

ALASKA PENINSULA/BECHAROF  
NATIONAL WILDLIFE REFUGE COMPLEX

King Salmon, Alaska

ANNUAL NARRATIVE REPORT

Calendar Year 1996

U.S. Department of the Interior  
Fish and Wildlife Service  
NATIONAL WILDLIFE REFUGE SYSTEM

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REVIEWS AND APPROVALS

ALASKA PENINSULA/BECHAROF NATIONAL WILDLIFE REFUGE COMPLEX  
King Salmon, Alaska

ANNUAL NARRATIVE REPORT

Calendar Year 1996

Russell E. Hood  
Refuge Manager

9/11/97  
Date

Jeffrey M. [Signature]  
Chief, Division of Refuges

1/14/98  
Date

A. R. [Signature] KRD  
Regional Office Approval

1/20/98  
Date

## INTRODUCTION

The refuges within the Alaska Peninsula/Becharof National Wildlife Refuge Complex (Complex) were established by the Alaska National Interest Lands Conservation Act of 1980 (ANILCA). The Becharof Refuge contains approximately 1.2 million acres. Approximately 400,000 acres is designated the Becharof Wilderness. The Alaska Peninsula Refuge boundaries encompass about 4.3 million acres of land -- an area bigger than the State of Connecticut. Stretching for nearly 340 miles along the Alaska Peninsula, the refuge is subdivided into the Ugashik, Chignik, and Pavlof units. The Alaska Peninsula Unit of the Alaska Maritime Refuge includes all federally owned islands, sea stacks, columns, and rocks along the Pacific Coast of the Alaska Peninsula. Seal Cape (8,200 acres) is the only portion of the unit located on the mainland. The Becharof Refuge, the Ugashik and Chignik units, and Seal Cape are included in the Complex (Figures 1 - 3).

The purposes for the refuges in the Complex were established by ANILCA. Becharof Refuge purposes include: (I) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, brown bears, salmon, migratory birds, the Alaska Peninsula caribou herd and marine birds and mammals; (ii) to fulfill international treaty obligations of the United States with respect to fish and wildlife and their habitats; (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (I) and (ii), the opportunity for continued subsistence uses by local residents; and (iv) to insure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (I), water quality and necessary water quantity within the refuge. [ANILCA 302(2)(B)] The Alaska Peninsula Refuge purposes add, "...brown bears, the Alaska Peninsula caribou herd, moose, sea otters and other marine mammals, shorebirds and other migratory birds, raptors, including bald eagles and peregrine falcons, and salmonids and other fish". [ANILCA 302(1)(B)] Species mentioned in the ANILCA specific to Seal Cape, Alaska Maritime Refuge include, "...marine mammals, marine birds and other migratory birds, the marine resource upon which they rely, bears, caribou, and other mammals". [ANILCA 303(1)(B)]

Becharof Lake, its tributary streams, the Ugashik lakes, Black Lake, King Salmon rivers (2), Dog Salmon River, Meshik River and Chignik River provides nursery habitat necessary for the five species of salmon that spawn in the Complex. A major component of the multi-million dollar salmon industry in Bristol Bay originate in Complex waters. Dolly varden, arctic grayling, rainbow trout and other fish are found in refuge streams.

The Complex's fauna includes a very large population of brown bears (estimated at over 3000 bears). Moose inhabit the area in moderate numbers and over 15,000 caribou use Complex lands for calving, insect escape habitat, migration and wintering. Other animals found include wolves, foxes, wolverines, and lynx. Sea otter, sea lions and harbor seals inhabit the shorelines as do nesting bald eagles, peregrine falcons, and thousands of seabirds on the rocky sea cliffs of the Pacific coast

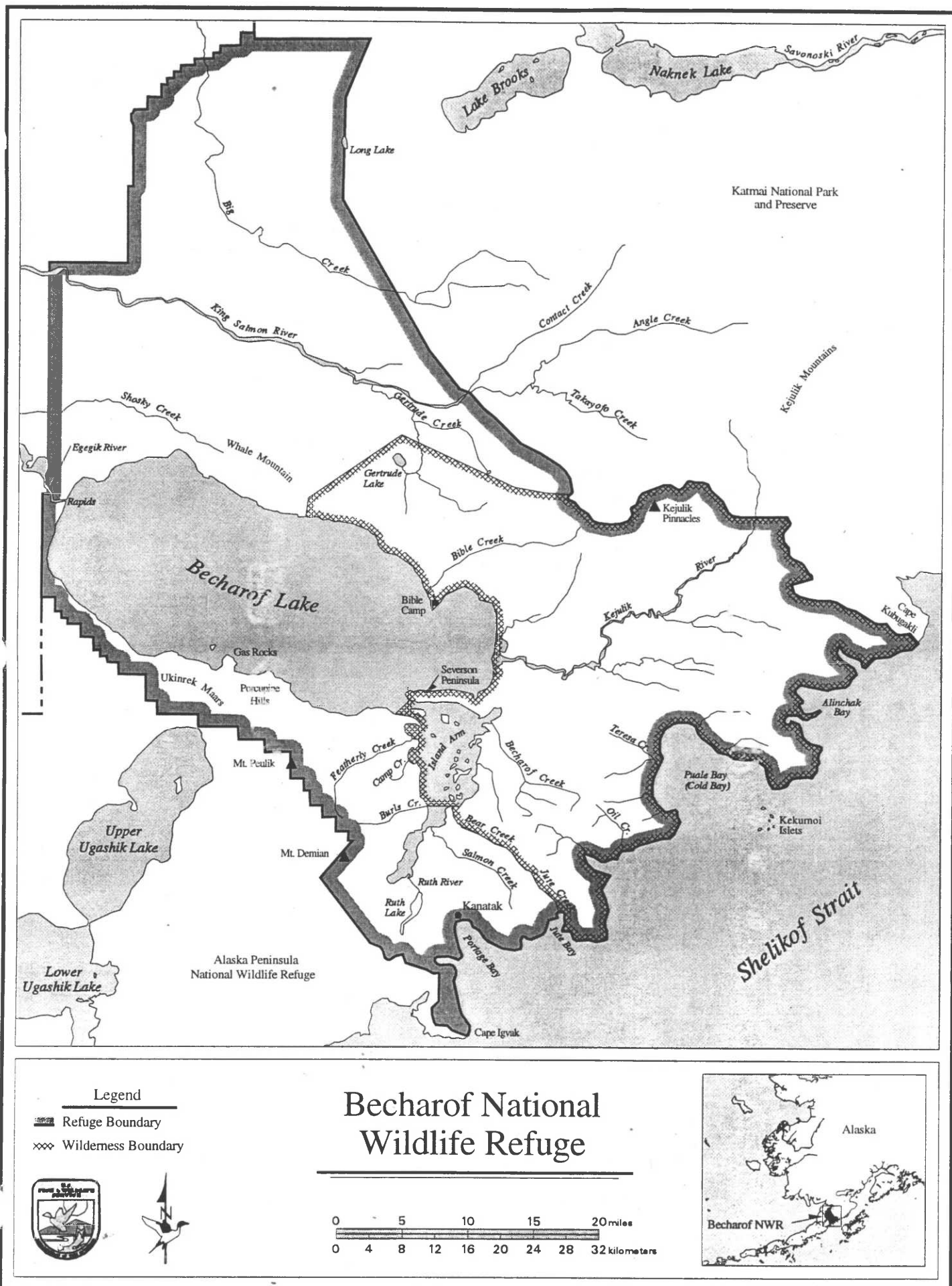


Figure 1. Becarof National Wildlife Refuge

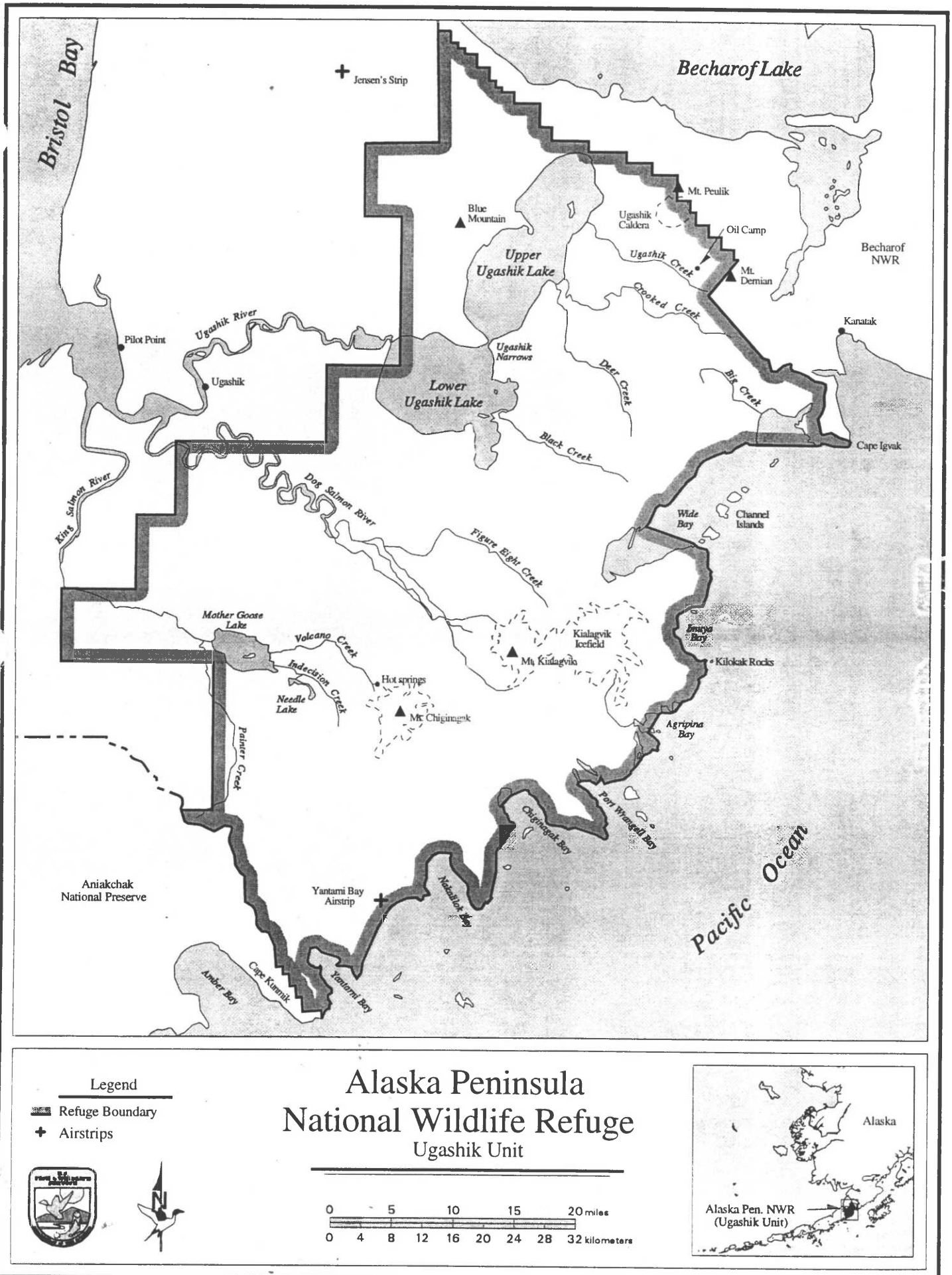
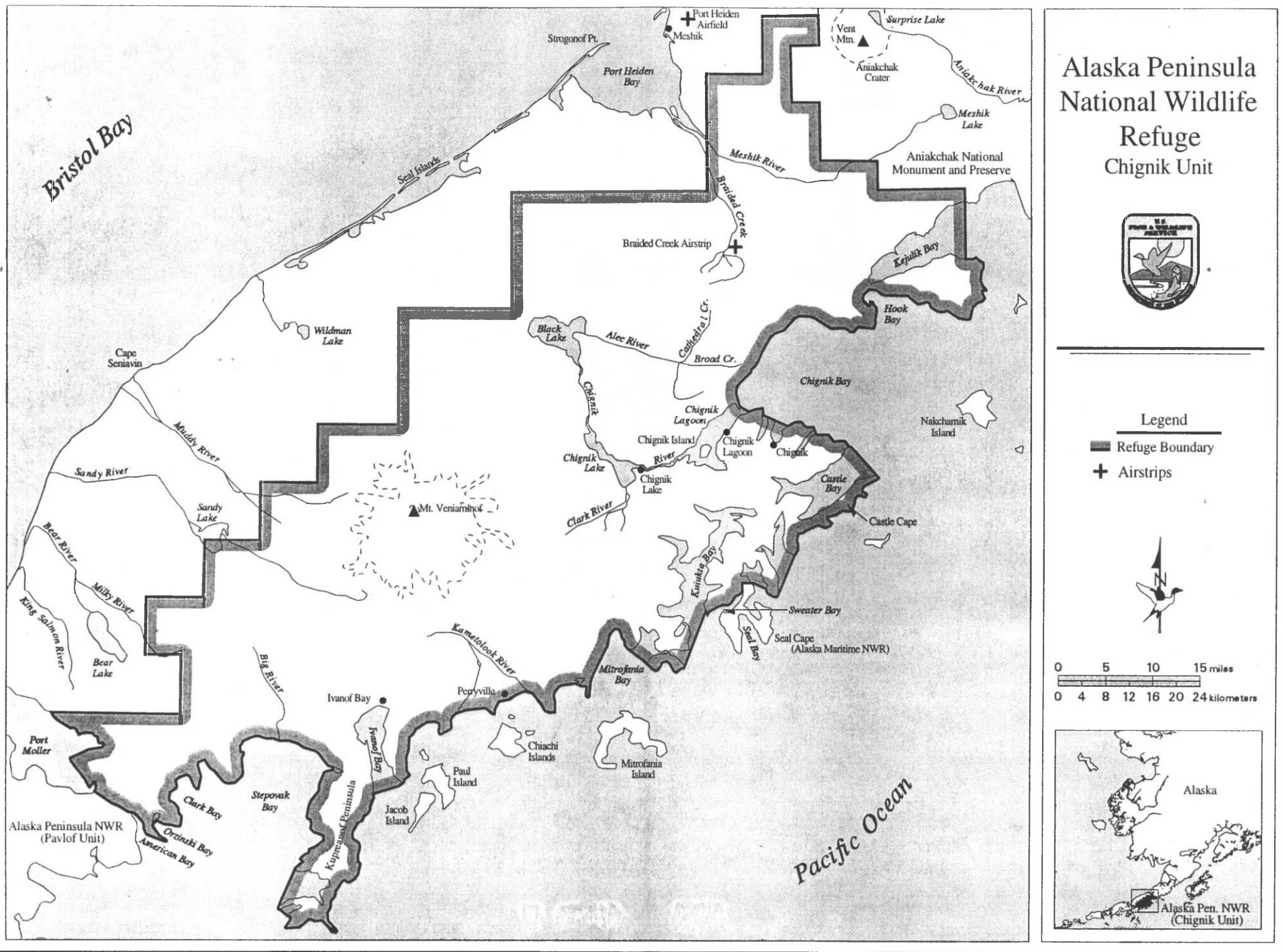


Figure 2. Ugashik Unit, Alaska Peninsula National Wildlife Refuge

Figure 3. Chignik Unit, Alaska Peninsula National Wildlife Refuge.



