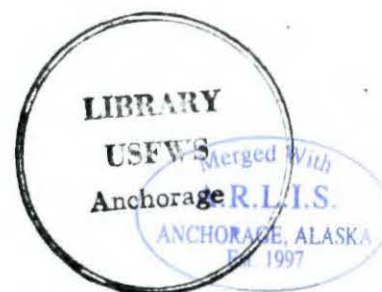
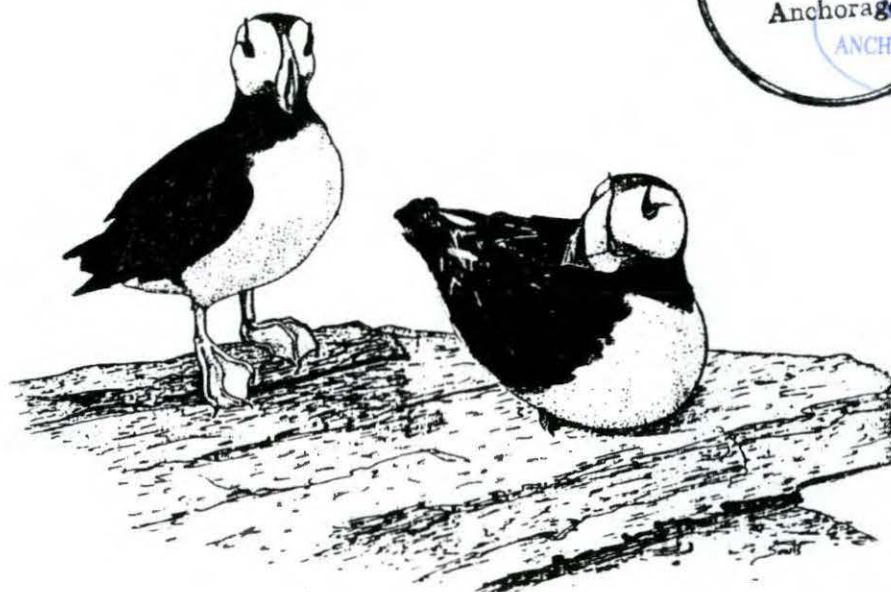


QUADRENNIAL NARRATIVE REPORT

(1980-83)

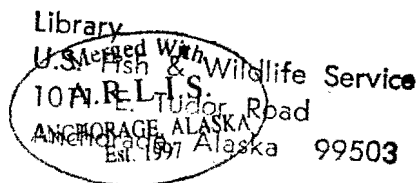


MARINE BIRD MANAGEMENT
PROJECT

U.S. Fish and Wildlife Service

Region 7





PAST, PRESENT, AND FUTURE OF THE MARINE BIRD
MANAGEMENT PROJECT

Quadrennial Narrative Report
June 1980 to December 1983

Marine Bird Management Project
Wildlife Assistance
U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, Alaska 99503

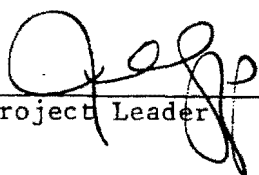
May 1984

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Anchorage, Alaska

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REVIEW AND APPROVALS

Submitted by:


Project Leader

May 23, 1984
Date

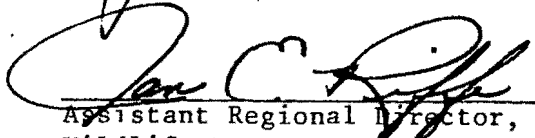
Approved by:


Migratory Bird Specialist

5/23/84
Date


Chief, Wildlife Assistance

5/23/84
Date


Assistant Regional Director,
Wildlife Resources

5/24/84
Date



Frontispiece. The red-faced cormorant is just one of 22 species of seabirds whose continental U.S. breeding range is restricted to Alaska.

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ESTABLISHMENT

The Marine Bird Management project was informally organized in June 1980 as part of the former Wildlife Operations Branch. John Trapp became acting Project Leader at that time. Patricia Baird was transferred to the project from the Biological Services Program's-Coastal Ecosystems (BSP-CE) team in July 1980, and David Nysewander transferred to the project from BSP-CE in October 1980. John Trapp was selected as the Project Leader in September 1980, and the Marine Bird Management project became official on October 1, 1980. The project is now functionally part of Wildlife Assistance (Fig. 1) and is physically located in the Regional Office in Anchorage, Alaska.

ROLES AND RESPONSIBILITIES

Region-wide Marine Bird Management

Both on and off refuges but with emphasis on the latter. The key words here are managing populations. Our roles and responsibilities, and their relationship to refuges in Alaska, may be viewed as analogous to the differing responsibilities of the Office of Migratory Bird Management (i.e., managing populations nation-wide) and the National Wildlife Refuge System (i.e., managing habitat on specific refuge units). Examples:

- A. Planning. Regional Resource Plans, Alaska Seabird Management Plan, species management plans.
- B. Surveys and Inventories. Southeast Alaska, Islands of Four Mountains, South-central Alaska, Kotzebue Sound, St. Matthew Island, Prince William Sound, investigation of seabird die-off.
- C. Population Monitoring. Develop systematic statewide seabird colony monitoring scheme (would be comparable to the annual spring waterfowl breeding pairs survey, with the goal of tracking population trends of selected species from year-to-year), Alaska Seabird Colony Catalog-Archives (will provide information in a format useful to refuges and which can also be incorporated directly into national monitoring schemes and archives).
- D. Banding. Skilak Lake and Lake Louise.
- E. Baseline Studies. St. Matthew Island (relationship to industrial development) and Prince William Sound (bird-habitat relationships).

