sea otters, implantation of radio transmitters and the subsequent relocation of otters within the present range, salvage of marine mammals and monitoring disposition.

Manatee

The Florida Department of Natural Resources, with partial funding from a grant under Section 6 of the Endangered Species Act, continued the Manatee Salvage Program which had been conducted by the Service for 12 years. The 125 carcasses recovered this year approached the record number of 131 recoveries in 1984. Necropsies revealed that, once again, boat/barge collisions accounted for the largest identifiable cause of mortality (27 percent).

Based on data gathered from the increasing number of Endangered Species Act Section 7 consultations with the Corps of Engineers (Corps) on boat docks, marinas and dredging projects, this threat to the manatee will only increase. The seriousness of the impacts is drastically illustrated by the number of jeopardy biological opinions issued; three in 1983, and 16 in 1986. The insidious nature of the cumulative impact of boating projects on the manatee resulted in a consolidated jeopardy opinion for several boating facility developments proposed for a 40-mile stretch of the Indian River on Florida's east coast. The Service's biological judgment is that future boating facilities in this stretch of the Indian River are likely to jeopardize the manatee unless a manatee protection plan to reduce the current level of manatee boat/barge collisions is developed and in place. This situation is likely to be repeated in other areas of Florida where manatees and boats are in serious conflict. The Service and Florida Department of Natural Resources have initiated actions to address cumulative impacts by developing Manatee Protection Plans. These plans will be developed with the assistance and cooperation of the Corps, State planning councils, counties and public. Coordination with

the Corps continued in an effort to minimize mortality at navigation locks. The Corps installed screens at one additional lock this year. Manatee lock mortality is down from six in 1983 to three in 1986. Hopefully this reflects, in part, the screening of four locks to date. The Service will monitor the effectiveness of these measures to ensure manatee lock mortality is permanently reduced or eliminated.

The manatee identification catalog initiated in 1981 is being updated and now includes 5 years of data from Statewide observations. This survey, funded by the Service and Florida Power and Light Company, has proved to be particularly useful in documenting long distance manatee movements throughout the State.

Researchers at the Service's Sirenia Project continued studies of basic reproductive and behavioral characteristics of manatees individually recognized by unique scar patterns. Nineteen manatees were radio-tagged in the Caloosahatchee River for the second year of a two field season study to determine summer movements and habitat use of manatees in southwest Florida. Additionally, similar studies were initiated for the east coast of Florida. Food habit studies are continuing and include an analysis of gut content samples from salvaged carcasses and field observations of radio-tagged manatees. Twice monthly distribution surveys initiated in the late fall of 1985 on the east coast have been completed and the data are being analyzed and compiled. These surveys were funded by the Corps and occurred in conjunction with surveys flown by the Florida Department of Natural Resources, and Brevard County.

The Indian River from Riviera Beach in Palm Beach County to the Tomoka River in Volusia County, a distance of approximately 175 miles, has been surveyed in a coordinated manner enabling researchers to determine manatee distribution, abundance, and seasonal movement patterns along Florida's east coast.

The Service's Sirenia Project, also under Corps support, is synthesizing all available recent data on manatee distribution and abundance and is updating the 1974 report by D.S. Hartman, "Distribution, Status, and Conservation of the Manatee in the United States." The report is due to be completed in early 1987.

The Service has filed condemnation proceedings to acquire approximately 13 acres of water bottoms adjacent to the Crystal River National Wildlife Refuge. Control of the water bottoms is necessary to post a manatee sanctuary area. Presently the bottoms continue to be leased from the owner during the winter months.

The Service continues to support the Manatee Rescue Contingency Plan conducted through cooperative agreement with Sea World and Miami Seaquarium. The agreement provides for rescue services and rehabilitation for injured or distressed manatees.