(725 miles of shoreline). Nesting, migrating, and wintering waterfowl found on wetlands, lakes, and streams throughout the Complex include tundra swan, greater white-fronted goose, emperor goose, mallard, northern pintail, American wigeon, greater scaup, and harlequin duck.

The Complex is superimposed over the rugged Aleutian Mountain Range. This volcanic mountain range contains numerous peaks that rise above 6,000 feet elevation. This creates a Pacific coast that is rocky and heavily fjorded. The Complex contains numerous volcanoes known to have erupted since 1760. They are part of a chain of volcanoes that rim the Pacific Ocean known as the "Ring of Fire". Mt. Veniaminof in the Chignik Unit has been designated as a National Natural Landmark (800,000 acres).



Ruth Lake, Becharof NWR.

6/96, DAD

The Alaska Peninsula is world famous for big game hunting. The Complex is sub-divided into 23 big game guide-outfitter use areas with 29 special use permits issued for conducting big game guiding activities within these areas. The Complex must manage a large, and often controversial, sport hunting program that balances the needs of unguided and guided sport hunters with the needs of subsistence users.

About 3,100 local residents live in 12 villages on or immediately adjacent to the Complex. The day-to-day human activities on the Complex, many of which have deep cultural traditions, pose issues and demands that require sensitive considerations and innovative approaches to refuge administration.

The Alaska Peninsula/Becharof Refuge Complex is an undisturbed continuum of sub-arctic ecosystems. A mission of the Complex is to preserve and maintain these systems in their original state, allowing for natural processes to continue with minimal disturbance. Management is responsible for protecting and enhancing fish and wildlife and habitat resources, and for assuring that objective and policies are met through program planning, evaluation, supervision and coordination.

#### A. HIGHLIGHTS

- EE programs presented at various village schools (Section H.2.).
- New lichens discovered for Alaska and Alaska Peninsula (Section F.).
- Certification of Inspection & Possession completed on Ugashik Unit lands (Section C.1.).
- Interactive computer-driven information kiosk goes on-line at visitor center. (Section H.6.).
- Spring waterfowl hunting causes FWS uproar (Section K.).
- Goose calendar prizes awarded to local students at public ceremony (Section H.2.).
- Final Public Use Regulations for the Complex were published in the Federal Register (Section D.2.).
- United States vs. George F. Gottschalk, Jr.-- GUILTY! (Section H.17.).
- A booming fall songbird migration breaks all previous catch records with 4,140 new birds banded in only 1,920 net hours, at Mother Goose and Becharof Lake Field Camps (Section G.7.).
- OOPS, 500 gallon heating oil spilled underground (Section I.8.).
- Regional Director David Allen issues final decision big game guide-outfitter's appeal (Section H.17.).

## B. CLIMATIC CONDITIONS

### 1. General

The upper Alaska Peninsula is characterized by polar maritime climate with moderate temperatures, protracted cloud cover, frequent precipitation and high winds.

Large atmospheric differences between interior Alaska and the Pacific Ocean and Bering Sea are the dominate influences on weather. Pacific Ocean and Bering Sea winds with high moisture content blow frequently across the upper peninsula forming fog and clouds which develop into precipitation. High winds and turbulence are especially common near the rugged terrain. The heaviest precipitation occurs on the Pacific Ocean side of the Complex. The Bering Sea side enjoys more clear weather but lower average temperatures. From fall to spring, the skies are clear to partly cloudy 40 percent of the time. In summer, this occurs only 20 percent of the time. King Salmon averages 50 clear days per year.

Precipitation varies with elevation and distance from coasts. Less than 20 inches of precipitation falls annually on the western lowlands, while as much as 160 inches falls on the Pacific side of the Complex.

Temperatures are generally moderate throughout the year. Daily maximum temperatures may exceed the freezing mark in all months while daily minimum temperatures drop below freezing on approximately one-half the days of the year. The King Salmon temperatures average 12° Fahrenheit (F) in December, the coldest month, and 54° F in July, the warmest month. Extremes range from -48 to 88° F.

Daily winds average 10 to 15 miles per hour (mph). However, most months have peak winds from 40 to 70 mph with the extreme being 94 mph.

At King Salmon the dangerous effects of wind chill can be dramatic. Interior Alaska is known for low winter temperatures and the Aleutian Islands for high winds; however, when climatic influences of each area meet on the upper Alaska Peninsula, the wind chill factor may exceed -120° F.

**January - March:** January and February exhibited near normal temperatures, while March was warmer than normal. Temperatures fluctuated from the minus teens to the high 40's during January and February. Precipitation was below normal for the period with a very low snow pack in the local mountains. The low temperature for the period occurred on January 11th with temperatures dipping to -22° F while the high temperature of 55° was recorded on March 28th. During March there were record daily high temperature readings exceeded on six days and record highs tied on two others.

The Naknek River broke up early this year, an open lead in the middle of the channel had reached King Salmon by the 7th, by months end the Naknek was completely open. Mergansers arrived with the first open water on the

Naknek and by month's end the swans and ducks began to arrive.

Table 1. Weather Highlights of 1996.

Highest temperature	79° F.	June 1
Lowest temperature	-22° F.	February 11
Highest 24 hr rainfall	.88 inches	Sept. 24-25
Total precipitation	15.81 inches	N/A
Highest 24 hr snowfall	2.7 inches	December 14-15
Total snowfall	34.1 inches	N/A
Highest Sea-level pressure	30.98	October 27
Lowest Sea-level pressure	28.53	December 3

**April - June:** The period exhibited warmer and generally drier conditions than normal. June's precipitation was .83 inches above normal, however the overall drier weather experienced in the previous six months kept water levels in the rivers at record low levels.

The last snowfall of the season occurred on June 11th when 0.3 inches of snow fell at King Salmon. This cool weather slowed down growth in local gardens with the effects felt in much lower crop yields.

The high temperature of 79° F occurred on June 1st while the low temperature of 6° F occurred on April 7th.

**July - September:** Temperatures were near normal during this period with precipitation below normal. These drier than normal conditions kept water levels at near record low levels during the entire season limiting access to the major lakes and rivers on the refuge.

The high temperature of 77° F. occurred on July 3rd while the low of 22° F. was recorded on September 28th.

**October - December:** Temperatures were cool, warm, cold during this period. By the middle of October, most of the smaller streams in the King Salmon

area had frozen over. Temperatures began to rise in November and by mid month most of the streams and rivers were running free of ice. Temperatures began to fall towards the end of November becoming very cold during the first week of December. These conditions coupled with the snow that fell and remained on the ground during all of December made for easy snowmachine access to the Big Creek area of the refuge for the December moose hunt.

The high temperature of 56° F occurred on October 5th while the low of -20° F was recorded on December 7th.

### C. LAND ACQUISITION

#### 1. Fee Title

**Guild T&M Application.** On February 22, Refuge Manager (RM) Ronald Hood and Chief of Realty Sharon Janis met with Bureau of Land Management (BLM) representatives and Solicitor's Office Attorney Bob Mothershead to discuss the Trade and Manufacturing (T&M) Site application of Mr. Bernard Guild (AA-8433) for lands within the Becharof NWR. The Becharof Corporation (Village of Egegik) has appealed a BLM decision of June 15, 1993, dismissing protests to BLM's published intent to patent Mr. Guild's claim, to the Interior Board of Lands Appeals (IBLA). We believe that a fatal flaw in Guild's application was identified in the Becharof Corporation's protest; i.e., Mr. Guild did not prove up his claim before the lands were closed by Public Land Order (PLO) 5388 of September 14, 1973, which withdrew and reserved the area containing the applied for lands for study and classification. This issue had been identified early on in BLM's files, but had been overlooked at critical decision points. It was agreed at this meeting that Mr. Mothershead would file a brief with IBLA requesting that this issue be remanded to an Administrative Law Judge (ALJ) for a decision on the validity of the claim.

On October 9, 1996, BLM forfeited 11 mining claims (two placer, nine lode) held by Richard Jenson because no maintenance fee or waiver of payment was timely received by BLM for assessment year 1997 (began September 1, 1996). This leaves only three claims on the Braided Creek watershed out of more than 60 present in 1980. A significant threat to the Meshik River fishery has been removed (thanks to low gold prices in the last decade).

**Subsurface.** In April, RM Hood completed a CERTIFICATE OF INSPECTION AND POSSESSION (CIP) of 68,438 subsurface acres within the Ugashik Unit of the Alaska Peninsula Refuge and Aniakchak Preserve. The Service acquired oil and gas rights only (deed recorded 4-29-96). We acquired the surface estate in 1993. These rights were acquired from The Trust for Public Lands who had purchased them from Koniag, Inc.

A major land exchange proposal was approved by Congressional action this session. This Act (Section 303 of HR 4236) directs the Secretary of

Interior to enter into negotiations for an agreement to exchange Federal lands or interests therein in Alaska for 275,000 acres of Koniag, Inc., selections of oil, gas and associated sand and gravel used for exploration and development in Alaska Peninsula and Becharof refuges and Aniakchak National Monument and Preserve.

**Mining Claims.** On July 2, RM Hood participated in a teleconference with Sharon Janis, Chief of Realty, and Bureau of Land Management (BLM) Adjudicators Bob Merrill and Evvie Panches and Mining Engineer Bob Fisk to initiate the process of performing a mineral validity determination on the 16 remaining unpatented mining claims (14 lodes, two placer) on Braided Creek, Chignik Unit, Alaska Peninsula Refuge. Our goal is to have the claims vacated and remove the threat to the Meshik River/Braided Creek salmon fisheries.

**Other.** RM Hood reviewed the ranking for small inholding parcels on the Alaska Peninsula Refuge with Tom Gerlach of Realty on March 20. Funds are available to make some limited purchases; but they need to be obligated before they are lost to the roving eye of Washington Office (WO) program managers. An offer will be made on the Ugashik Narrows parcel (ranked No. 1 and appraisal completed) and notices of interest sent to the owners of the top five ranking parcels.

The Bureau of Indian Affairs (BIA) appraised an additional parcel within the Ugashik Unit targeted for acquisition by the refuge. In addition, the Service is appraising a small parcel along the eastern coast of the peninsula for possible purchase. This parcel is both currently listed for sale through Kodiak Realtors. On August 13, Realty Specialist Steve Shuck and Review Appraiser Carl Rasmussen were flown to the Ugashik Unit by Airplane Pilot (AP) Bill Smoke in the C-206, 32PX, to review the Native allotment.

## 2. Easements

Nothing to report (NTR).

## 3. Other

NTR

# D. PLANNING

## 1. Master Plan

The comprehensive conservation plans (CCPs) for the Complex are scheduled for review, consolidation, and revision beginning in FY 1997. The initial staff meeting to begin the process was held in King Salmon on December 9 and 10.

Attending was Refuge Planner (RP) Helen Clough, RM Ronald Hood, DRM Rick Poetter, WB Donna Dewhurst, WB Heather Moore, RR Angie Terrell-Wagner, RR

Orville Lind, RP Bill Smoke, RIT Shirley Kelly, RIT John Knutsen, KSFRFB Jeff Adams, and MW Gary Terry. Helen led a thorough review of ANILCA requirements, sections of current CCPs, results of Helen's comparative review of these documents, identification of new information and new issues, and identification of public involvement needs, planning schedule and assignments.

On December 11 and 12, the planning team drafted preliminary goals and objectives for the Complex. Public Involvement Specialist Bob Stevens and RP Clough facilitated a productive meeting that resulted in a thorough set of goals and objectives being produced.

## 2. Management Plan

**Cultural Resources Plan.** The final "Guide for Managing Cultural Resources" on the Complex was received on May 13. The document was prepared by Debra Corbett, Archaeologist, and Maggi Arend, Refuge Planner. The guide is designed to assist the Complex staff in meeting the legal requirements to protect and manage the cultural resources of the refuges.

**Land Protection Plan.** On May 23, Realty personnel made initial contact with the Refuge Manager concerning initiating planning on a Land Protection Plan to be completed in 1997.

**King Salmon Administrative Site Facility Plan.** Development of a "facility plan" for the King Salmon Administrative Site took a positive step forward when Architect Harland Anderson and Civil Engineer John Harris, Division of Engineering, visited the site on June 24 to 26 to examine proposed projects to determine feasibility, prepare as-builts for several buildings not in their records, and to prepare cost estimates for MMS and construction projects. Concurrently, Civil Engineer Mike Milhollin and Construction Representative Tom Egan conducted an extensive survey of the site to determine exact locations and elevations for the site. They completed their work on the 28th.

**Refuge Regulations.** Public Use Planner Helen Clough drafted final public use regulations with only editorial corrections from the draft. The final PUMP regulations were mailed to the Washington Office on January 12, 1996. They were surmised by the Regional Solicitor and the necessary Regional Directorate with no problem. The public use regulations package went to the Secretary's Office on February 12, 1996 for signature. Final Public Use Regulations for the Alaska Peninsula/Becharof National Wildlife Refuge Complex were published in the Federal Register, Vol. 61, No. 113, on Tuesday, June 11, 1996. This final rule is effective July 11, 1996. Highlights of the rule included defining the Complex (50 CFR Part 36.39(c)(1)); defining subsistence and other use of off-road vehicles (ORVs) on the Complex (36.39(c)(2)); establishing camping limits at selected locations (36.39(c)(3)); and requiring special use permits for all temporary facilities and establishing prohibited use zones (36.39(c)(4)). This culminates a planning effort that started in 1989. And these are the first published final rules for an ANILCA established refuge!