2

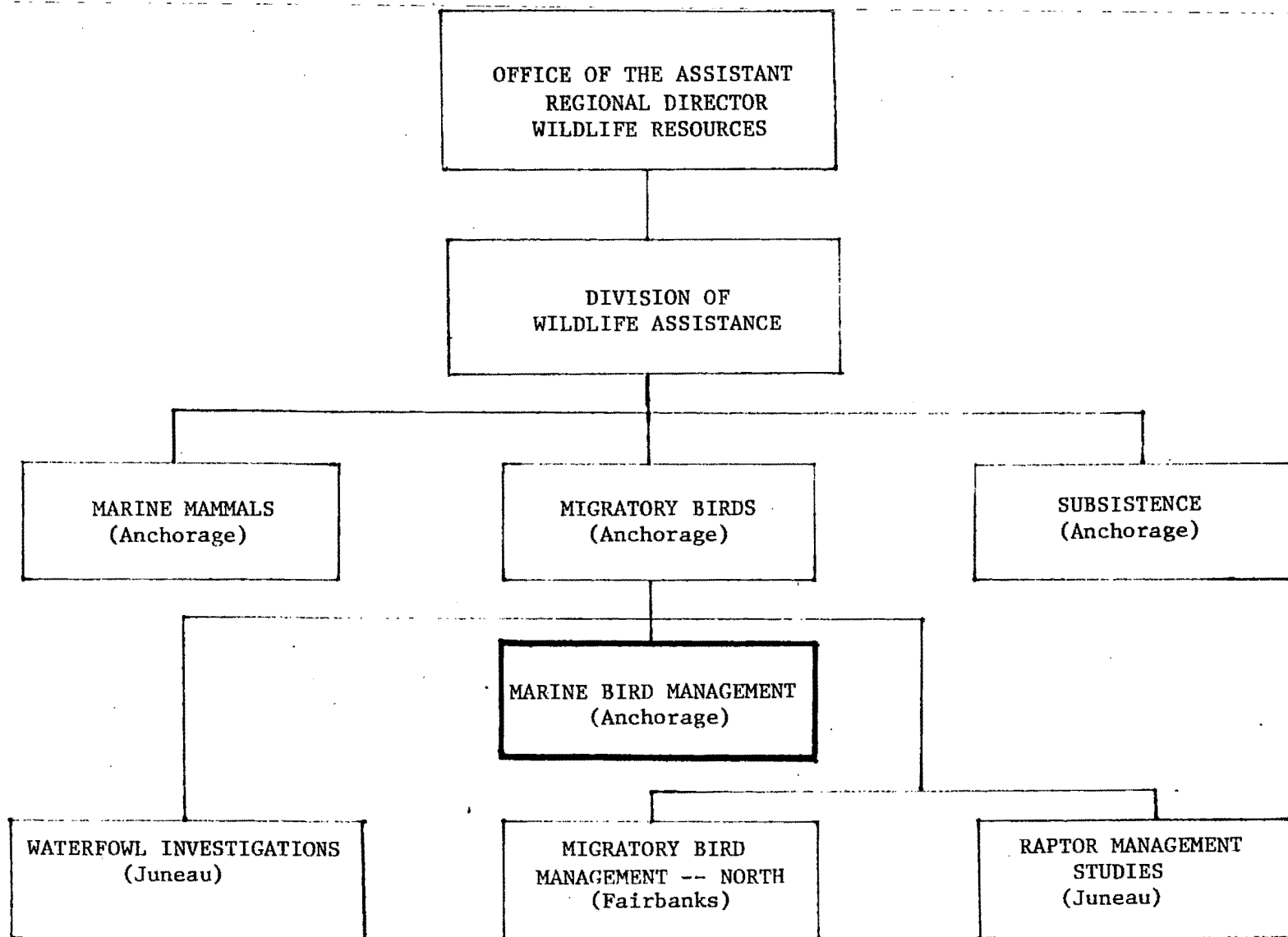


Figure 1. Organizational Chart.

Technical Support

Our role is that of consultants to project leaders, providing a liaison between management and research. As such, we try to be aware of the latest developments in ecology and management; and collate, evaluate, and synthesize information pertinent to management needs. Our clients include Refuges, Ecological Services, other Federal and State agencies, private consultants, universities, and the general public. Examples:

A. Review Documents. Environmental Impact Statements, Environmental Assessments, biological assessments, inventory procedures, management documents, study proposals, manuscripts.

B. Ensure Coordinated Data Gathering Efforts. Conduct technical workshops, develop systematic statewide seabird colony monitoring scheme, beached bird surveys.

C. Provide Reference Lists, Annotated Bibliographies, and Synthesized Literature Reviews. Annotated bibliographies -- techniques and methods for monitoring population trends and productivity of marine birds, impacts of disturbance on waterbirds. Synthesized Literature Reviews -- breeding chronology (arrival at colony, pair formation, egg dates, hatching dates, fledging dates, departure dates, etc.) of seabird species in each of the major biogeographic regions of Alaska.

PERSONNEL

The permanent staff has remained fairly stable at 3-4 people, while the number of temporary employees and volunteers has fluctuated dramatically according to seasonal demand (Fig. 2).

Permanent

John L. Trapp, Project Leader, GS-12, PFT, EOD 10-01-80.

David R. Nysewander, Wildlife Biologist, GS-11, PFT, EOD 10-01-80.

Patricia A. Baird, Wildlife Biologist, GS-11, PFT, EOD 10-01-80, Resigned 08-21-81.

Arthur L. Sowls, Wildlife Biologist, GS-11, PFT, EOD 03-28-81.

David B. Irons, Wildlife Biologist, GS-07, PFT, EOD 02-83.

Temporary

Jay W. Nelson, Biological Aid, GS-04, 05-17-81 to 01-29-82;
Wildlife Biologist, GS-07, 04-05-82 to 12-82.

William A. Lehnhausen, Biological Technician, GS-05, 05-82 to 01-83.

Steven H. Morrell, Wildlife Biologist, GS-07, 04-07-82 to 01-82.

Donald J. Shields, Biological Aid, GS-04, 05-17-81 to 09-19-81.

Gregory J. Weiler, Wildlife Biologist, GS-07, 06-01-81 to 09-81.

Daria O. Carle, Biological Technician, GS-05, 05-82 to 01-83 and 05-02-83 to Present.

M. Michele Vacca, Biological Technician, GS-05, 05-10-83 to Present.

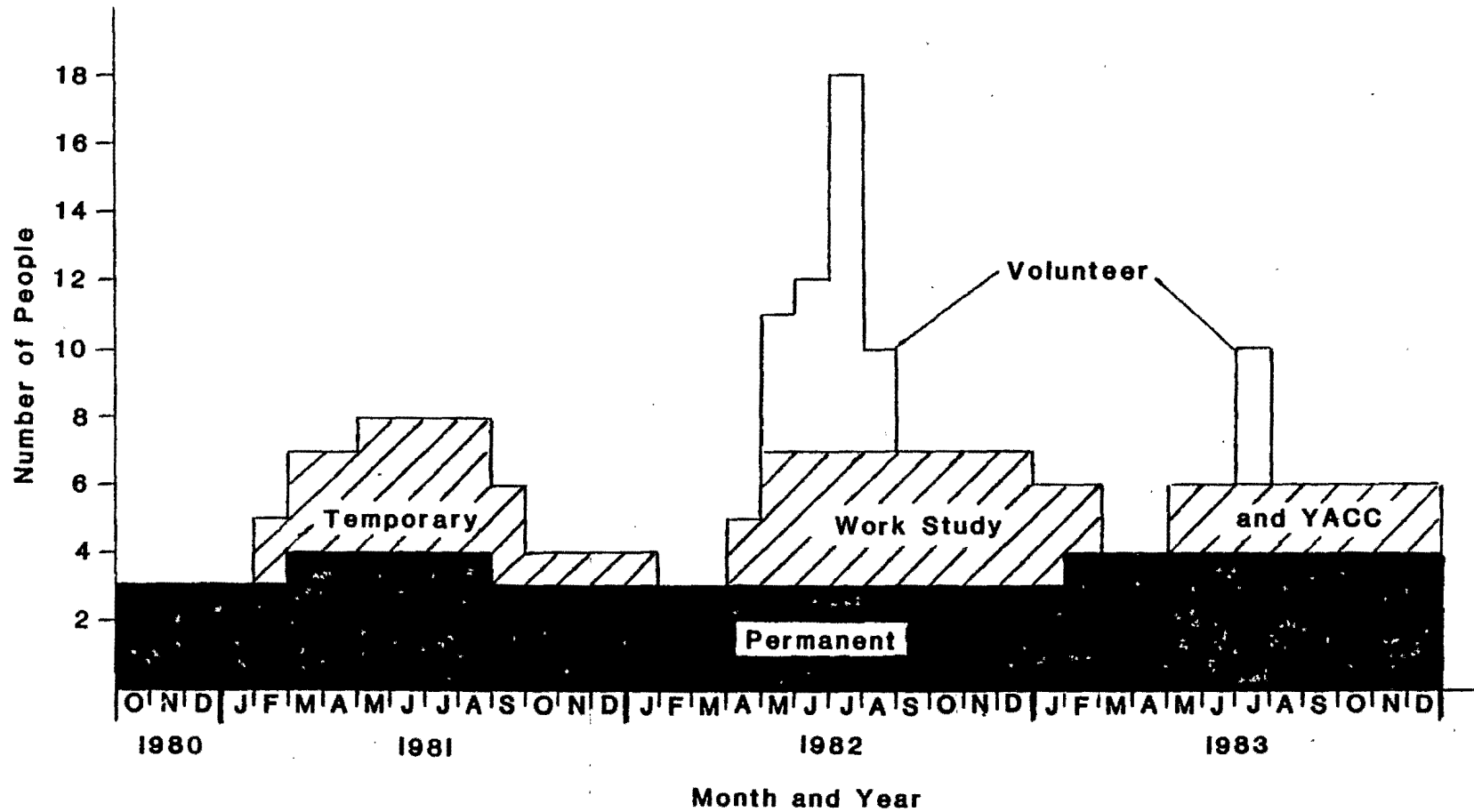


Fig. 2. Staffing patterns.