The Florida Marine Patrol (Patrol) is an integral and essential link in injured manatee rescue efforts since any reports from the public of distressed manatees goes to the Patrol through the "Resource Alert Watch Line." The Patrol determines the validity of the reports after which Sea World and Miami Seaquarium coordinate rescue efforts with the Service's Jacksonville Endangered Species Office. The Patrol also responds to dead manatee reports and secures carcasses for subsequent

retrieval and necropsy by the Florida Department of Natural Resources or its contractor, the University of Miami.

Finally, the Florida Department of Natural Resources continues to develop its new manatee program. Its major emphasis is management oriented and it has focused its initial efforts on upgrading the posting of its 20 manatee speed regulatory zones and the carcass salvage program. They also have a growing involvement in permit reviews for boating facility development, and they work closely with the "Save the Manatee Club" on information and education efforts. The Service and the Florida Department of Natural Resources enjoy a close and mutually supportive working relationship.

Dugong

Dugongs occur in limited numbers throughout Indonesia including Palau Island, Trust Territories of the Pacific Islands. This island group has opted for Republic status under the Compact of Free Association between the United States of America and the Trust Territories.

The Service has executed a Memorandum of Understanding with the Republic of Palau providing for technical assistance in resource conservation. An item in the memorandum is the provision for review of research proposals. This provision was included at the specific request of the Republic of Palau. They do not presently have the staff to make these evaluations or to conduct baseline studies of their resources.

Traditionally, the dugong had high cultural significance to the Palauans, as well as affording a good source of protein. A bracelet made from the atlas vertebra of a dugong could be worn only by the chiefs of villages or municipalities, and as a consequence, the dugong was effectively conserved by the chief. At present, the role of traditional chiefs has been greatly diminished resulting in little protection for this species.

Modern technology (speed boats, explosives, spear guns, etc.) has also had a tremendous impact on the taking of this species and has perhaps altered its distribution. The limited resources of the Republic of Palau are insufficient to promote protection of the dugong from illegal taking.

Unregulated taking of the dugong has become critical. There is substantial disagreement among Palauans and outside researchers on the number of dugongs present in Palau. Aerial surveys in 1977 and 1978 led to a population estimate of not more than 50 individuals, substantially less than estimates offered by most local residents. An additional survey was conducted by Service personnel in 1983, that indicates the population size probably remains the same. Certainly, there has not been any improvement in the situation. Data from this survey will be analyzed along with those from previous surveys and a more detailed report will be presented in the future. Because of the very low population and the continued illegal take of animals, the Palau dugong population could be exterminated by the end of the century.

A method of attaching floating radio-transmitters to dugongs was developed in cooperation with personnel from the Jaya Ancol Oceanarium, Jakarta, Indonesia,

in June 1986. In October 1986 two subadult male dugongs were captured in cooperation with biologists from James Cook University at North Queensland, Townsville, Australia. The dugongs were captured and released in Cleveland Bay, near Townsville. One of the dugongs was fitted with a satellitemonitored transmitter and its movements were followed for 9 weeks. The dugong initially moved about 140 km south to Upstart Bay, where it remained in the vicinity of nearshore seagrass beds for nearly 6 weeks. Just prior to a mechanical failure in the attachment mechanism, that was coincident with battery failure in the transmitter, the dugong made a 6 day round trip to its capture location -- in Cleveland Bay. The second dugong was outfitted with a conventional radio-transmitter and has been tracked from aircraft, boats and shore. During the first 6 months, the animal only moved several kilometers within Morton Bay. The transmitter batteries in this unit have a predicted life of 12 months, so data are still being collected. The movements of these two dugongs are the first ever documented. Future cooperative work with the Service will enable the Great Barrier Reef Marine Park Authority and the Queensland National Parks and Wildlife Service to develop sound management strategies for dugongs.

Service efforts have been directed towards developing a census methodology that is understood and accepted by the Palauans. Without this acceptance, any results derived will be suspect. However, this effort has not been a sustained one due to insufficient resources. An effective methodology that incorporates the observations and concerns of the Palauans is essential. Unless the fragile nature of this isolated dugong population can be clearly demonstrated to the Palauans, any effort to promote conservation of the dugong will be virtually ineffectual.