The final regulations follow.

The U.S. Fish and Wildlife Service amends Part 36 of Chapter I of Title 50 as follows:

PART 36 -- [AMENDED]

1. The authority citation for Part 36 continues to read as follows:

Authority: 16 U.S.C. 460(k) et seq., 668dd et seq., 742(a) et seq., 3101 et seq., and 44 U.S.C. 3501 et seq.

2. Section 36.39 is amended by adding paragraph (c) (1)-(4) as follows:

§36.39 Public Use \* \* \* \* \*

(c) Alaska Peninsula/Becharof National Wildlife Refuge Complex.

(1) The Alaska Peninsula/Becharof National Wildlife Refuge Complex includes the Becharof National Wildlife Refuge, the Chignik and Ugashik Units of the Alaska Peninsula National Wildlife Refuge and the Seal Cape Area of the Alaska Maritime National Wildlife Refuge.

(2) Off-Road Vehicles.

(i) Off-road vehicles operated on the refuge complex under §36.12(a), §36.39(c)(2)(ii) or §36.39(c)(2)(iii) are limited to three or four-wheeled vehicles with a maximum gross weight of 650 pounds as listed by the manufacturer.

(ii) The following trails are designated for off-road vehicle use: Yantarni Bay Airstrip; Yantarni Bay Airstrip to beach trail; and Yantarni Bay Airstrip to oil well site trail. Maps of the above areas are available from the Refuge Manager.

(iii) Subject to the weight and size restrictions listed in (i) above, subsistence use of off-road vehicles, as authorized by 50 CFR 36.12 (a) is allowed throughout the Alaska Peninsula/Becharof National Wildlife Refuge Complex.

(3) Camping is permitted on the Alaska Peninsula/Becharof National Wildlife Refuge Complex subject to the following restrictions:

(i) No permanent improvements may be made to campsites without a special use permit. All materials brought on to the refuge complex must be removed upon cessation of camping unless authorized by a special use permit.

(ii) Other than reserved sites authorized by special use permits, camping at one location is limited to seven consecutive nights from August 1 through November 15 within 1/4 mile of the following waters: Becharof Lake in the Severson Peninsula area (Island Arm); Becharof Lake Outlet; Ugashik Narrows; Big Creek; Gertrude Lake; and Gertrude Creek between Gertrude Lake and the King Salmon River. Maps of the above areas are available from the Refuge Manager.

(iii) Tent camps must be moved a minimum of one mile following each seven-night camping stay during the periods specified above. The above camping limits do not apply to subsistence users except at Big Creek where they apply to all refuge complex users.

#### (4) Temporary Facilities.

(i) New temporary facilities may be authorized on the Alaska Peninsula/Becharof National Wildlife Refuge Complex by special use permit only.

(ii) Except for administrative or subsistence purposes, new temporary facilities are prohibited within 1/4 mile of the Becharof Lake shoreline.

(iii) Except for administrative purposes, new temporary facilities are prohibited in the following areas: within 1/4 mile of the shorelines of Gertrude Lake and Long Lake; within 1/4 mile of the airstrip on the south side of the King Salmon river approximately 1/2 mile above the confluence of Gertrude Creek and the King Salmon River; within 1/4 mile of the shoreline of Upper and Lower Ugashik lakes; within 1/4 mile of the shoreline of Becharof Lake outlet; and within 1/4 mile of the shoreline of Big Creek. Maps of the above areas are available from the Refuge Manager.

### 3. Public Participation

Refuge Regulations. See above discussion on refuge regulations.

### 4. Compliance with Environmental Mandates

NTR

### 5. Research and Investigations

**Nesting Ecology of Marbled Godwits on the Alaska Peninsula.** Graduate student Angela Mehall-Niswander of Oregon State University completed her Master's research project entitled "Habitat Use Patterns of Marbled Godwits (*Limosa fedoa beringiae*) Breeding on the Alaska Peninsula" during May through July of this year. Study sites included a spring staging area in

the Cinder River Lagoon, along Bristol Bay and the known breeding areas between the Dog Salmon River and Mother Goose Lake. Details of the study are found in a progress report dated August 14, 1996.

## 6. Other

### **Ecosystem Management.**

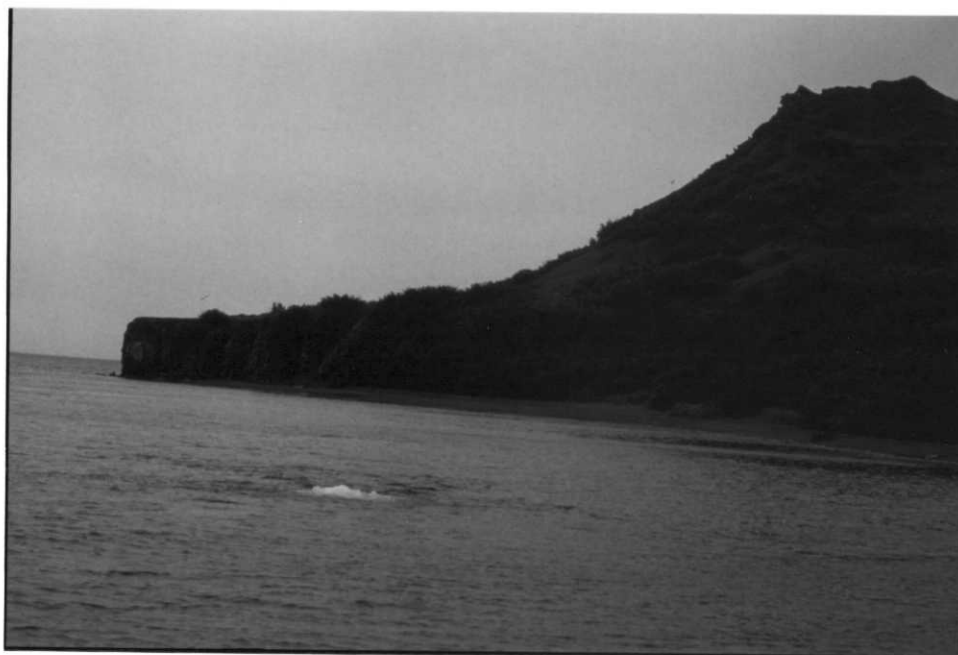
#### **BECHAROF LAKE ECOSYSTEM PROJECTS -- FUNDED IN FY 1996**

- 1) **Project:** Becharof Lake Drainage Hydrologic Investigation  
**Partners:** King Salmon Fishery Resources Office (KSFRO); Refuge Complex; Water Resources Branch, Division of Realty [Keith Bayha]  
**Funds:** Ecosystem, \$20,000; KSFRO, in kind; Water Resources Branch, in kind; Refuge Complex, in kind  
**Status:** Five year study initiated; gages installed on the Egegik and King Salmon Rivers  
**Comments:** We reviewed the cost estimates provided in "Plan of Study: Hydrologic Investigation, Egegik River Watershed, Becharof National Wildlife Refuge" dated August 1995; base and project cost figures used to develop estimates; information actually needed to evaluate in stream flow requirements; the five-year discharge record required for a complete statistical analysis; the number of annual visits required for each station; and prospects for out-year funding for the minimum five-year study. As-a-result, Option A, the minimum effort that affords identification of water yield and seasonal and annual variation by measuring water leaving the Becharof Lake and King Salmon River sub-watersheds was selected for funding. Field work done by Mitch Linne.
  
- 2) **Project:** Continue Baseline Terrestrial Studies: Songbirds, Avian Predators, Small Mammals and Vascular Plants  
**Partners:** University of Alaska-Fairbanks; volunteers; Refuge Complex [Donna Dewhurst]  
**Funds:** Ecosystem, \$2,000; Refuge Complex, \$10,000  
**Status:** Data being compiled; draft report due  
**Comments:** The Becharof Lake Ecosystem landbird monitoring effort was moved from Ruth River to Bible Camp on July 31st/August 1st using the Complex's Cessna 206/floats. Consistent adverse weather and low bird diversity and numbers, along with rising bear numbers prompted the field camp move. At Bible Camp on Becharof Lake, the high catch rates initially overwhelmed the small crew there. To date, they've banded an equally impressive 1,645 new birds in 770 net hours, with yellow warblers and American tree sparrows dominating. As expected, Bible Camp has also caught strays from the boreal forest of Katmai National Park, to their north, with an olive-sided flycatcher, blackpoll warbler, junco and downy woodpeckers.
  
- 3) **Project:** Continue Harlequin Duck Helicopter Brood Survey  
**Partners:** Refuge Complex [Donna Dewhurst]  
**Funds:** Ecosystem, \$2,000; Refuge Complex, \$6,000

**Status:** Report completed 8/27/96.

**Comments:** A chartered Bell 206 helicopter was used on July 31st to attempt a second year's replicate of harlequin brood surveys in the mountain drainages of the Becharof Lake ecosystem. Weather conflicts limited the survey scope to the Island Arm drainages and Bible Creek. Again successful, 29 harlequin broods were documented as well as 11 merganser, 1 green-winged teal, and six mallard broods. Duck production appeared ahead of that observed in 1995, with most of the harlequin broods in age class III.

- 4) **Project:** Continue Coho Salmon Survey of the Becharof System  
**Partners:** King Salmon Fishery Resources Office; Alaska Dept. of Fish and Game, Commercial Fisheries Division [Richard Larson]  
**Funds:** Ecosystem, \$2,000; KSFR, \$30,000; ADF&G, \$5,000  
**Status:** Data being compiled.  
**Comments:** Adult coho salmon, *Oncorhynchus kisutch*, entering the Becharof Lake escapement were counted from counting towers on the Egegik River from August 7 through September 11, 1996. Escapement was estimated at about 17,000 coho salmon, well ahead of last years counts. A preliminary report was received in February for 1995 work. A final report is due from the State in February 1997. Aerial surveys were to be conducted by the State. The results of the surveys are unknown at this time.



Natural gas seep at Gas Rocks on Becharof Lake is geothermal influence that may influence lake limnology. 1995, FWS

- 5) **Project:** Becharof Lake Limnological Studies [See below]  
**Partners:** King Salmon Fishery Resources Office; ADF&G, Commercial Fisheries Division and Sport Fisheries Division; Lake and Peninsula Borough; Univ. of Alaska-Fairbanks, Juneau Center, School of Fisheries and Ocean Sciences [Ole A. Mathison]

Fisheries and Ocean Sciences [Ole A. Mathison]

**Funds:** Ecosystem, see below; Lake and Peninsula Borough, \$14,000; ADF&G, in kind; KSFR0, see below; University of Alaska, Juneau Center, in kind;

**Status:** Data collection completed. Data analysis in progress.

**Comments:** Contributes to the Becharof Lake Limnological studies as listed below.

- 5.a) **Project:** Continue Becharof Lake Limnological Field Sampling  
**Partners:** King Salmon Fishery Resources Office; University of Alaska- Juneau [Jim Larson/Ole Mathison]  
**Funds:** Ecosystem, \$2,000; KSFR0, \$3,000; Univ. of Alaska, in kind  
**Status:** Data collection completed. Data analysis in progress.  
**Comments:** The 1996 field season was the fifth year of Becharof Lake Limnological studies. KSFR0 staff gathered water and plankton samples as a continuing part of the sampling effort. Zooplankton biomass is a key parameter that represents the availability of food for juvenile sockeye salmon in the nursery lake. Measurements of key chemical elements such as nitrogen, phosphorus, and silicon provide information on the parameters that apply directly to the production of food.
- 5.b) **Project:** Continue Becharof Lake Limnological Studies - Stable Isotope Ratios  
**Partners:** University of Alaska-Fairbanks, Juneau Center [Ole Mathison]  
**Funds:** Ecosystem, \$2,600; Univ. of Alaska, in kind  
**Status:** Data collection completed. Data analysis in progress.  
**Comments:** The primary function of a salmon escapement is to provide eggs which can be fertilized and develop into returning adult salmon. A secondary function is to provide nutritional elements back into the lake system. The importance of this lake fertilization differ from one nursery lake to another. It can be measured by the stable isotope ratios for nitrogen and carbon in the tissue of the smolts. Smolt samples for 1995 and 1996 submitted for analyses. Preliminary results demonstrate that marine nitrogen, so important in other nursery lakes, is distinctly less important in Becharof Lake. Additional samples of Dolly Varden were collected by KSFR0 staff from Featherly Creek for analysis.
- 5.c) **Project:** Preliminary Study of the Paleolimnology of Becharof Lake, AK  
**Partners:** University of Alaska-Fairbanks, Juneau Center; Institute of Marine Sciences; KSFR0 [Bruce Finny]  
**Funds:** Ecosystem, \$10,000; KSFR0, in kind; Univ. of Alaska, in kind  
**Status:** Data analysis in progress.  
**Comments:** Dr. Finny sampled lake sediments for distribution of stable isotopes analysis for a paleoecological/paleoenvironmental study of the Becharof ecosystem. Dr. Finny has developed a new method for reconstructing salmon escapements based on sediment N-15 paleo records. Combining this with standard paleolimnological

tools, he is examining questions such as: 1) what is the long-term variability of salmon abundance and how is it related to climate and other paleoenvironmental changes; 2) how has large-scale commercial fishing impacted freshwater environments; and 3) how have changes in salmon escapement effected freshwater ecosystems? The Becharof sediments indicate that carcass-derived nutrients are relatively minor (consistent with N-15 values of young sockeye). He has received funding in 1996 to complete the analysis of samples taken in 1995. Additional samples were collected by KSFR0 staff from the Ruth River area of Island Arm.

- 5.d) **Project:** Limnological Monitoring of Lake Becharof  
**Partners:** University of Alaska-Fairbanks, Alaska Cooperative Fish and Wildlife Research Unit; KSFR0 [Dr. Jacqueline LaPerriere]  
**Funds:** Ecosystem, \$9,992; Univ. of Alaska, in kind, KSFR0, \$2,000 and in kind.  
**Status:** Data collection completed; data analysis in progress.  
**Comments:** Establishes additional baseline limnology on Becharof Lake. The objectives are 1) to evaluate the major ions; 2) to begin to evaluate the trace metals; to evaluate the light characteristics, and the characteristics that influence light transmission; and 4) to explore the effects of geothermal inputs on Lake Becharof.