Young Adult Conservation Corps

Amy Zabloudil, 02-81 to 08-07-81.

Work-Study Students

Cacey Williams, 02-81.

Volunteers

Elaine B. Rhode, 05-82 to 08-82.

Maurice Ward, 05-82 to 07-82.

Roberta Ward, 05-82 to 07-82.

Michele Vacca, 05-82 to 08-82.

David McCargo, 06-82 to 07-82.

Joel Hubbard, 07-82 to 08-82.

Dave Krause, 07-82.

Sue Quinlan, 07-82.

Samuel Patten, 07-82 and 07-83.

Renee Patten, 07-82 and 07-83.

George Dixon, 07-82.

Tesanna Trapp, 07-83.

FUNDING

Since its formation in 1980, the Marine Bird Management Project's budget has remained essentially static, experiencing a net gain of just 5% between FY's 1981 and 1984 (Fig. 3). Assuming a conservative annual inflation rate of 7.0%, it is obvious that the "purchasing power" of our budget has declined steadily; in fact, in terms of 1981 dollars, our 1984 budget is 18% less than what it was in 1981.

Although the size of the permanent staff has remained constant at 4 persons, fixed salary costs have increased steadily as the result of promotions, step-increases, Cost-of-Living Allowance increases, and pay raises; salaries and benefits accounted for 55% of our budget in 1981, but has escalated to 75% in 1984.

The combined effects of inflation and steadily escalating salary costs has been to seriously erode our "Effective Operating Budget" (total budget adjusted for inflation minus fixed salary costs), which is that money available for conducting surveys and inventories, monitoring projects, and other field activities; in terms of 1981 dollars, our operating budget has declined from 45% of our total budget in 1981 to just 10% in 1984.

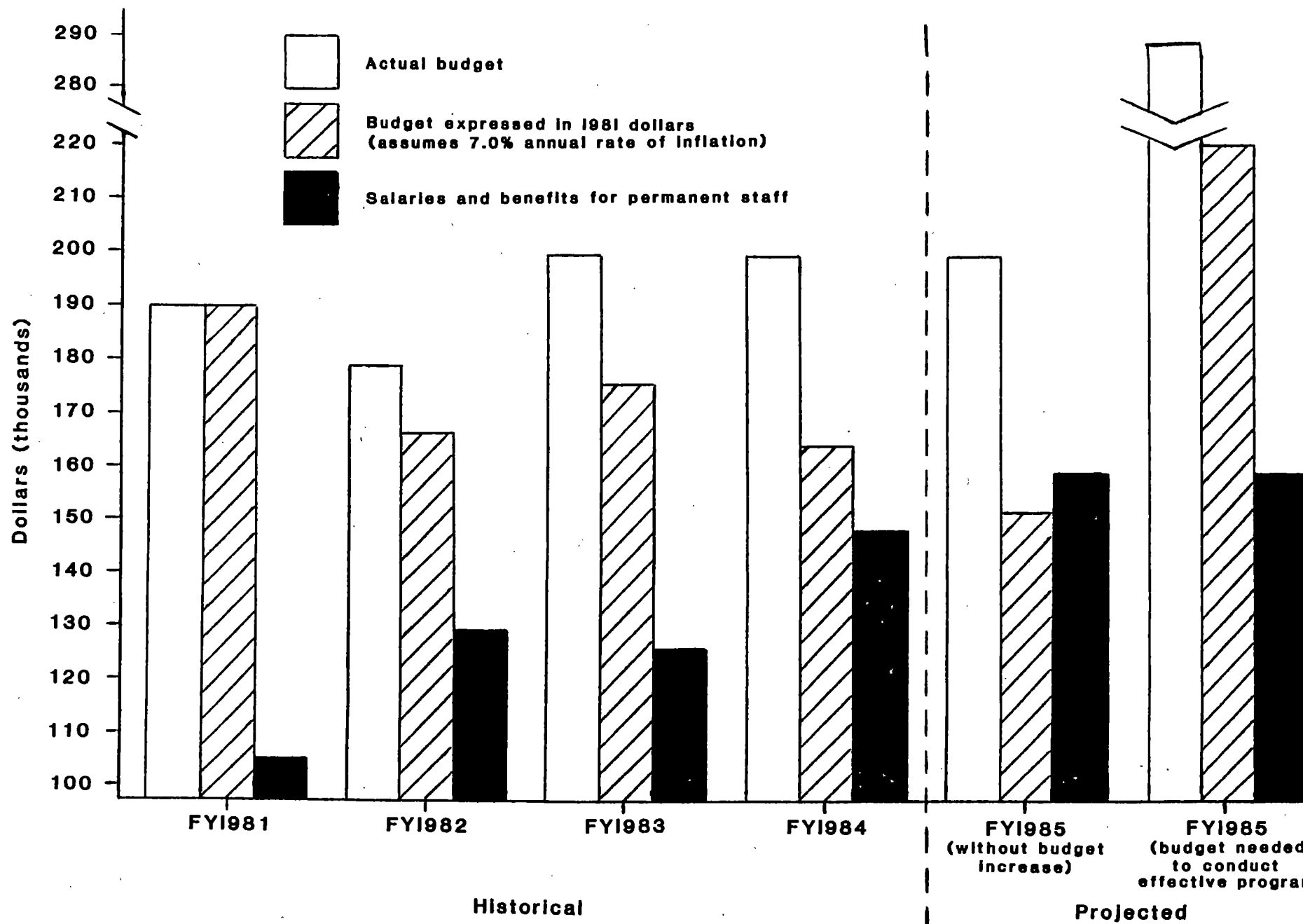


Fig. 3. Budget trends.

ACTIVITIES AND ACCOMPLISHMENTS

Populations and Productivity of Breeding Seabirds at Middleton Island, Alaska

Objectives

1. Monitor trends in size of breeding populations of seabirds (primarily pelagic cormorants, and black-legged kittiwakes).
2. Monitor trends in productivity of breeding populations of seabirds (primarily pelagic cormorants and black-legged kittiwakes).
3. Conduct beached bird and marine mammal surveys.

Effort

Sixty-one days in the field (134 person-days), 1981-83;
One hundred, forty-six km of beaches surveyed.

Findings

1. Pelagic cormorant nesting populations were fairly stable, ranging between 2,474 and 2,683 nest attempts each year.
2. Pelagic cormorant productivity has been stable, averaging 3.0-3.4 eggs/nest with eggs and 1.87-1.90 prefledging chicks/nest built.
3. The black oystercatcher population has increased steadily from 1 pair in 1976 to 16-18 territorial pairs and 12-16 nonbreeding birds in 1983, an average increase of about 2 breeding pairs/year.
4. The glaucous-winged gull population has fluctuated at around 1500-1600 birds, a figure not substantially different from estimates made in 1974.
5. The number of black-legged kittiwake nesting attempts decreased every year of the study: 82,885 in 1981, 77,196 in 1982, and 55,631 in 1983.
6. Productivity of black-legged kittiwakes has varied tremendously, from 0.47 prefledging chicks/nest built in 1981 to 0.03 in 1983.
7. Counts of tufted puffins decreased irregularly from 1,320 in 1978 to 635 in 1983.