## E. ADMINISTRATION

### 1. Personnel

no staff photo



Field camp staff for 1996. 6/96, DAD  
 19, 27, 28, 29, 25, 22, 20, 24  
 16, 17



Visitor Center Staff. 6/96, RDP  
 19. 17.

PERMANENT STAFF

1. **Ronald E. Hood**; Refuge Manager (RM); GS-485-13; 09/15/85; PFT
2. **Rick Poetter**; Deputy Refuge Manager (DRM); GS-485-12; 04/23/89 (transferred 12/21/96); PFT
3. **Laura Shawback**; Administrative Technician; GS-303-05; 06/26/95 (transferred 09/13/96); PFT
4. **Amy Riddle**; Office Automation Clerk; GS-326-04; 11/12/95 (resigned 08/09/96); PPT
5. **Kim Montano**; Office Automation Clerk; GS-326-04; 09/23/96; PPT
6. **Bill Smoke**; Airplane Pilot (AP); GS-2181-12; 05/16/93; PFT
7. **Donna Dewhurst**; Wildlife Biologist (WB); GS-486-11; 02/26/89 (transferred 01/04/97); PFT
8. **Heather Moore**; Wildlife Biologist (Subsistence Issues); GS-486-05; 05/28/95 (resigned 12/24/96); PFT
9. **Angie Terrell-Wagner**; Refuge Ranger (Public Use Specialist) (RR); GS-025-11; 12/29/91; PFT
10. **Shirley Kelly**; Refuge Information Technician (RIT) (local hire); GS-1001-08; 09/08/91; PPT
11. **John (Smiley) Knutsen**; Refuge Information Technician (local hire); GS-1001-08; 09/08/91; PPT
12. **Orville Lind**; Refuge Information Technician (local hire); GS-1001-08; 09/08/91 (selected for new position 09/28/96); PPT
12. **Orville Lind**; Refuge Ranger (local hire); GS-0025-07; 09/29/96; PFT
13. **Gary Terry**; Maintenance Worker (MW); WG-4749-08; 07/31/88; PFT
14. **Dwight (Moose) Mumma**; Maintenance Worker; WG-4749-05; 03/24/91 (transferred 06/29/96); PFT

TEMPORARY STAFF

15. **Cindy Girtten**; Refuge Ranger; GS-025-05; 05/02 - 09/30; Local Hire, Seasonal
16. **Thomas Leeman**; Biological Technician; GS-404-05; 05/13 - 10/12; Seasonal
17. **Randy Moore**; Biological Technician; GS-404-07; 05/13 - 09/27; Seasonal
18. **Heidi Smith**; Refuge Ranger; GS-025-05; 05/02 - 08/17; Local Hire, Seasonal
19. **Linda Wells**; Biological Technician; GS-404-05; 05/13 - 10/12; Seasonal

VOLUNTEER STAFF

20. **Corey Adler**; Bobko, Ohio; 04/22 - 10/7; (FT); Becharof Lake Ecosystem studies, Island Arm and Bible Camp Field Camp
21. **Rocky & Kids (Tia, Tag) Harrison (Shoemaker)**; 08/07-9; (FT); Neo-Tropical Bird Banding, Bible Camp Field Camp

22. **Ingrid Harrauld**; San Francisco, California; 5/13 - 10/7; Neo-Tropical Bird Banding, Mother Goose Lake Field Camp
23. **Emily Loomis**; Davis, California; 07/31 - 08/16; (FT); Neo-Tropical Bird Banding, Mother Goose Lake Field Camp
24. **Ann Loyd**, South Harpswell, Maine; 5/13 - 8/14; (FT); Godwit Valley, Mother Goose Lake, Becharof Lake Ecosystem field camps
25. **Angela Mehall-Niswander**; Corvallis, Oregon, 5/6 - 7/15; (FT); Marbled Godwit Project, Godwit Valley field camp
26. **Terry Moore**; Juneau, Alaska; 08/21 - 09/27; (FT); Neo-Tropical Bird Banding, Mother Goose Lake Field Camp
27. **Gretchen Ruhl**; Columbus, Ohio; 3/18 - 6/10; (FT); Spring Waterfowl Surveys, King Salmon
28. **J. D. Semones**; Radford, Virginia; 5/13 - 9/21; (FT); Neo-Tropical Bird Banding, Mother Goose Lake Field Camp
29. **Nadine Varner**; St. Louis, Missouri; 4/10 - 9/29; (FT); Becharof Lake Ecosystem studies, Island Arm and Bible Camp Field Camp
- 30-50. **20 - Earthwatch Volunteers**; See Section E.4 for details; Neo-Tropical Bird Banding, Mother Goose Lake Project

YOUTH CONSERVATION CORPS (YCC)

57. **C. Kainoa Peterson (Kai)**; Anchorage, Alaska; 06/10 - 08/02; Maintenance Projects

The current staffing plan for the Complex was approved by Acting Geographic Assistant Regional Director - Western Ecoregion Lenny Corin on May 9, 1996 (Figure 4). The permanent positions funded in 1996 required 8.0 full-time equivalents (FTE) (Table 2). Five local hire positions are authorized that do not count against FTE ceilings. Local hire positions include the three Refuge Information Technicians, the Office Automation Clerk, and one Refuge Ranger (management trainee).

Table 2. Historic record of full-time equivalent allocation and use.

FISCAL YEAR	FULL-TIME EQUIVALENT	
	AUTHORIZED	TOTAL USED
96	8.0	13.40
95	9.0	12.06
94	8.8	10.02
93	8.8	7.92
92	8.8	8.32
91	9.3	8.26
90	9.0	7.93

**General.** All staff were ordered back to work on January 6, putting an end to the government shutdown that began on December 16, 1995.

On February 22, RM Hood participated in a student workshop at the Alaska Association of Student Governments (AASG) Spring Conference hosted by the Bristol Bay Student Council in Naknek. Ron was invited to participate in a session that had a "leaders in our community" theme.

On July 31, RM Hood participated in a "needs assessment interview" conducted by Don Tollefson, FWS' National Education and Training Center (NETC). The following is some background information about the Project Leader training being developed. The Service Directorate and the NETC Oversight Committee determined that the number one initiative for the new NETC will be a training program for all Project Leaders. The Oversight Committee has set the direction that the major focus of the training will be teamwork and outreach. The NETC concept involves: 1) awareness of interpersonal and leadership style, 2) management in a team environment, and 3) interaction with others involved in resource management issues through outreach to the media and the political arenas, building community support, etc. The purpose of the interviews is to help define the specific content and training needs within this framework. The first session is scheduled for June 1997. Between June 1997 and September 1998, every Project Leader in the Service will be coming to the new NETC for this two-week program.

**Permanent Staff.** On January 17 & 18, DRM Poetter, WB Dewhurst, RR Terrell-Wagner, WB Moore attended ANILCA training in the Regional Office Conference Room. RM Hood participated in the ANILCA training on January 18 as a panel member in the "Management Issues" session.

On their own time and initiative, WBs Donna Dewhurst and Heather Moore attended an Emergency Medical Technician (EMT) II & III training course in Naknek on January 3 through the 27. Donna recertified as an EMT III, while Heather upgraded from Level I to Level II.

RR Terrell-Wagner and RM Hood attended the third organizational meeting of the Bristol Bay ~~Tourism~~ Visitors Council (BBVC) held in Naknek on February 1. A name change was approved. This forum is a great networking opportunity with potential partners in our outreach effort.

DRM Poetter and WB Dewhurst traveled to Marana, Arizona to attend Law Enforcement Refresher Training on February 6-11. Another excellent session, especially the wellness program being developed.

On February 26 - March 15; RIT Knutsen and WB Moore attended the Refuge Management Academy training course in Charleston, S.C. This is a great class for new employees of the Service. Both employees came away with a greater understanding of refuges and the Service.

On March 19-22, RR Terrell-Wagner, and RITs Lind and Kelly attended the NETC course, "Public Outreach, Advocacy and Education" held in Anchorage at the Barrett Inn.

(Figure 4)

In response to an Office of Aircraft Service's memorandum, DRM Poetter requested that Procurement Technician Sally Turnbull travel to King Salmon and conduct an OAS-23 Aircraft Use Report Form workshop on May 8. The Complex paid for her airfare and OAS picked up her per diem expenses. Sally did an excellent job. In addition to our staff, some of Katmai National Park's staff also attended.

WB Moore attended a meeting in Anchorage with Subsistence staff on June 28 to develop a public outreach program about predator/prey relationships. The program is intended to target members of the Regional Subsistence Councils and is in response to recent comments received advocating wolf control. A slide show will be developed for presentation by Refuge Biologists at the fall council meetings, with the hope to develop a video eventually.

On September 11 and 12, RM Hood and RR Terrell-Wagner attended the 5th meeting of the newly formed Bristol Bay Visitor's Council and a Southwest Alaska Tourism Development Round table in Dillingham. Both meetings were helpful in meeting and networking with other federal, state and local groups and business owners involved in the tourism industry. A visit to the Samuel Fox Cultural Museum in the evening was very helpful as we are developing a small cultural exhibit for the King Salmon Visitor Center.

RM Hood participated in the Bristol Bay/Kodiak Ecosystem Team meeting held in Anchorage on October 16.

On October 28-30, RM Hood and RR Lind attended the Refuge Manager's Meeting. Topics included Ecosystem and programmatic priorities, Budget and funding strategies, planning and revision of CCP's, setting goals and objectives for each refuge, and how it all ties together to strengthen refuges over the long haul.

On October 30 - November 1, RM Hood, RR Lind and RR Terrell-Wagner attended the Region 7 Outreach Workshop. We developed budget proposals to expand outreach efforts with subsistence users and guided/non-guided visitors, and our celebration of National Wildlife Refuge Week.

#### Refuge Manager (RM) Ronald Hood

- attended the Naknek/Kvichak Fish & Game Advisory Committee meeting held at the Bristol Bay Borough Assembly Room on February 8.
- attended training on the new performance management system held in RO on February 14th.

#### Deputy Refuge Manager Rick Poetter

- Attended Bear Behavior Instructor Training on February 13 at the Holy Spirit Retreat in Anchorage. An excellent program put on by Region 7 staff. Rick stayed on at the Retreat the 14th-16th and attended the National Rifle Association Instructors Training course for rifles and shotguns.

- Attended the Resource Conservation Recovery Act Waste Management Regulations Course held in the RO conference room February 21-22. An eye opening and well instructed class, taught by Joe Trozillo from Intermountain Technical Solutions, Inc. of Utah.
- Rick received notice, on October 16, that he was selected as the new Refuge Manager (GS-13) for the Pacific/Remote Islands National Wildlife Refuge Complex. He will be working out of the Federal Building in Honolulu, Hawaii. His transfer date was effective December 22. Congratulations to Rick and his family.

#### Administrative Technician Laura Shawback

- Laura was selected as Secretary for Migratory Bird Management effective October 13th.

#### Office Automation Clerk Amy Riddle

- Was presented with an On-The-Spot Award for her work with a long overdue personal property sale. On a sadder note, Amy submitted her resignation effective August 9. She took a long awaited teaching position with the Bristol Bay High School.

#### Office Automation Clerk Kim Montano

- Was hired as Office Automation Clerk (local hire) effective September 23rd. We were able to steal Kim from Katmai National Park.

#### Airplane Pilot Bill Smoke

- Departed for ROBS training at FLETC on January 27 - February 8. This two week session will complete Bill's initial law enforcement requirements.
- On February 21, Bill met with Special Agent Wally Soroka in Anchorage to get some additional training on the federal court system and how it operates. At the federal courthouse, he met with a federal magistrate and the U.S. Attorney's office staff. A tour was arranged with the federal marshal's office as well. This time was very valuable as it gave a much better understanding of how the federal system works in Alaska.
- On February 21 and 22, Bill met in Anchorage with FWS Regional Aviation Training Manager Eric Akola for instrument flight and ground training. After brushing up on instrument flying techniques, various RADAR assisted approaches were flown as well as a DF (direction finding) steer and approach in to Talkeetna.
- Traveled to Cold Bay on March 5 to obtain semi-annual firearms qualification. After normal qualification was complete, Firearms Instructor/RM Greg Siekaniec provided training in drawing from the shoulder holster.

- On October 7th, Bill took check rides in Anchorage for floats, amphibian and wheels. Aircraft used were N766M, FWS Cessna 185 and N736, Migratory Birds' Cessna 206 amphibian. Office of Aircraft Services (OAS) check pilot, Garland Dobson officiated.

#### Wildlife Biologist Donna Dewhurst

- Attended the National Uniform Committee Meeting in Arlington, Virginia October 22-24, as the Region's representative.
- Attended the annual Earthwatch Conference at Harvard University in Boston October 25-26. As a project "Principal Investigator," Donna conducted a poster presentation on the Mother Goose Lake field project, with an estimated 700 people attending. Also, out of the conference, contacts were made to establish a sister project with Dr. Dusty Becker of Indian University mist netting and banding wintering landbirds in an Ecuador cloud forest near Guayaquil, Ecuador.
- On December 13 (as in Friday the 13th), Donna was notified that she was selected for the Wildlife Biologist position with Subsistence in the RO. Her area of coverage will be the NW coast of Alaska (Nome to Prudhoe Bay). The effective transfer date was January 5, 1997.

#### Wildlife Biologist Heather Moore

- Attended Arctic Survival Training on January 24th-26th, conducted by "Learn To Return" in Anchorage.
- Attended "Pinch Hitter" training at the Katmai National Park office on April 24th and 25th. The course taught emergency aircraft operations in the event that the pilot is incapacitated. Heather was happy to have lived through many bumpy landings. Training was conducted in Katmai's C-206 on wheels.
- On December 12, Heather submitted her resignation to be effective December 25. She left the Service to go to graduate school in the field of marine biology.

#### Refuge Ranger Angie Terrell-Wagner

- On April 16, RM Hood presented Angie with an "On-the-Spot" award for her work in developing an interactive kiosk [Challenge Cost-share project] for the King Salmon Inter-Agency Visitor Center.
- October 21-26, Angie attended the National Interpreter's Workshop in Billings, Montana. This workshop was an excellent opportunity to learn new techniques, gather educational materials and network with many people from Federal, State and local land management agencies. Highlights of the conference included a panel discussion by FWS/NPS representatives on wolf reintroduction in the Lower 48, and sessions about media/community relations, partnerships and organizing special events.

Refuge Information Technician Shirley Kelly

- Refer to above.

Refuge Information Technician John "Smiley" Knutsen

- Attended "Paradox" database training in Anchorage. The training was provided by staff in Migratory Birds, on November 7 & 8. Now we will compile our own subsistence waterfowl harvest survey data collected in villages of the Complex.

Refuge Information Technician Orville Lind

- Orville officially entered on duty as the first local-hire Refuge Ranger in charge of the Chignik Unit, Alaska Peninsula NWR on September 29. Orville previously worked for the Complex as a Refuge Information Technician (GS-1001-08), based in Port Heiden. His new position starts at the GS-7 level with full performance at the GS-11 level. Orville has moved his family to King Salmon from Port Heiden for his 3-5 years of intensive training to become, in essence, the unit manager for the Chignik Unit. He will now supervise the replacement for his former position.
- On November 20 & 21, Orville traveled to Anchorage to attend ANILCA training in the Regional Office, Gordon Watson Conference Room.

Maintenance Worker Gary Terry

- November 4-14, Gary spent evenings and weekends attending a University of Alaska - Fairbanks extension course at the Bristol Bay High School. The course was entitled, "Introduction to Marine Welding." The course included history and techniques for safe, efficient welding and cutting methods using oxy-acetylene and plasma arc torches, the MIG (GMAW), TIG (GTAW) and stick (GMAW) welding machines on mild steel, aluminum and stainless steel. He spent 52 hours in training and two university credits were earned.
- Traveled to the OMC Training Center in Kent, Washington November 18-22. He attended a course on all OMC stern drive models with particular emphasis on trouble shooting procedures on EFI and systems servicing of Johnson/Evinrude outboard motors. Practical service exercises included: EFI, cranking & charging systems, throttle & shift systems, steering systems, and carburization.

Maintenance Helper Dwight "Moose" Mumma

- Moose accepted a Maintenance Worker (WG-4) position with Antietam National Battlefield in Sharpsburg, Maryland. He is filling the vacant position (one level down-grade) as a "hardship transfer", so he can live in Sharpsburg and care for his elderly parents. Upon his departure, he was presented with a \$500.00 On-the-Spot award for his efforts towards the Complex's safety program. Moose served as Safety

Officer for the Complex. A recent pre-OSHA hazard and safety inspection by the Regional Safety office resulted in high praises for the Complex's safety program, a direct result of Moose's hard work. Moose was first permanently hired as a local-hire Biological Technician in February 1984. Prior to his employment with FWS he spent four years with the Air Force in King Salmon as a cook.

#### **Seasonal Staff.**

RR Cindy Girtten (Kingsland, Texas) - Cindy, a return employee, worked from May 2 thru September 30. Her duties were to staff the King Salmon Inter-Agency Visitor Center. She was presented an On-The-Spot award for her exceptional efforts during the summer.

BT Thomas Leeman (Davis, California) - Thomas worked from May 13 thru October 12. He filled the position of camp leader for the Becharof Lake Ecosystem Field Camp on the Becharof NWR. The camp conducted landbird inventories.

BT Randy Moore (Norfolk, Virginia) - Randy worked from May 13 thru September 27. He served as the camp leader for the Mother Goose Lake Field Station in the Ugashik Unit, Alaska Peninsula NWR. The camp conducted avian monitoring consisting of MAPS and migration banding.

RR Heidi Smith (Pocotello, Idaho) - Heidi, a return employee, worked from May 2 thru August 17. Her duties were to staff the King Salmon Inter-Agency Visitor Center. She was presented an On-The-Spot award for her efforts in coordinating our fishing week activity and later for her efforts during the summer staffing the Visitor Center in an exceptional manner.

BT Linda Wells (Davis, California) - Linda worked from May 13 thru October 12. She served as the assistant camp leader at the Mother Goose Lake Field Station in the Ugashik Unit, Alaska Peninsula NWR. The camp conducted avian monitoring consisting of MAPS and migration banding.

#### **2. Youth Programs**

**Youth Conservation Corps (YCC).** Youth Conservation Corps application deadline was April 18. We began advertisement on the radio and at the school on March 4. The Complex combined our efforts with the KSFRO this year because this is the first year they have been looking for an enrollee. Both offices only wanted one enrollee. Only one application was received for our position to work with the maintenance staff. C. Kainoa Peterson (Kai), a senior student from Anchorage, was selected to begin work for us on June 10. MW Terry and Mumma provided daily supervision again this year.

Kia entered on duty with the YCC program on June 10. His first week was spent reviewing safety videos and helping out on the lawns. He and MW Mumma spent the next two weeks installing new metal shelving in the

warehouse of the office (Building No. 4).

Kai completed his eight week tour of duty on August 2. Kai spent most of his time hauling rock and placing above the high water line along the river of the headquarters compound, mowing lawns, and cleaning vehicles and the shop.

### 3. Other Manpower Programs

NTR

### 4. Volunteer Programs

**Seasonal Volunteers.** Our policy, implemented in 1992, is to pay the airfare of Service volunteers. First year volunteers are provided transportation from Seattle, Washington. Returning volunteer's could be flown from anywhere in the U.S. A returning foreign volunteer's airfare is paid from the point they enter the U.S. This allows Lower 48 volunteers an equal opportunity to gain Alaska experience, without economic discrimination, but also places some of the burden on them. Each volunteer must commit to at least 12-weeks of full-time work to be eligible for these benefits. The Complex also provides their food, housing, and \$3.00/day stipend for miscellaneous expenses.

Corey Adler - (Bobko, Ohio) entered on duty April 22 to fulfill several needs. He first assisted with the week long marbled godwit banding effort at Cinder River Lagoon in May. He conducted radio telemetry flights for western sandpipers also in May. Then he serve as field crew at the Becharof Lake Ecosystem Field Camp. He departed King Salmon on October 7th to look for more work.

Ingrid Harrald (San Francisco, California) - a return volunteer, entered on duty May 13 to work as an Earthwatch Volunteer facilitator. She would meet a team at the airport, conduct limited training, accompany the group to the Mother Goose Lake Field Station and assist with their needs in camp, then fly back and deliver them to their flights. During her two week rotation, he would facilitate camp operations in King Salmon. She returned home to look for paid work on October 7.

Rocky & Kids (Tia, Tag) Harrison (Shoemaker) (Becharof NWR, Alaska) 08/7-9; (FT); The wife and children of local Big Game Guide-Outfitter Philip Shoemaker, who live most of the time on an inholding on Becharof NWR in the Kejulik River valley.. They volunteered to assist with Neo-Tropical Bird Banding at the Bible Camp location of the Becharof Lake Ecosystem Field Camp.

Emily Loomis (Davis, CA) - entered on duty July 31 to assist with the high volume fall migration songbird banding at Mother Goose Lake Field Station. She left for home on August 16.

Ann Loyd - (South Harpswell, Maine) - entered on duty May 13 to work as an

assistant to Graduate Student Angela Mehall-Niswander at the Godwit Valley Field Camp, researching marbled godwits. She departed King Salmon on August 14, after also helping out at both Mother Goose Lake and Becharof Lake Ecosystem camps.

Terry Moore - (Juneau, Alaska) replaced Volunteer Emily Loomis on August 21 at the Mother Goose Lake Field Station. He departed on September 27.

Gretchen Ruhl (Columbus, Ohio) - entered on duty March 18. She had been conducting Spring Waterfowl Surveys of the upper Bristol Bay rivers. She also helped set up the Ruth River portion of the Becharof Lake ecosystem camp. She departed on June 10 and landed a position in Hawaii.

J. D. Semones (Radford, Virginia) - entered on duty May 13 to work as a Earthwatch Volunteer facilitator. He would meet a team at the airport, conduct limited training, accompany the group to the Mother Goose Lake Field Station and assist with their needs in camp, then fly back and deliver them to their flights. During his two week rotation, he would facilitate camp operations in King Salmon. He returned to Virginia to look for more work on September 21.

Nadine Varner - (St. Louis, Missouri) - entered on duty April 10. She conducted radio telemetry flights for western sandpipers in May. Then she serve as field crew at the Becharof Lake ecosystem camp. She departed King Salmon for home to look for more fun excitement and warmer weather on September 29.

**Earthwatch Volunteers.** Earthwatch participants are not true volunteers, they have to pay \$1,500.00 to Earthwatch to go on a two week adventure, plus pay for their transportation (in this case to King Salmon). They are signed up a FWS Volunteers, to account for their time contributed to the refuge. The following is a listing of participants:

Team I, 06/03 - 06/19

Emily Erler, Palo Alto, California  
Clair Varian, Palo Alto, California  
Naoko Iwata, Gifu-pref, Japan  
Ms. Marilyn Wilson, Stanford, Connecticut

Team II, 06/17 - 07/03

Ms. Beate Schmid, Vaterstetten, Germany  
Mr. Herman Schmid, Vaterstetten, Germany  
Ms. Lee Miller, Oroville, Washington  
George Thornton, Oroville, Washington

Team III, 07/01 - 07/17

Tracy Donaldson, Pleasant Valley, New York  
Michael Tebolt, Pleasant Valley, New York  
Becky Pierce, Boxford, Massachusetts

Team IV, 07/15 - 07/31

Timothy Alexander, Fullerton, California

Team V, 07/29 - 08/14

none

Team VI, 08/12 - 08/28

Donald Chorzempa, Chatworth, California

Joyce Damore, Riverside, Illinois  
 Ms. Janet Keck, Pickett, Wisconsin  
 Nanette Rozhon, North Riverside, Florida

Team VII, 08/26 - 09/11

Mr. Michael Deville, Reston, Washington  
 Ms. Eleanor Hung, Fairbanks, Alaska  
 Sieglinde Reynolds, Brooklyn, New York  
 Mr. Peter Stewart, Goldalming, Surrey, United Kingdom

**Student Volunteers.** Master's Graduate Student Angela Mehall-Niswander (Oregon State University) arrived on May 6 to continue her last year's field research on marbled godwit reproduction on the Alaska Peninsula. She operated a two person field camp at Popeye Lake on the Ugashik Unit, Alaska Peninsula NWR. Angela completed this season's work on marbled godwit production on July 15. She had a very successful season documenting four nests and monitoring eight pairs from nesting to brood rearing.

#### 5. Funding

A preliminary funding target was provided on December 19, 1995; but our initial funds advice for Fiscal Year (FY) 1996 was not received until May 1, 1996. Thus the pattern that began in FY 1987 continued to be the norm - our funding is always finalized after mid-fiscal year. Tables 3 to 5 provide an overview of Complex funds.

Table 3. Base funding history for Alaska Peninsula/Becharof Refuge Complex (in thousands).

FY	AKP	BCH	TOTAL
96	\$781.0	-----	\$781.0
95	\$717.0	-----	\$717.0
94	\$656.0	-----	\$656.0
93	\$674.0	-----	\$674.0
92	\$686.0	-----	\$686.0
91	\$739.0	-----	\$739.0
90	\$352.0	\$314.0	\$666.0

Table 4. Funding history for 1261 funds for Alaska Peninsula/Becharof NWR Complex (in thousands) beginning in FY 1991.

FY	FIXED	OVHD	PROJ	SUBSIS	CHALCO	CONTAM	ECOSYS	SUBTOT
96	\$655.0	----	\$88.0	\$70.0	\$46.0	----	\$50.0	\$909.0
95	\$464.0	----	\$57.0	\$68.0	\$30.0	----	\$50.0	\$669.0
94	\$334.0	\$45.0	\$103.0	\$19.0	\$25.0	\$67.0	----	\$593.0
93	\$352.0	\$51.0	\$117.0	\$22.0	\$8.0	----	----	\$550.0
92	\$291.0	\$48.0	\$ 99.0	\$14.0	---	\$46.0	----	\$498.0
91	\$299.5	\$37.5	\$160.0	----	---	----	----	\$497.0

Table 5. Funding history for 1262 and other miscellaneous funds for Alaska Peninsula/Becharof NWR Complex (in thousands) beginning in FY 1991.

FY	1262				OILSPIL	QUART'S	RECPTS	MigBrd	GRAND
	FIXED	PROJ	MMS	SUBTOT	6320	8610	4960	1230	TOTAL
96	\$ 78.0	----	\$ 47.0	\$125.0	----	\$45.1	\$6.0	\$13.0	\$1098.1
95	\$287.0	----	\$ 59.0	\$346.0	----	\$27.4	\$8.9	----	\$1051.3
94	\$278.0	----	\$ 15.0	\$293.0	----	\$27.0	----	----	\$913.0
93	\$271.0	\$1.0	\$ 36.0	\$308.0	----	\$29.2	----	----	\$834.2
92	\$254.0	----	\$118.0	\$372.0	\$63.0	\$26.2	----	----	\$959.2
91	\$222.0	20.0	\$ 28.0	\$270.0	\$61.0	\$34.8	----	----	\$862.8

## 6. Safety

This station strongly supports the Regional safety program and all aspects of keeping our Complex and facilities a safe place to live and work. Another successful and safe field season demonstrates our commitment. An active safety committee, comprising MW Dwight Mumma (January - June) and RR Orville Lind (September - December) as chairperson and KSFRF Fishery Biologist (FB) Jeff Adams as secretary/member, provides the foundation for an aggressive safety program. A summary of monthly safety activities follow.

**January/February.** Meeting for February, and a make up meeting for January, was held on the 15th and presented by FB Adams. Two videos from the Bristol Bay Health Cooperation, titled "Speaking From Experience" and "Freezing Injuries" were viewed by Complex and KSFRF staff.

**March.** The quarterly safety meeting was presented by Safety Officer Mumma

and FB Adams at the bunkhouse on March 11. Training for the Material Safety Data Sheets (MSDS), instructions for locations were given for MSDS stations. A video, "Right To Know" obtained from the Regional Office video collection, was viewed by the Complex staff. On March 28, RR Terrell-Wagner instructed a Red Cross "CPR for the Professional Rescuers" course for permanent staff. A total of 7 staff members attended the 8 hour class.

**April.** DRM Poetter, Safety Officer/MW Mumma, and Safety Committee Member/FB Jeff Adams conducted a safety inspection for possible OSHA violations in preparation for a pre-OSHA inspection to be conducted by the Regional Safety staff in May.

**May.** On the 11th, 26 Hazard Notices corrections were completed and a report sent to the Regional Safety Office. These were the result of a Safety and Environmental Health Inspection of the King Salmon Administrative Site conducted by the Safety Office. All hazards were corrected except for one, overhead storage in Warehouse Building No. 5, soon to be corrected.