Status

Administrative reports were completed in September 1982 and 1983.

Marine Bird and Mammal Survey of the East-Central Aleutian Islands
(Kasatochi Island to Islands of Four Mountain)

Objectives

1. Document the location, size, and species composition of seabird colonies and marine mammal rookeries.
2. Document the presence or absence of arctic and red foxes.

Effort

Fifty-one days in the field (252 person-days) in 1982; surveyed 21 islands and about 1100 km of shoreline surveys.

Findings

1. Twenty-one species of seabirds nest in the area, with a minimum of 735,000 birds (not including nocturnal species).
2. About 80% of the diurnal seabirds nest on Chagulak Island; other islands with major colonies are Kasatochi, Koniuji, and Kagamil.
3. Fork-tailed storm-petrels nest on 15 islands and outnumber all other nesting species (population probably exceeds 1 million); Leach's storm-petrels nest on 11 islands.
4. A remnant breeding population of Aleutian Canada geese, perhaps 300 birds, was found at Chagulak Island.

Status

A draft administrative report completed in March 1983 has yet to be finalized. A manuscript describing the discovery of Aleutian Canada geese at Chagulak Island was submitted to American Birds.

Surveys and Productivity Estimates of Colonially
Breeding Waterbirds at Lake Louise, Skilak Lake,
and Other Locations in Southcentral Alaska.

Objectives

1. Monitor trends in size and productivity of breeding populations of gulls and cormorants at selected sites.
2. Band at least 300-400 gull chicks annually to determine dispersal patterns.
3. Survey other wetland areas in upper Cook Inlet to determine location, size, and species/composition of seabird colonies (with special emphasis on mew gulls and the coastal fringe along Cook Inlet).

Effort

Twenty-six days in the field (66 person-days), 1981-1983.

Findings

1. Productivity of colonies of hybrid gulls (herring x glaucous-winged) at Skilak Lake is twice that of interior nesting herring gulls at Lake Louise. The herring gull colony is stable while the hybrid gull colony at Skilak Lake appears to be growing.
2. Double-crested cormorants have better reproductive success at Lake Louise than at Skilak Lake.
3. Banding of fledgling gulls with special color bands indicate that many young cluster near salmon streams (like the Russian River) shortly after leaving the colony. However, some fledglings travel within a few weeks to areas as far as Anchorage (75-100 miles up Cook Inlet).
4. Surveys indicate that at least 5,000 and possibly up to 8,000 mew gulls breed along the coastal wetlands of upper Cook Inlet. This is the largest known breeding concentration of this species in Alaska. The species has two different distribution patterns/breeding strategies in southcentral Alaska: one near Anchorage using lakes and one near the inlet and river deltas using wetlands near the high tide mark.
5. New colonies of hybrid gulls (herring x glaucous-winged) were located on the Palmer Hayflats, the Susitna River and delta, and near Hope, Alaska.
6. Large runs of eulachon in the Susitna River in May and June attract large numbers of gulls. Other movements of gulls throughout the seasons are being documented for the Anchorage area.

Status

Administrative reports were completed March 1981 and 1982. A report summarizing 1983 activities is in preparation.

Biological Studies on St. Matthew Island

Objectives

1. Monitor spring migration.
2. Establish permanent population monitoring plots for seabirds.
3. Trap, tag, and monitor arctic foxes to determine home range, food habits, and survival of pups.
4. Conduct terrestrial breeding bird transects to document species composition, breeding densities, and habitat use on the proposed land exchange areas and around Big Lake.
5. Conduct vegetation plots and map the habitat on the proposed land exchange areas; collect and identify flowering plants, mosses and lichens.
6. Monitor marine mammal populations around the island.
7. Conduct breeding biology and ecology studies of rock sandpipes and McKay's buntings.
8. Conduct beached bird and marine mammal surveys and monitor human activity.
9. Live trap and tag voles to determine distribution, abundance, and incidence of predation by foxes.
10. Investigate and compare different census techniques for least auklets.
11. Collect a variety of seabird species for analysis of heavy metal and organochlorine contaminants.

Effort

One hundred and forty-three days in the field (872 person-days) in 1982 and 1983; approximately 82 permanent population monitoring plots established, including 41 for cliff-nesting species and 40 for talus-nesting species; 65 least auklets were captured, banded and dyed with picric acid; island circumnavigated 6 times in 1982 and 3 times in 1983; 42 vegetation plots analyzed; 130 km of terrestrial transects completed; 26 adult and 7 young arctic foxes tagged and their movements monitored.

Findings

1. There appeared to be fewer walrus using the haul-out areas in 1983 compared to 1982; the decline could be attributed to reduced numbers in the overall population, reduced food supply around the island, or increased boat activity around the island in 1983.
2. Human activity was much greater in 1983 than in 1982, due principally to boat and aircraft activities connected with the COST well located west of St. Matthew Island.
3. The islands known avifauna was increased by 86%, from 66 species to 123 species.
4. Large numbers of migrant and resident birds concentrate into a relatively few snow-free areas during the spring and early summer.
5. One hundred, twenty species of flowering plants and 54 species of lichens were collected and identified; 27 of the flowering plants and 41 of the lichens were new for the island.
6. Range extensions were recorded for Minuartia arctica and Athyrium filix-femina.
7. Daily attendance patterns for the least auklet population as a whole were remarkably consistent within each stage of the nesting cycle, but patterns of individual birds appeared to be highly variable.
8. A Lincoln-Peterson Index using color-dyed and banded least auklets proved useful for estimating population size; actual populations proved to be much higher than the number of birds present on the surface of the talus at any one time.
9. Time-lapse cameras provided invaluable supplementary data on the attendance patterns of auklets.
10. Techniques for time-lapse photography were modified to allow a camera to operate up to eight months without attention; the period of time a roll of film will last was increased by lengthening the interval between photographs with an inexpensive intervalometer and the addition of a solar pannel increased battery life.

Status

An administrative report summarizing major biological findings in both 1982 and 1983 is in the initial stages of preparation. Data on various aspects of the project have been analyzed and summarized to varying degrees and specific data can be supplied as needed. A team of four biologists will return to St. Matthew in 1984 to continue monitoring seabird and marine mammal populations.

Comparison of Air and Surface Counts of
Wintering Waterbirds in a Southeast Alaska Bay¹

Objectives

1. By means of simultaneous boat and plane surveys, determine the proportion of various species of waterbirds present which are detected and counted by air survey crews.
2. Determine the variability of both boat and plane surveys, and the degree of annual variation in the percentage of birds counted from the air.
3. Determine the feasibility of applying correction factors to aerial survey data gathered over an extensive area of southeast Alaska.
4. Document the abundance and species composition of winter waterbird population of Port Frederick, Chichagof Island, Alaska.

Effort

Twelve days (72 person-days) in the field, 1982 and 1983.

Findings

1. Overall, the air crew saw about 50% of the birds tallied by the boat crew.
2. The percentage of birds seen by the air crew was similar in both 1982 and 1983.
3. The percentage of birds seen by the air crew varied according to species, ranging from 3% of the murrelets to 119% of the gulls.

Status

Survey results from 1982 and 1983 have been tabulated in a series of preliminary reports. Preliminary results were presented at a meeting of the Pacific Seabird Group in December 1982. Surveys will be continued in 1984 to assess the consistency of the results determined to date.

¹This was a cooperative effort conducted with the Waterfowl Investigations project.