**June.** An Annual Fire Extinguisher Inspection Form was developed to document the inspection of facility extinguisher. This was done in complying with the Hazard Notices. The Safety Officer position was vacated with the departure of MW Mumma.

**September.** (July and August) Since the vacating of the Maintenance Worker position by Dwight Mumma, the station has been without a designated collateral duty Safety Officer July and August. Now that RR Lind is on board, he has been assigned the duties. A Quarterly Safety Inspection was completed on the 20th. A Quarterly Safety Committee Meeting was held on September 20 with KSFR Fisheries Biologist/Committee Chairman and RR/Committee Secretary Lind in attendance. A Quarterly safety meeting was conducted by Safety Officer Orville Lind and KSFR Jeff Adams. Along with a safety inspection of the King Salmon Administrative Site (KSAS).

**October.** The safety meeting was conducted on the 22nd. One "Safety Shorts" video was shown, "Know Your A,B,C's." This was followed by a short verbal informational talk on familiarizing yourself with the location of the nearest fire extinguisher. A Fire Extinguisher Inspection was conducted on the KSAS, with one correction made. Outside Fuel Storage Building. No. 35, a fire extinguisher was moved four inches to the opposite side of the post, to prevent hand injury. Also the annual inspection form was updated. An emergency contact sign was reattached to north side of Building No. 35 to facilitate local emergency response teams.

A fire prevention plan for the KSAS has been added to the Safety Management Plan. This includes an updated building numbers inventory sheet along with a map showing each building and its location. A separate hangar location map was developed showing fuel tank location and emergency shut-off. Emergency fuel shut-off boxes were color coded in green on the maps. All information has been shared with the local fire department.

Emergency contact sheets have also been updated.

**November.** The safety meeting was presented by Safety Officer Lind and FB Adams at the bunkhouse on the 27th. A video, "ATV Rider Safety" obtained from the Regional Office video collection, was viewed by the Complex staff.

WB Moore and WB Dewhurst attended the annual Emergency Medical Services Convention in Anchorage on the 15th - 16th, courtesy of local Borough funding.

**December.** A Fire Extinguisher inspection was completed on the 16th, along with the safety check walk around the King Salmon Administrative Site. On the 19th, with winter weather upon us, Safety Officer Lind and FB Adams shared some information on winter maintenance on snow machines. Also a video, "Sno-Mobile Rider Safety" obtained from the Regional Office collection, and a video "Surviving The Cold" obtained from the Bristol Bay Health Corporation, was viewed by both Complex and KSFRD staff. The First Aid and Emergency Medical supplies inventory was completed for our KSAS facilities.

#### 7. Technical Assistance

NTR

#### 8. Other Items

Geographic Assistant Regional Director - Western Ecoregion, Glenn Elison, was in King Salmon on January 23-25 for his first station visit in his new position. He met with Complex and KSFRD staff in an effort to familiarize himself with both stations and their programs and issues. Senior Staff Specialist Art Wemmerus accompanied Glenn to meet with the two project leaders and finalize the Facilities Management Plan for King Salmon.

RM Hood responded to a Freedom of Information Act request from the Fund for Animals. They requested answers to certain questions and records that reflect these answers concerning "fox coursing" on the Alaska Peninsula National Wildlife Refuge. By letter dated May 14, 1996, they were advised that fox coursing does not occur on the Alaska Peninsula National Wildlife Refuge, or on any other National Wildlife Refuge in Alaska.

Mr. Nick Shanigan, president of the BIA recognized tribe, Kanatak Tribal Council, came by the office on June 5th to introduce himself. The Tribe was interested in reviving their heritage and re-establishing a presence at Kanatak Village. He presented a draft cooperative agreement and requested our review and comments. RM Hood prepared the Service response and advised Mr. Shanigan, by letter dated June 10, 1996 that the proposed memorandum of agreement is not the proper tool to achieve the Tribe's goals. The Kanatak Tribal council was advised to work directly with Koniag Incorporated (the future land owners of the site) to obtain permission for use and occupancy.

On June 24, Realty Specialist Lucy Blix traveled to King Salmon to complete a "property utilization" inspection. Realty has to submit a report to GSA every four years. RM Hood accompanied Lucy on the inspection and answered her questions.

Deputy Assistant Regional Director (DARW) Lenny Corrin visited King Salmon on a familiarization trip. He was the guest of KSFRO on July 8th to 10th and the Complex on the 10th to 11th.

On July 25, RM Hood presented a Refuge Revenue sharing Act check of \$22,647 to Borough Manager Walt Wrede for the Lake and Peninsula Borough.

Administrative Officer (AO) Ruth Johnson visited King Salmon on July 31st to August 1st to provide on-the-job training to AT Shawback.

## F. HABITAT MANAGEMENT

### 1. General



Howling Wolf Ridge provides a spectacular view of Mother Goose Lake and the Bristol Bay lowland habitats on the Ugashik Unit.

7/95, DAD

### 2. Wetlands

NTR

### 3. Forests

NTR

4. Croplands

NTR

5. Grasslands

NTR

6. Other Habitats

In March, a report was finalized on the non-vascular flora (mosses & lichens) of Mother Goose Lake. The project was funded cooperatively through Earthwatch and was conducted by Botanists Linda Hassselbach and Peter Neitlich during September 1995. This baseline effort documented 82 lichen and 20 moss species, of which several of the lichen constituted published range extensions. Six lichen species were new for Alaska with an additional 27 species new for the Alaska Peninsula.

7. Grazing

NTR

8. Haying

NTR

9. Fire Management

NTR

10. Pest Control

NTR

11. Water Rights

**Becharof Lake Ecosystem Project.** As part of the Becharof Lake Ecosystem studies, hydrological gages have been installed by the Water Resources Branch on the Egegik and King Salmon rivers. On Monday, July 29, a crew consisting of Mitch Limme, John Trawicki, and a volunteer Archeologist, Patti Brownlie arrived from Anchorage. They flew by helicopter to the King Salmon River site, approximately ½ mile downstream from the Native allotment owned by Walter Kelly. The site is located on State of Alaska land at 58D 18m 46.51s North, 157D 01m 24.28s West. They installed 8 ft. of pipe plus a well tip, transducer, data logger and storage module.

On Tuesday, they flew back to the King Salmon River site and finished the installation and checked the data logger to assure that it was working. Next they flew to the Egegik River site at 58D 02m 10.62s North, 156D 51m 54.66s West. The crew installed 3 ft. of pipe and a well tip, a conduit,

and instrument box with a data logger and storage module.

## 12. Wilderness and Special Areas

**Becharof Refuge.** Approximately 400,000 acres or one third of the refuge was established under the Alaska Lands Act as the Becharof Wilderness. The area represents a variety of superlative pristine habitats with a complete compliment of plant and animal associations still intact. Wilderness designation insures that representative samples of these interdependent associations, some of which are unique, will be perpetuated for this and future generations to enjoy. The genetic diversity protected by the unit will serve as an invaluable source of data for scientific investigation and for potential future needs for fish and wildlife protection, restoration and enhancement. Because of the area's designation as wilderness, it will mean that the special wildlife/wildland association within will be the last place on the refuge subject to irreversible development.

Three private inholdings are found within the wilderness area boundary. One of the inholdings (40 acres and 5 acres) is owned by registered guide, Philip Shoemaker, another is leased by him. He has built lodges on both. The third is a Native allotment, consisting of 160 acres.

An additional 347,000 acres (29 percent) of the refuge was recommended for wilderness designation in the November 1, 1988 Record of Decision for the Becharof National Wildlife Refuge Final Supplemental Environmental Impact Statement for the Wilderness Proposal of the Final Becharof Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review. No Congressional action has been taken on this proposal to date.

**Alaska Peninsula Refuge.** At present, no refuge lands are designated wilderness. A Record of Decision signed November 1, 1988 for the Alaska Peninsula National Wildlife Refuge Final Supplemental Environmental Impact Statement for the Wilderness Proposal of the Final Alaska Peninsula Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review recommended 640,000 acres for wilderness designation.

**Mount Veniaminof National Natural Landmark.** Mount Veniaminof was determined to be eligible for natural landmark status in 1967. It was registered in August 1970. This unique active volcano is located in the Chignik Unit of the Alaska Peninsula Refuge. It is located about 20 miles northeast of Port Moller (Bristol Bay side) and 20 miles west of Chignik (Pacific Ocean side) and approximately 450 miles southwest of Anchorage.

Named for Russian Orthodox priest Ivan Veniaminof, who studied Aleutian Chain cones early in the 19th Century, this 8,400-foot volcano is centered on the last wide lobe of the Alaska Peninsula. The climactic eruption that formed the Veniaminof caldera occurred about 3,700 years ago. Mount Veniaminof is massive. The summit crater is about 5.2 miles in diameter and contains a 25-square mile cupped ice field -- the most extensive crater glacier in North America. It is the only known glacier on the continent with an active volcanic vent in its center. The volcano's base

is over 30 miles in diameter. The Landmark's boundaries encompass over 800,000 acres.

13. WPA Easement Monitoring

NTR

## G. WILDLIFE

1. Wildlife Diversity

NTR

2. Endangered and/or Threatened Species

NTR

3. Waterfowl

**Bristol Bay Drainages Spring Migration Watch.** A spring survey of staging waterfowl along the Naknek River of the Alaska Peninsula was conducted 18 March - 18 May, 1996. This year's survey continued annual surveys initiated in 1983. For the sixth consecutive year, ground surveys were performed in conjunction with aerial surveys. Additional aerial surveys were conducted along the Kvichak, Ugashik and Egegik rivers for comparative purposes. Naknek River waterfowl numbers in 1996 were generally low compared to 1991-1995, possibly the result of an early spring thaw and increased availability of open water elsewhere on the Peninsula. Twenty-three species of waterfowl were observed during the 1996 survey, plus an unprecedented sighting of six Aleutian Canada geese. The highest number of white-fronted geese was recorded since the initiation of the ground surveys in 1991 (918), although that was still considerably lower than the aerial survey counts of 1984-1986 and 1995. Independent of the waterfowl counts, a survey of disturbance to waterfowl, both natural and man-made, was conducted along the Naknek River.

**Harlequin Duck Surveys - Becharof Lake Ecosystem.** A chartered Bell 206 helicopter (Calalaska Helicopters) was used on July 31st to attempt a second year's replicate of harlequin brood surveys in the mountain drainages of the Becharof Lake ecosystem. Weather and logistical conflicts limited the survey scope to the Island Arm drainages and Bible Creek. Again successful, 29 harlequin broods were documented as well as 11 merganser, 1 green-winged teal, and 6 mallard broods. Duck production in this area appeared ahead of that observed in 1995, with most of the harlequin broods in already in age class III. These older age classes may also account for the lower number of young observed, with these numbers being closer to the amount fledged.

To truly test this new method of surveying harlequin broods in mountain drainages, one or more survey replicates need to be conducted along the

same streams. The replicates would test the visibility bias and disturbance effects of these helicopter surveys, and should be conducted on separate days. This testing effort was scheduled to be attempted in 1996, but poor weather and scheduling conflicts prevented it. Before these surveys are relied upon for any accurate long-term index, this replicate testing needs to be accomplished.

#### 4. Marsh and Water Birds

NTR

#### 5. Shorebirds, Gulls, Terns and Allied Species

**Bristol Bay Shorebird Surveys.** In a cooperative effort, including the U.S. Forest Service, numerous national wildlife refuges, National Biological Survey and the University of Nevada, the spring migration of western sandpipers along the Pacific Flyway was monitored using radio telemetry. Mary Anne Bishop, Copper River Delta Institute and Nils Warnock, University of Nevada coordinated this effort which involved fitting 139 western sandpipers with radio transmitters at three locations (San Francisco Bay and Honey Lake - California, Grays Harbor, Washington) during 1995 and 1996. Two sandpipers were relocated aurally in Bristol by refuge staff in 1995, one originally from Grays Harbor and one from San Francisco Bay. In 1996, two sandpipers were relocated in Bristol Bay, both originally from San Francisco Bay. In addition, one pacific golden plover from Hawaii (fitted with a radio-transmitter) was also relocated in Bristol Bay during May.

**Marbled Godwit Research.** As part of Graduate Student Angela Mehall-Niswander's second season of marbled godwit research on the Alaska Peninsula, Wildlife Biologist Heather Moore and Volunteer Corey Adler spent a week with Angela at Cinder Lagoon, attempting to capture godwits and outfit them with radio transmitters. Capture attempts were unsuccessful; an estimated 200+ marbled godwits were observed on the mudflats, but the crew was unable to push any into their mist nets. The crew did enjoy observational opportunities of many other birds and 6 different brown bears, as well as continuous uncharacteristic clear and calm weather.

The "Valley of the Godwits" Field Camp went out to the study site near the Dog Salmon River on May 20th with Volunteer Anne Loyd as her research assistant.

Field work was completed on July 15th. Angela reported having a very successful season documenting four nests and monitoring eight pairs from nesting to brood rearing. Thesis completion is scheduled for January 1997.

#### 6. Raptors

NTR

## 7. Other Migratory Birds

**Neotropical Migratory Bird Program.** Mother Goose Lake - In an effort to initiate monitoring of neotropical migratory landbirds, WB Dewhurst contacted *Earthwatch's Center for Field Research* for a cooperative project under the "Partners in Flight" program. *Earthwatch* is a non-profit organization that sponsors research internationally by providing volunteer assistance and funding. In October 1993, *Earthwatch* agreed to sponsor a trial program during the summer of 1994 on the Ugashik Unit of the Alaska Peninsula Refuge. This program was successful in 1994 and continued into 1996, with matching funds provided through the Challenge Cost Share grant program. In 1996, the program involved 25 *Earthwatch* volunteers (from Japan, Germany, England, Alaska and the "lower 48") on two-week teams to assist with landbird monitoring based out of the Mother Goose Lake cabin. Each volunteer paid the Refuge Complex (through *Earthwatch*) \$800.00 apiece to help sponsor the program, netting a total of \$20,000. Aside from the biological monitoring, the Mother Goose Lake Field Camp also served as a center for adult environmental education and interpretation making the program was deemed a successful cooperative effort. Due to this success, *Earthwatch* committed to another year of funding - for the summer of 1997!