Alaska Seabird Colony Catalog--Archives

Objectives

1. Continue to incorporate new information on seabird colonies.
2. Provide new information, as requested, on distribution and abundance of breeding seabirds.
3. Evaluate the problems associated with the need for automating seabird colony data and develop suitable formats and software.

Effort

Variable; average of 10 hours per week, 1981-83.

Accomplishments

1. Most of existing paper files have been copied on microfiche for archiving.
2. Computer data format developed for archival, retrieval, and analysis of the data.
3. All seabird colony data from southeast Alaska entered into the system as a pilot project.

Status

Continuing. All Alaska colony data should be incorporated into the data base by mid-1984.

Marine Bird and Mammal Survey of the Eastern Aleutian Islands

Objectives

1. Document the location, size, and species composition of seabird colonies and marine mammal rookeries.
2. Refine and improve the method of censusing tufted puffins.
3. Determine the presence or absence of nocturnal seabirds.
4. Determine the presence or absence of arctic and red foxes.

Effort

One hundred and fifty days in the field (556 person-days) in 1980 and 1981; surveyed 79 islands and about 2200 km of shoreline.

Findings

1. Sixty-eight of the 79 islands visited contained colonies having at least 1.8 billion seabirds (previously, only 15 colonies were known for the area, containing 0.7 billion birds).
2. Burrowing species comprised 93% of the breeding seabirds.
3. The tufted puffin was the predominant breeding species, with at least 1.06 billion breeding birds, or about 40% of all known breeding tufted puffins in Alaska.
4. Whiskered auklets were found to be nocturnal at their nesting site (they had previously been thought to be crepuscular) and were found breeding on 33 islands; they frequented rock crevices of cliffs in a low density, widespread pattern similar to horned puffins and pigeon guillemots.
5. A total of 7,783 Steller's sea lions were found at 20 sites, a 55% reduction from 1977 and an apparent 76% decline since 1955.
6. Red foxes were found only on the five largest islands, while introduced arctic foxes were found on six other islands

Status

An administrative report was completed in February 1982. Two papers were presented at the Pacific Seabird Group Annual Meeting in January 1982.

Distribution and Abundance of Waterbirds and Marine Mammals in
Relation to Habitat and Season in Prince William Sound, Alaska

Objectives

1. Provide more precise estimates of the numerical abundance of marine birds and mammals in Prince William Sound throughout the year.
2. Develop a model that predicts the abundance and density of waterbirds using major shoreline habitats in each season of the year.
3. Monitor the status and reproductive success of black-legged kittiwake colonies within Prince William Sound and compare with similar data from Middleton and Kodiak islands.

Effort

Twenty-three days in the field (61 person-days) in 1983.

Status

Continuing.

Marine Bird and Mammal Survey of the Outer Coast of Southeast Alaska

Objectives

1. Document the location, size, and species composition of seabird colonies and marine mammal rookeries.
2. Complete a thorough census of the breeding birds of St. Lazaria Island.
3. Develop a method for monitoring the size of storm-petrel breeding populations at St. Lazaria and Petrel islands.

Effort

One hundred and eight days in the field (274 person-days) in 1981 and 1982; surveyed 2000+ km of shoreline.

Findings

1. Ninety-one colonies were located, containing a total of 1.9 million breeding seabirds (previously, only 29 colonies and 1.2 million breeding birds were known from this area).
2. Storm-petrels make up 68% of all breeding seabirds.
3. Six of the seven dominant species are burrow nesters.
4. Extensions of breeding range were documented for the black-legged kittiwake and thick-billed murre.
5. A stratified random sampling scheme using 4m² plots estimated the size of the storm-petrel breeding populations to within + 10-20% (304,000 birds on St. Lazaria Island and 687,000 birds on Petrel Island).

Status

An administrative report of the 1981 survey was completed in October 1982 and a report of the 1982 survey was completed in December 1983.

Survey of the Breeding Seabirds of Chamisso Island and
Southern Kotzebue Sound

Objectives

1. Document the location, size, and species composition of seabird colonies and compare with previous estimates.
2. Assess changes in nesting habitat.

Effort

13 days in the field (26 person-days) in 1981.

Status

Survey data has been entered on Colony Status Records, and there has been a preliminary analyses of the data, but an administrative report remains to be written.

Technical Assistance

The following is not a comprehensive list of all technical assistance activities in which staff members have been involved. It is merely a sampling designed to illustrate the broad array of information requests we receive and to which we routinely respond.

Regional Resource Plan

Helped prepare initial list of "species of management concern," with justifications.

Provided extensive written comments on draft Regional Resource Plan.

Bristol Bay Plan

Provided information summarizing distribution and abundance of breeding seabirds in the Bristol Bay area.

Reviewed and edited narratives on seabirds.

Reviewed matrices on marine birds.

Land Exchanges

Served on a Task Force charged with developing a biological assessment of the proposed land trades with the Cook Inlet Regional Corporation and the CIRI Corporation.

Assisted Realty in finalizing the priority ratings, descriptions, and land status for 21 islands in the eastern Aleutian Islands.

Prepared a memorandum evaluating the migratory bird resources on Middleton Island to aid Realty staff and other Service personnel in their negotiations with the Chugach Native Corporation, the Federal Aviation Administration, and other interested parties.

Other Management Documents

Commented on Navarin Basin Lease Offering Draft Environmental Impact Statement.

Reviewed and commented on a draft "Non-game Migratory Bird Management Plan for the United States."

Other Activities

Monitored the activities of private industry on St. Matthew Island for the Alaska Maritime refuge.

Provide written comments on a draft of the Kodiak refuge brochure and narrative for the interpretive center.

Provided administrative support to Wildlife Operations (Assistance) in form of a Property Control Officer.

Investigated a widespread die-off of adult seabirds

Reviewed and commented on a marine sanctuaries proposal

Reviewed and commented on a proposal to study the nesting requirements of marbled murrelets in southeast Alaska.

Evaluated proposed sites for a new sanitary land fill in Anchorage, specifically from the standpoint of potential gull problems, particularly gull-aircraft collisions.

Served as regional representative for the Vulnerable Migratory Bird Species Survey.

PUBLICATIONS, REPORTS AND MANUSCRIPTS

Publications

- DeGange, A.R., and J.W. Nelson. 1982. Bald Eagle predation on nocturnal seabirds. *J. Field Ornithol.* 53: 407-409.
- Forsell, D.J., and D.R. Nysewander. 1981. Breeding distribution and nocturnal habits of whiskered auklets in the eastern Aleutian Islands. *Pacific Seabird Group Bull* 8: 103 (Abstract only).
- King, J.G., B. Conant, and J. Trapp. 1982. Comparison of air and surface counts of wintering waterfowl in a southeast Alaska bay. *Pacific Seabird Group Bull* 9: 73 (Abstract only).
- Lehnhausen, B., and J. Nelson. 1982. An attempt to monitor storm-petrel populations in southeast Alaska. *Pacific Seabird Group Bull* 9: 73 (Abstract only).
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- Sowls, A.L., A.R. DeGange, J.W. Nelson, and G.S. Lester. 1980. Catalog of California seabird colonies. U.S. Fish and Wildlife Service, FWS/OBS-8037. 371 pp.
- Trapp, J.L. 1980a. Avian pox in the gray-crowned rosy finch in Alaska. *North Amer. Bird Bander* 5: 146-147.
- Trapp, J.L. 1980b. (Book Review) Status and distribution of Alaska birds. *Canadian Field Nat.* 94: 349.
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- Trapp, J.L., M.A. Robus, G.J. Tans, and M.M. Tans. 1981. First breeding record of the sora and American coot in Alaska with comments on drought displacement. *Amer. Birds* 35: 901-902.

Reports

- Baird, P.A., and P.J. Gould (eds.). 1983. The breeding biology and feeding ecology of marine birds in the Gulf of Alaska. Unpublished Administrative Report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 350 pp. (Submitted as a final report to the Outer Continental Shelf Environmental Assessment Program, Juneau, Alaska).
- Baird, P.A., and D.J. Shields (edited by J.L. Trapp). 1982. Reproduction ecology of seabirds at Middleton Island, Alaska (with notes on other species): 12-17 August 1981--Trip Report. Unpublished Administrative Report, U.S. Fish and Wildlife Service, Anchorage, Alaska.
- Gould, P.J., and D.R. Nysewander. 1982a. Reproductive ecology of seabirds at Middleton Island, Alaska: 14-24 June 1982--Trip Report. Unpublished Administrative Report, U.S. Fish and Wildlife Service, Anchorage, Alaska.
- Gould, P.J., and D.R. Nysewander. 1982b. Reproductive ecology of seabirds at Middleton Island, Alaska: summer 1982. Unpublished Administrative Report, U.S. Fish and Wildlife Service, Anchorage, Alaska.
- Gould, P.J., and D.R. Nysewander. 1983. Reproductive ecology of seabirds at Middleton Island, Alaska: 15-24 June 1983--Trip Report. Unpublished Administrative Report, U.S. Fish and Wildlife Service, Anchorage, Alaska. 24 pp.
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THE FUTURE

The roles and responsibilities of the Marine Bird Management Project are not anticipated to change greatly over the next 10 years. We will continue to emphasize managing populations of seabirds. This will be accomplished by means of planning, surveys and inventories, population monitoring, banding, and baseline studies. We will also continue to disseminate information on seabirds and provide a wide array of technical support to Refuges, Ecological Services, other federal and state agencies, private consultants, universities, and the general public.

It is anticipated that the Alaska Maritime refuge, with eventual expansion of their biological staff to full strength, will gradually assume a more active role in conducting surveys and inventories on the refuge. The build-up of a refuge staff having individuals knowledgeable about seabirds could conceivably diminish the need for a separate project devoted exclusively to the management of Alaskan marine birds. However, if the Fish and Wildlife Service ever hopes to develop a set of meaningful information on marine bird population trends, it is essential that data gathering efforts transcend the artificial boundaries of refuges, states, and other political entities.

We propose that the geographical area of responsibility of the Marine Bird Management Project be extended to include the entire Pacific Coast. Major responsibilities would be to standardize census techniques, coordinate survey and inventory activities along the entire Pacific Coast, prepare synthesized summaries of all population monitoring efforts, and develop and maintain data bases such as the seabird Colony Catalog--Archives. The role of the expanded project, and its functional and organizational relationship to other projects and divisions within the Fish and Wildlife Service, would be similar to that of the Office of Migratory Bird Management's Branch of Surveys. Eventually it would be desirable to expand the scope of the project to also include Atlantic Coast and Gulf Coast marine bird population.

These proposed organizational changes are merely conceptual at this time. However, we feel that it reflects the direction in which the Fish and Wildlife Service should proceed in order to develop a coordinated, integrated, and responsible marine bird management program. The concept is presented here to stimulate thought and discussion, and hopefully change which will benefit the Nation's marine bird resource.

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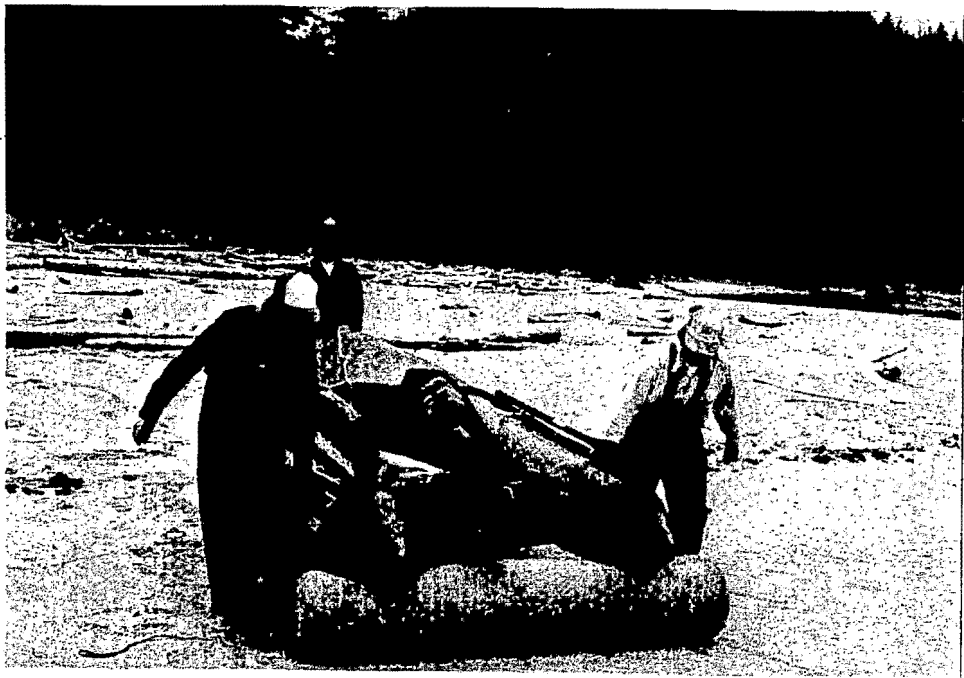
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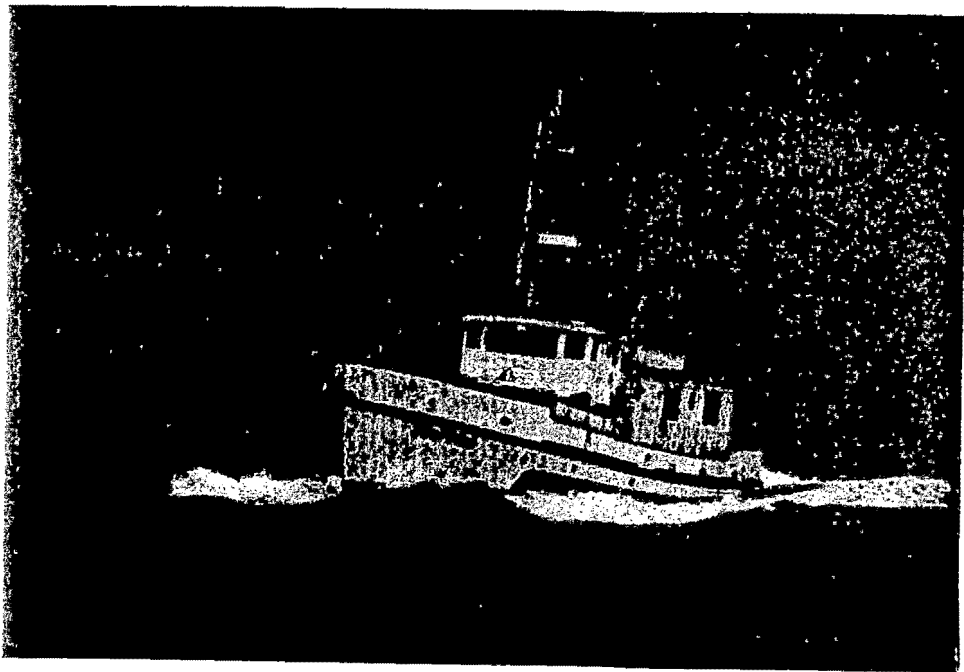
CREDITS

This report was written by John L. Trapp with the assistance of David B. Irons, David R. Nysewander, Arthur L. Sows, and M. Michele Vacca. Photographs were contributed by Daria O. Carle (Fig. 5), David B. Irons (Fig. 3a), Lynne Krasnow (Fig. 4c), David R. Nysewander (Frontispiece, Figs. 3c-d and 4a), and Arthur L. Sows (Figs. 1a-c, 2a-b, 3b and 4b). The report was typed by Michonna Brooks, Carol Gibson and Patricia Heglund.