Mother Goose Lake study area being viewed from Howling Wolf Ridge by Earthwatch volunteers. 6/96, DAD

To prepare for the summer's bird work, the Refuge Complex hosted a passerine banding training session in King Salmon between May 13th and 24th. Participants/instructors shared mist netting and banding techniques gleaned from a variety of different banding stations, and emphasis was placed on standardization of these techniques for Complex projects. Nets were operated on nine days for a total of 232 net hours, yielding 67 newly banded birds, 18 recaptures and 6 returns from 1994 or 1995. A Lincoln's sparrow captured on the 22nd provided the first confirmed record of that

species in the King Salmon area. This year's capture rate of 39.2 birds per 100 net hours was low compared to 64.2 and 51.6 birds per 100 net hours during 1994 and 1995, respectively. Later arrival of the warblers (only one captured in 1996) likely contributed to this year's low capture rate.



Wandering tattler caught at Mother Goose Lake.  
8/96, RPM

At Mother Goose lake, avian monitoring consisted of mist-netting and banding songbirds during breeding and fall migration, conducting off-road point counts, nest searching and monitoring, and doing related habitat analysis.

Three stations were run, each with ten mist-nets, under the Monitoring Avian Productivity and Survivorship (MAPS), in three different habitats each about a half mile apart. The MAPS stations were run in coordination with the Institute for Bird Populations in Inverness, California as part of a national program to monitor breeding populations. The stations were run June 10th through August 3rd. On August 4th the lakeside site was converted to fall migration banding, with three nets added to the array. We initiated a program of color banding the newly caught adult birds

during MAPS this year. The purpose was to increase our odds of detecting returning birds next year and to have a means to track down MAPS site switching individuals. The results of this new program won't be evident until 1997.

In 1996, the MAPS program at Mother Goose Lake banded 932 birds of 19 species, while fall migration banded 2,937 birds of 23 species. Breeding and fall migration densities of Wilson's warblers were the highest recorded in Alaska for 1994-1996. These large numbers of Wilson's warblers contributed to very high catch rates during fall migration peaking at 475.6 birds/100 net hours on August 13th, banding 371 birds in a six-hour period. Returning birds (MAPS) increased this year with 37 from 1994 and 86 from 1995. Of these 132 birds, 22 returned to a different MAPS site than the one at which they were originally banded. Similar to last year's results, 93% of the returns were originally banded as AHY (adult) birds.

Becharof Lake Ecosystem - Landbird inventories were conducted at Becharof Lake during June-September 1996. During June and July, point counts were combined with constant-effort mist netting at Ruth River in the southern portion of Island Arm. During August and September, constant-effort mist netting was conducted at Bible Camp on the northern coast of the main body of the lake. Mist netting yielded 2,285 birds banded of 27 species between both camps (1,924 during fall migration). Species caught at Becharof Lake that were not captured at Mother Goose Lake included: Swainson's thrush, olive-sided flycatcher, varied thrush, northern waterthrush, blackpoll warbler and rusty blackbird. The combination of mist netting, point counts and incidental observations allowed documentation of 93 species utilizing the Becharof Lake area. The Bible Camp site is recommended for use as a long term fall migration banding station with proposed addition as an Earthwatch Volunteer site in 1997.

**Christmas Bird Count.** The 11th annual King Salmon-Naknek Christmas Bird Count took place on December 15th, 1996. Local results were submitted to the National Audubon Society, which sponsors and publishes results in the ornithological journal American Birds. Even though the count is not held on refuge lands, Alaska Peninsula Refuge coordinates this event. Five volunteers donated their Sunday to seek out birds from Lake Camp to Pederson Point.

The weather was workable (snow/rain/fog) on count day and the Naknek River completely open from the Savonoski Crossing to the mouth. Fifteen different bird species were spotted totaling 1,964 individuals. Highlights included a new record high of 39 bald eagles (29 adults, 10 juveniles) sighted during the count.

#### 8. Game Mammals

Both the Alaska Peninsula and Becharof refuges are open to sport and subsistence hunting of game animals. A complete discussion of harvest is found in Section H.8. This section deals with the population biology of several large game mammals found on the refuges.

**Barren-ground Caribou.** The Alaska Peninsula caribou herd is subdivided into northern and southern herds. The southern herd remains south of Port Moller and ranges to Cold Bay. These animals are monitored by ADF&G, with assistance from Izembek National Wildlife Refuge. The northern herd ranges from Port Moller northward to the Naknek River drainage, utilizing both the Alaska Peninsula and Becharof refuges. The northern herd is also managed by ADF&G, with assistance from Alaska Peninsula/Becharof NWR Complex staff.

Historically, the size of the northern herd has fluctuated widely. Apparent peaks were just prior to the turn of the century and again in the early 1940's, when the population was estimated at 20,000 caribou. The last population low occurred during the late 1940's, with an estimated 2,000 caribou. Thereafter the herd demonstrated steady growth until 1984, when the population peaked again at 20,000. Since 1989, the northern herd population has declined slightly. ADF&G management objective is a population between 15,000-20,000 animals. Photo censuses by ADF&G in June 1994 and documented low populations of 12,000 animals. Based on these censuses, ADF&G placed emergency restrictions on caribou hunting in Game Management Unit 9(C) during 1994, 1995 and 1996. The emergency regulations reduced winter harvest by 60 percent, so that despite poor calf productions this summer, the herd appears to have stabilized around 12,000 animals.

Movement of the Northern Alaska Peninsula caribou herd has been concentrated between their calving grounds south of Port Heiden to their wintering grounds south of the Alagnak River. Approximately 90% or higher of this movement occurs off applicable Federal lands. Isolated pockets of caribou occur on Refuge Complex lands in association with the Aleutian Mountains, and are thought to be more sedentary in nature. Very little is known of the caribou population status and movement east of the Aleutian Mountain Range, along the Pacific Coast.

Aerial caribou surveys were conducted on June 19, 20, 21, 22, 28 and July 3, 1996 along the Aleutian Mountain Range and Pacific Coast portions of the Refuge Complex. The survey area extended from Alinchak Bay to Hook Bay along the Pacific Coast, and inland to the Kejulik River valley, Blue Mountain and Mother Goose Lake. Surveys were flown in the Complex's Cessna 206 (N32PX) on floats and Piper Supercub (N278Z) on wheels, by AP Smoke with observer WB Moore. Surveys were timed to coincide with a similar effort by ADF&G, concentrating along the Bristol Bay lowlands portion of the Peninsula. Highest caribou populations were once again observed in Wide Bay, with large groups also in the mountains around Kujulik Bay, Upper Ugashik Lake, Mother Goose Lake and upper Painter Creek. Visual estimates yielded 2058 total caribou including 197 calves.

**Moose.** Moose did not become abundant on the Alaska Peninsula until the 1940's to 1950's. Range expansion from the Lake Clark/Lake Iliamna area boosted the Peninsula populations allowing for the first sport moose hunting in the mid-1950's. However, the Peninsula's population declined in the mid-1960's to the early 1970's, attributed to poor browse situations. Beginning in the early 1970's, ADF&G liberalized the moose hunting season to bring the population in line with the carrying capacity of the range. The liberalized seasons resulted in a composition disparity of many older animals with fewer younger animals. This was attributed to younger animals

being more susceptible to the gun. As a result the population decline continued, compounded by loss of recruitment animals to predation by brown bear, especially on moose calves. In the late 1970's, ADF&G instituted trophy-only (bulls with greater than a 50-inch antler spread or three brow tines) restrictions on hunter take. As a result, the percentage of cows was allowed to increase helping stabilize the population. In 1986, the management goal of 40 bulls per 100 cows was reached, and current efforts are to maintain the population at this level.

Management objectives set for moose on the Alaska Peninsula (Game Management Unit 9) by ADF&G include: 1) maintain existing densities in areas of moderate to high densities ( $0.5-2.5$  moose/mi<sup>2</sup>); 2) increase low density populations to at least  $0.5$  moose/mi<sup>2</sup> by 1995; and 3) maintain sex ratios of at least 25 bulls:100 cows in medium-high density areas and 40 bulls:100 cows in low density areas (Sellers 1993).

Aerial moose surveys are scheduled to be conducted annually by the Complex to supplement similar surveys done since 1981 by ADF&G. The Complex has conducted surveys on Big Creek, Bible Creek and the Kejulik River on Becharof Refuge, and at Blue Mountain and Mother Goose Lake on the Alaska Peninsula Refuge. Other area surveys are conducted by cooperating agencies (ADF&G, Katmai National Park) including those at the extreme northern boundary of Becharof Refuge, partially within Katmai National Park and the Dog Salmon River drainage on the Ugashik Unit, Alaska Peninsula Refuge.

An aerial moose survey of the Blue Mountain trend area was conducted on December 10 by Wildlife Biologist Heather Moore, Refuge Ranger Orville Lind and Airplane Pilot Bill Smoke. The survey was flown in the Complex's Cessna 206 (N32PX) with survey altitudes from 100-500 feet AGL. Survey conditions were good, with approximately 8-10 inches of snow in the area and light winds.

Twenty-four total moose were observed in the Blue Mountain trend area. The age and sex breakdown was as follows: 5 bulls [1 large (rack >50 in), 0 medium and 4 yearling], and 19 antlerless moose. Additionally, 3 antlerless moose were observed on the large island in Upper Ugashik Lake which has sometimes been surveyed as Section 2. The Blue Mountain count was comparable to the two surveys conducted in 1994, with 28 and 38 animals observed respectively on 7 January and 28 November.

An aerial moose survey of the Big Creek/Park Border trend area (Fig. 1) was conducted on December 11 by Wildlife Biologist Heather Moore and Airplane Pilot Bill Smoke. The survey was flown in the Complex's Piper Supercub (N278Z) and required 179 minutes of flying time. Survey conditions were fair to poor, with snow sparse in the hills, 1-3 inches in lower or brushy areas, and winds calm. A second survey of the same area was conducted on December 19 in the Cessna 206 (due to anticipated high winds). Snow cover was good and the survey required 162 minutes of flying time.

Ninety-two total moose were observed in the Big Creek trend area on December 11, including 10 large bulls, 0 medium bulls, 5 yearling bulls,

17 cows (each with one calf) and 43 antlerless moose. Highest densities were observed around Brooks Hills and Granite Peak. Separate counts for each of the 6 sections of the survey area are available in Complex files. The total count was low compared to previous years, having ranged from 103 animals on 23 November 1993 to 178 animals on 1 February 1995. Poor snow conditions may have contributed to the low count. On the December 19 survey, 135 moose were observed including 18 bulls (6 large, 7 medium and 5 yearling), 12 cows with one calf each, one cow with 2 calves, and 91 antlerless moose. Highest densities were again observed around Brooks Hills and Granite Peak.

#### 9. Marine Mammals

NTR

#### 10. Other Resident Wildlife

NTR

#### 11. Fisheries Resources

##### **Featherly Creek Creel Survey and Arctic Grayling and Dolly Varden**

**Population Investigation.** Featherly Creek is located in the northwestern portion of the Island Arm area of Becharof Lake in the Egegik River system of Becharof National Wildlife Refuge. Featherly Creek contains Arctic grayling and Dolly Varden char and is a major spawning tributary for sockeye salmon. Arctic grayling and Dolly Varden form the basis of a fly-in sport fishery. However, fishing guides report that in recent years the abundance and size of Arctic grayling has declined considerably so that the fishery now targets Dolly Varden. There is limited information concerning the status of these two stocks or the fishery. Therefore, in 1996 the King Salmon Fishery Resource Office conducted the third of a three year study to determine abundance and describe the length and age compositions of these two populations.

During the three year study six hundred twenty-nine Arctic grayling and 2,585 Dolly Varden were captured by hook and line. Estimates of abundance by mark-recapture were 1,162 Arctic grayling (89 fish/km) and 2,585 Dolly Varden (314 fish/km). Only one marked fish of each species was captured outside the study area. The individual Arctic grayling was recaptured by a sport fisherman at the outlet of Becharof Lake. This fish had traveled over 50 km and traversed the entire lake. The individual Dolly Varden was recaptured also by a sport fisherman and had traveled approximately 30 km to another tributary of Becharof Lake. Fork lengths for Arctic grayling ranged from 114-530 mm; ages from 1-11 years with most fish from 5-7 years. Fork lengths for Dolly Varden ranged from 161-752 mm; ages from 2-11 years with most fish 6-7 years. For Arctic grayling the modal length increased with each year of the study while the length distribution of Dolly Varden remained consistent throughout the three years.

Results indicated that both populations appear healthy and, if the Arctic grayling population was depressed, it apparently is recovering. The

abundance and density estimates appear typical for these species in a small stream, but fish were not evenly distributed throughout the creek. The lack of movement by most of the marked fish of both species indicates that during the open water season, each population is essentially a separate stock from other populations in the Becharof Lake drainage. This study provided an initial evaluation of the Arctic grayling and Dolly Varden populations in Featherly Creek. However, both populations must be monitored periodically, and the study should be expanded to include populations of both species in other tributaries of Becharof Lake.

**Investigation of coho salmon along the Pacific coast of the Alaska Peninsula.** Many streams of the rugged Pacific coast of the Alaska Peninsula National Wildlife Refuge support large runs of wild Pacific salmon. These salmon provide an important food base for the Alaskan brown bear, the bald eagle, and other wildlife species. They also provide for unique wilderness sport fishing excursions and commercial saltwater fishing operations. Coho salmon provide for much of this activity, yet little is known about these stocks. In 1996, the King Salmon Fishery Resource Office concluded a two year study to document the abundance of coho salmon in a representative stream near the Yantarni airstrip area.

Using area-under-the-curve methodology, 143 coho salmon in Clear Creek were marked with surveyor's flagging. The number of marked fish observed during foot surveys was used to estimate residence time of spawning fish. By comparing the number of marked and unmarked fish observed with the average residence time, 2,614 coho salmon were estimated to have spawned during the season. Similar methods were used in 1995 and resulted in a estimate of 3,131 fish. Observations indicated that movements of these fish were dependent upon higher water levels and most fish did not enter the spawning area until high water made passage over or around several beaver dams feasible. Area-under-the-curve methodology appears to be an appropriate method to estimate the size of coho salmon runs in small streams and will be applied to other areas of the Pacific coast.