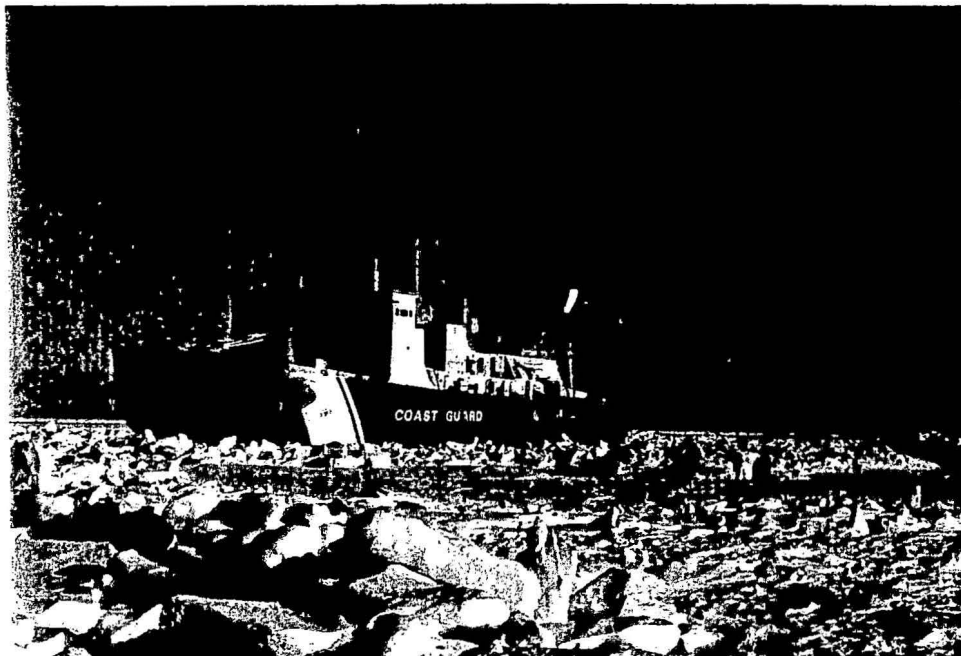
Figure 1. Transportation and logistical support is provided by a variety of watercraft, ranging from



a. highly portable, inflatable rubber rafts to

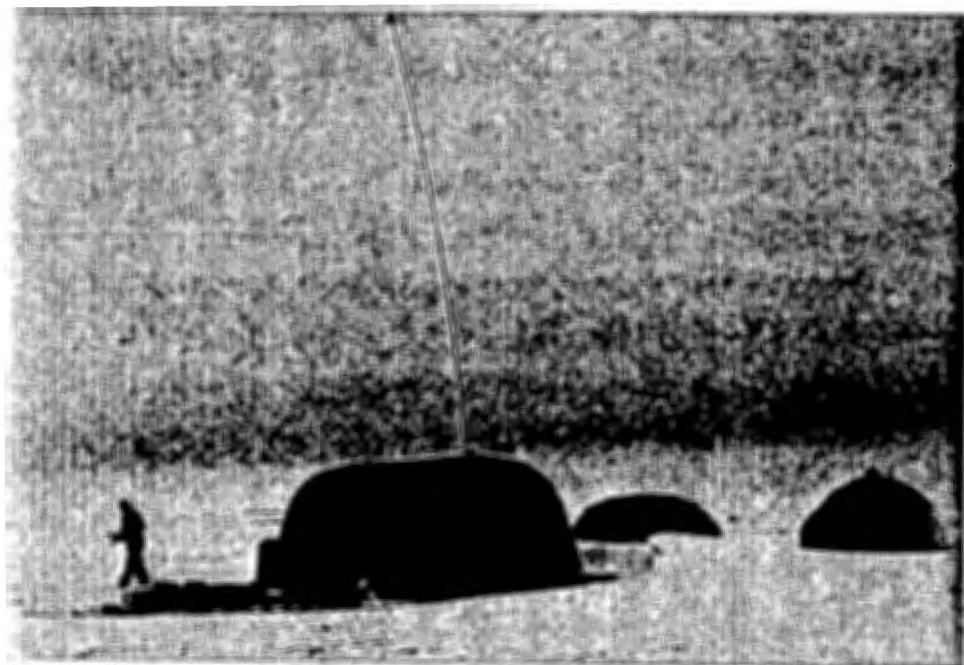


b. the 65-ft U.S. Fish and Wildlife Service vessel Surfbird, shown here off the coast of southeast Alaska, to

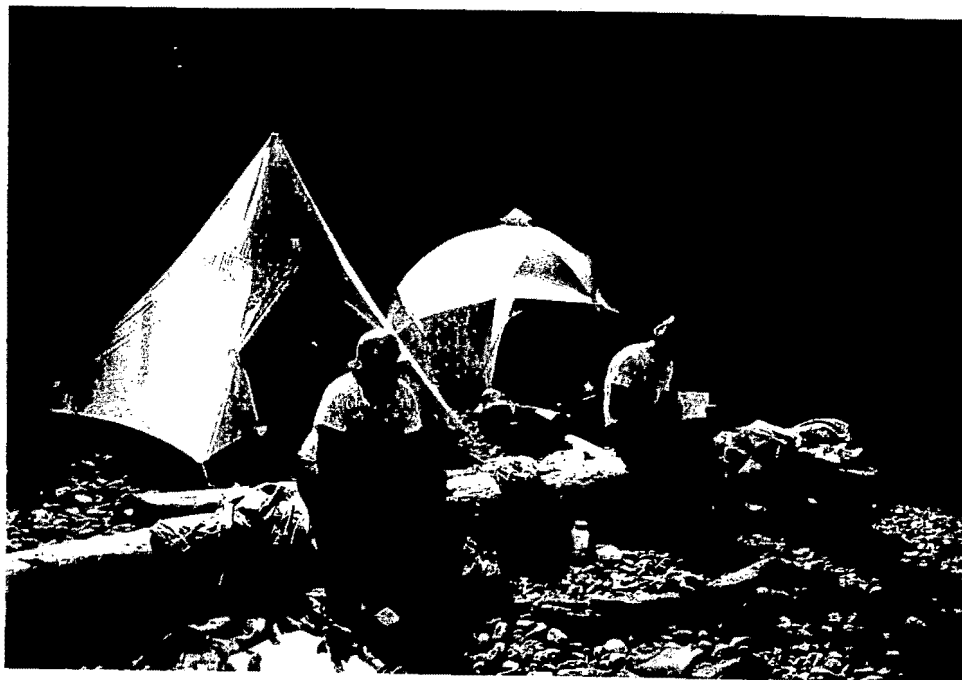


- c. ships such as the U.S. Coast Guard's Icebreaker Polar Star, shown here in the pack ice of the northern Bering Sea.

Figure 2. Field camps, which may be occupied for a few days or several months provide shelter from the elements but few amenities, as illustrated by

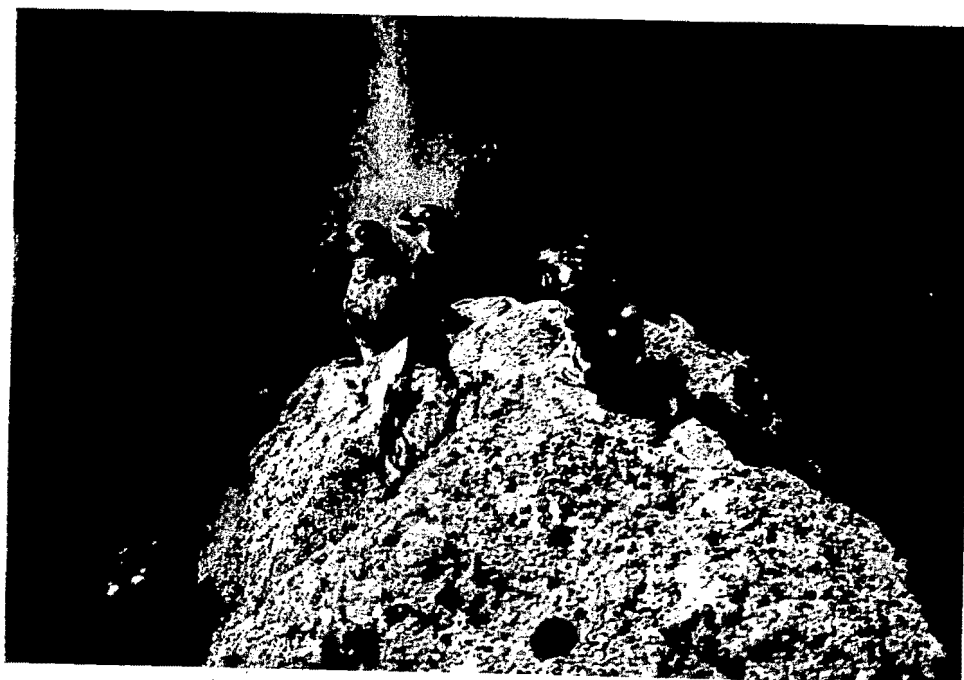


- a. this semi-permanent camp located at Big Lake, St. Matthew Island

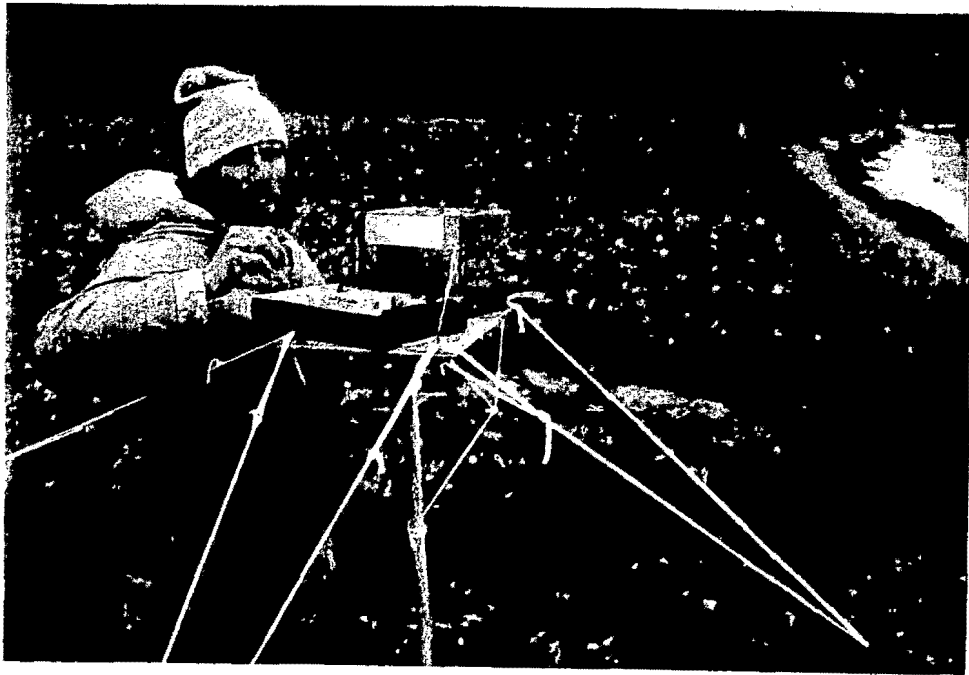


b. and this temporary toe-hold on St. Lazaria Island.

Figure 3. Staff members routinely modify or improve existing census techniques to fit special situations, such as



a. mark-recapture method to census crevice-nesting auklets, . . .



b. time-lapse photography for monitoring attendance patterns of auklets and other difficult-to-count species,



c. and plot sampling schemes for burrow nesting species such as tufted puffins

- d. and nocturnal species such as fork-tailed storm-petrels . . .



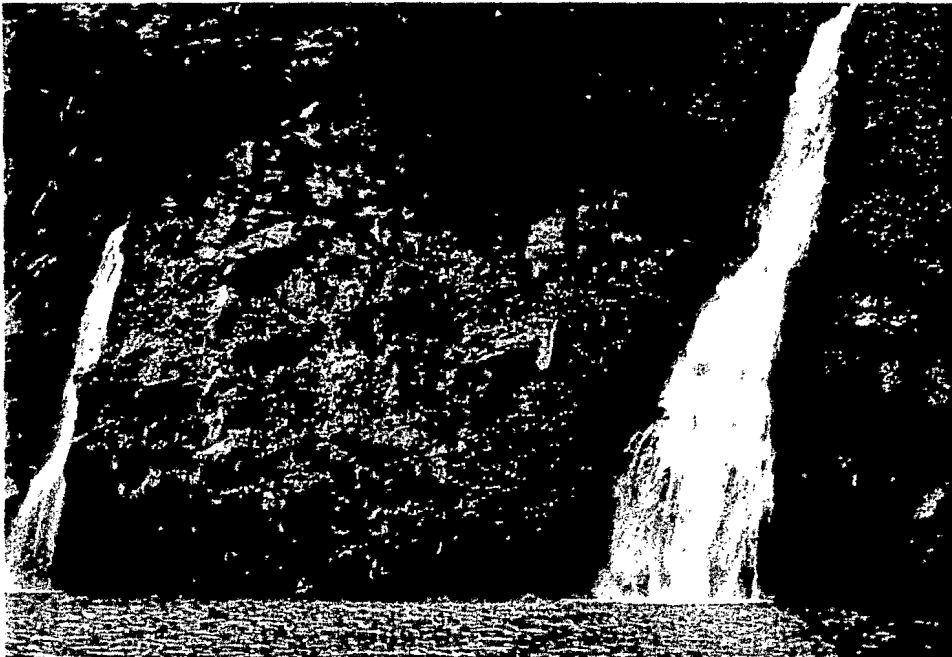
Figure 4. Plots establishing long-term trends in breeding populations and productivity of marine birds have been established at various locations, such as



- a. Middleton Island for pelagic cormorants and black-legged kittiwakes, and common murre--breeding habitat at Middleton was greatly altered by the Good Friday earthquake in 1964; . . .



- b. Lake Louise and Skilak Lake for double-crested cormorants and herring gulls--the Lake Louise cormorant colony has remained remarkably stable over the years; and



- c. Various localities in Prince William Sound for black-legged kittiwakes-- the colony at Whittier is perhaps viewed by a greater number of tourists than any other colony in the state.



Figure 5. Standard pelagic transects are routinely conducted by staff members while enroute to remote study sites--a gathering of shearwaters in Unimak Pass, Aleutian Islands (estimates anyone???)

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