## 12. Wildlife Propagation and Stocking

NTR

## 13. Surplus Animal Disposal

NTR

## 14. Scientific Collection

NTR

## 15. Animal Control

NTR

## 16. Marking and Banding

A program of capturing and banding songbirds was initiated on the Complex during 1994 in an effort to yield long-term information on neotropical migratory birds breeding on or migrating through the Alaska Peninsula. To date, 10,506 birds of 50 species have been banded. A breakdown of banding totals were summarized in Section G-7 and in unpublished progress reports on file at the Complex headquarters (Dewhurst and Johnson 1996, Eskelin and Dewhurst 1996, and Moore 1996).

This year, a program of small mammal trapping (Sherman live traps) was initiated at two field sites: Mother Goose Lake and Island Arm, Becharof Lake. The purpose was to collect baseline data on local small mammal populations.

Captured mammals were marked by toe-clipping and released. Total capture was 105 individuals consisting of five species: northern red-backed voles, masked and dusky shrews, meadow jumping mice and brown lemmings. Dusky shrews were by far the most common species encountered in the habitats sampled (tundra and moist deciduous woodland).

#### 17. Disease Prevention and Control

NTR

#### 18. Subsistence

**Moose.** A subsistence antlered bull moose season again opened on August 20th and ran through the 31st for Unit 9(C), Naknek River drainage from the south [State/Federal season overlaps during Sept. 1 -15]. Six permits were issued and no moose were harvested. Refuge staff flew over the Big Creek area 4 times during the August hunt, observing only 2 boats on one day.

A subsistence moose hunt opened December 1st and ran through the 31st for Unit 9(C), that portion draining into Naknek River from the south. The hunt was for antlered bulls, although Federal registration permits were issued to allow the take of up to 5 antlerless moose. A total of 11 antlerless permits were issued and 3 were reported harvested to this office.

### H. PUBLIC USE

#### 1. General

The majority of public uses currently occurring on Complex lands involves subsistence and sport hunting of caribou, moose, and bear; fishing for Arctic grayling, burbot, dolly varden/Arctic char, rainbow trout, lake trout, northern pike, and five species of Pacific Salmon (king, sockeye, silver, coho and chum); trapping furbearing animals and gathering berries.

Complex resources are utilized by residents of 12 villages within or near refuge boundaries, primarily for subsistence uses. Other Alaska residents

and out-of-state visitors commonly utilize Complex resources pursuing sport hunting and fishing activities.

Public demand for high quality outdoor and wildlife associated activities continues to increase. Request for off-Complex programs also continues to increase. Our educational program has been made possible through the hard work of three Refuge Information Technicians (RITs).

The three RITs were hired to assist with subsistence, public use and environmental education (EE) programs on the Complex. Major duties include serving as liaisons and facilitating exchange of information between the Complex and local villages; preparing and conducting environmental education and subsistence programs; staffing the King Salmon Inter-Agency Visitor Center; and assisting in other public use programs as needed. The RITs work a nine-month season (September-May), taking time off in the summer months to pursue commercial fishing activities.

Public use inquiries continued to increase again this year. There were inquiries from 38 states and 14 foreign countries. More than 360 inquiries were answered during the year (323 in 1995).

## 2. Outdoor Classrooms (Education Programs) - Students

**Environmental Education and Outreach Efforts.** With the RIT program in place, staff time and talents were devoted to developing and presenting environmental education (EE) programs for adults and children in nearby villages. Toward the goal of providing quality education classes we presented the following EE and outreach programs this year:

January. Staff time was devoted to educating students about declining populations of Arctic nesting geese, using the "Teach about Geese" curriculum, and promoting conservation of geese through the Western Alaska Goose Calendar Art and Literature contest. Staff also spent time talking with students about the new Alaska Junior Federal Duck stamp contest. EE programs given included:

- 11th - RIT Lind worked with seven elementary students at Meshik School in Port Heiden for one hour.
- 24th - RIT Lind traveled to Pilot Point and spent an hour with ten elementary students and three adults.
- 24th - RIT Knutsen worked with the 5th grade (24 students) and the 6th grade (25 students) at Bristol Bay School for 1.5 hours with each class.
- 25th - RIT Knutsen worked with the 2nd grade (14 students), 9th grade (16 students) and the 12th grade (10 students) at Bristol Bay School for one hour with each class.
- 31st - RIT Knutsen traveled to South Naknek and worked with 21 elementary students for a total of three hours.

RIT Lind is working on a new educational packet highlighting marine mammals. He gave the following marine mammal programs:

- 16th - Orville spent an hour with 7th-12th grade (12 students, two

adults) at Meshik School in Port Heiden.

**25th** - Lind spent one hour with K-12th grades (25 students) at Pilot Point School.

February. Environmental education programs this month highlighted declining populations of geese, the Alaska Junior Federal Duck stamp contest and marine mammals. Programs given included:

**5-8th** - RITs Lind and Kelly traveled to the Chigniks to work with students at Chignik Bay, Lagoon and Lake. On the 5th, RITs Lind and Kelly worked with 1st-6th grade (seven students) for 1.5 hours at Chignik Bay school.

**6th** - Shirley and Orville worked with the K-6th grade (nine students) for one hour and 9th-12th grade (11 students) for two hours at Chignik Bay school.

**7th** - RITS Lind and Kelly traveled to Chignik Lake and worked with K-1st grade (nine students), 2nd-3rd grade (nine students), 4th-6th grade (18 students) and 7th-12th grade (18 students). Orville and Shirley spent one hour with each of the student groups.

**8th** - RITs Lind and Kelly traveled to Chignik Lagoon and worked with 1st-6th grade (15 students) and 7th-11th grade (10 students) for a total of two hours.

**9th** - RIT Knutsen worked with the 1st grade (22 students), 7th grade (16 students), and 8th grade (21 students) at the Bristol Bay school. Smiley spent one hour in each of the three classes.

**15th** - RIT Knutsen worked with the 1st grade (22 students) for one hour, 2nd grade (14 students) for 1.5 hours and 3rd grade (21 students) for one hour at the Bristol Bay school.

**16th** - RIT Knutsen worked with the 2nd grade (14 students) for 1.5 hours at the Bristol Bay school.

**20th** - RIT Knutsen worked with the 3rd grade (21 students) for one hour at the Bristol Bay school.

**21st** - RIT Kelly traveled to Egegik to work with the K-5th grade (eight students) and 6th-12th grade (six students). Shirley worked with the two student groups for 2.5 hours.

**21st** - RIT Lind traveled to Ivanof Bay to work with the 1st-5th grade (five students) and 6th-9th grade (four students). Orville spent a total of 4.5 hours with the two classes.

**22nd** - RIT Lind traveled to Perryville to work with the K-5th grade (11 students), 7th-8th grade (eight students) and 9th-12th (six students). Orville spent 1.5 hours with each of the three classes.

RIT Lind gave several programs using his new educational packet highlighting marine mammals. He gave the following programs:

**6th** - RIT Lind spent an hour with 1st-12th grade (20 students, five adults) at Chignik Bay School.

**8th** - Orville spent one hour with K-11th grades (25 students) at Chignik Lagoon school.

**22nd** - Orville spent one hour with K-12th grades (25 students) at

Perryville school.

March. On the 6th-8th, RIT Shirley Kelly traveled to Nondalton to work with students from several different villages. The students were gathered for an Academic/Athletic Meet and the school district invited Shirley to participate. She worked with 32 students for a total of three hours of instruction. Shirley spent time talking about the Service mission and system, refuges in Alaska and the Complex, and the goose and duck stamp contests.

On the 27th, RIT Lind took the preschool class at Port Heiden on a field trip to observe waterfowl. He worked with four students for a total of one hour.

April. The first week of the month, National Wildlife Week materials were sent to all schools in the Bristol Bay and Lake & Peninsula school districts. A total of 19 schools received the educational packets. On the 25th, RIT Kelly traveled to Egegik to present an EE program in the school. Using the National Wildlife Week theme of "Wetlands in Alaska" she used several activities from the Service's curriculum "Wetlands and Waterfowl." Shirley worked with K-5th students for two hours.

On April 3, we were notified of the 1997 Goose Calendar Contest winners. Several of our local students (Bristol Bay and Lake & Peninsula School Districts) were winners in this important conservation effort. The contest continues to be very popular in our area, with 361 local students entering the poster contest and 65 entering the literature contest. The following students won prizes in the Western Alaska contest:

### **Bristol Bay School District**

#### **Literature Contest:**

GRAND PRIZE: Megan Tibbetts, grade 6  
FIRST PLACE: David Stichler, grade 2

#### **Poster Contest:**

FIRST PRIZE: Kristin Tolbert, grade 9  
SECOND PRIZE: Catey Adams, grade 1

### **Lake and Peninsula School District**

#### **Literature Contest:**

FIRST PLACE: Jeanette Poindexter, Port Alsworth, grade 5  
FIRST PLACE: Jessica Mullins, Port Alsworth, grade 6  
FIRST PLACE: Oxcenia O'Domin, Chignik Lake, grade 12  
THIRD PLACE: Christi Salmon, Igiugig, grade 7

#### **Poster Contest:**

GRAND PRIZE: Jeramy Skonberg, Chignik Bay, grade 10

FIRST PLACE: Tallan Baumfalk, Igiugig, grade 1  
 FIRST PLACE: Cory Lind, Port Heiden, grade 4  
 FIRST PLACE: Carrie Harried, Nondalton, grade 6  
 SECOND PLACE: Jared Poindexter, Port Alsworth, grade 3  
 SECOND PLACE: Jessica Poindexter, Port Alsworth, grade 7  
 THIRD PLACE: Maryanne Yagie, Perryville, grade 5

Local students who did not win in the Western Alaska contests were judged by the Complex and KSFR0 staffs in a local contest. We wanted to recognize and give credit to the many students who participate in this conservation project. The following students won prizes in the local Complex contest include:

### **Bristol Bay School District**

#### **Literature Contest:**

THIRD PLACE: Casey Groat, grade 8  
 Honorable Mention: Teri Radice, grade 6

#### **Poster Contest:**

FIRST PLACE: Hannah Donkersloot, grade 6  
 THIRD PLACE: Megan Tibbetts, grade 6  
 Honorable Mention: Katrina Hazenburg, grade 1  
 Honorable Mention: Jessica Gardiner, grade 9  
 Honorable Mention: Bennett Alto, grade 5 in South Naknek  
 Honorable Mention: Mandi Zimin, grade 5 in South Naknek

### **Lake & Peninsula School District**

#### **Literature Contest:**

FIRST PLACE: Austin Shangin, grade 11 in Perryville  
 SECOND PLACE: Adena Shanigan, grade 6 in Pilot Point  
 FOURTH PLACE: Chandelie Alsworth, grade 6 in Port Alsworth  
 Honorable Mention: Sam Thornberry, grade 3 in Port Alsworth  
 Honorable Mention: Abe Wilson, grade 9 in Nondalton  
 Honorable Mention: Brittaney Jensen, grade 4 in Pedro Bay  
 Honorable Mention: Peter Apokedak, grade 3 in Levelock  
 Honorable Mention: Cory Lind, grade 4 in Port Heiden  
 Honorable Mention: Christine Lind, grade 7 in Chignik Lake  
 Honorable Mention: Rebecca Kosbruk, grade 12 in Perryville  
 Honorable Mention: Jolene Kalmakoff, grade 6 in Ivanof Bay

#### **Poster Contest:**

SECOND PLACE: A.J. Kalmakoff, grade 9 in Ivanof Bay  
 FOURTH PLACE: Jacy White, grade 12 in Egegik  
 Honorable Mention: Cory Brandal, grade 6 in Chignik Bay  
 Honorable Mention: Cody Brandal, grade 6 in Chignik Bay  
 Honorable Mention: Tracy Takak, grade 2 in Chignik Lake  
 Honorable Mention: Josy Borenin, grade 11 in Chignik Lake  
 Honorable Mention: Mahear Abou Eid, grade 4 in Chignik Lagoon  
 Honorable Mention: Anecchia Pedersen, grade 4 in Chignik Lagoon

Honorable Mention: Denise Shangin, grade 3 in Perryville  
 Honorable Mention: Boris Kosbruk, Jr, grade 6 in Perryville  
 Honorable Mention: Glenn Kalmakoff, grade 8 in Ivanof Bay  
 Honorable Mention: Jolene Kalmakoff, grade 6 in Ivanof Bay  
 Honorable Mention: Bobbie Orloff, grade 11 in Port Heiden  
 Honorable Mention: Justin Reid, grade 9 in Port Heiden  
 Honorable Mention: Jacklyn Reamey, grade 7 in Pilot Point  
 Honorable Mention: Lori Ann Abyo, grade 7 in Pilot Point  
 Honorable Mention: Jason Chernikoff, grade 4 in Egegik  
 Honorable Mention: Michelle Johnson, grade 6 in Egegik  
 Honorable Mention: Melissa Washington, grade 3 in Levelock  
 Honorable Mention: Bonnie Apokedak, grade 6 in Levelock  
 Honorable Mention: Alexanna Salmon, grade 4 in Igiugig  
 Honorable Mention: Ida Nelson, grade 5 in Igiugig  
 Honorable Mention: Brittaney Jensen, grade 4 in Pedro Bay  
 Honorable Mention: Tiffany Reeb, grade 5 in Pedro Bay  
 Honorable Mention: Ramona Batchelder, grade 4 in Newhalen  
 Honorable Mention: Dean Melagnak, grade 3 in Newhalen  
 Honorable Mention: Chandelle Alsworth, grade 6 in Port Alsworth  
 Honorable Mention: Jeanette Poindexter, grade 5 in Port Alsworth  
 Honorable Mention: Savannah Rawls, grade 4 in Kokhanok  
 Honorable Mention: Tina Marie Mann, grade 7 in Kokhanok  
 Honorable Mention: Tiffany Alexie, grade 5 in Nondalton  
 Honorable Mention: Cheryl Trefon, grade 6 in Nondalton

May. All prizes and gifts for student winners in the 1997 goose calendar contest arrived and were distributed mid-month. The Lake and Peninsula student prizes were sent to their schools for the teachers to present. The Bristol Bay School winners were given their prizes by RR Terrell-Wagner and RIT Knutsen in a School Awards Ceremony on the 29th.

Beginning on the 15th, an exhibit showing the student's award winning art and literature work was put on display at the King Salmon Visitor Center. Entries not selected were returned to the schools for the community to enjoy.

November. On the 7th, students from Egegik School took a field trip to see the King Salmon Visitor Center. A total of six students and one teacher spent 1.5 hours touring the center and learning about the mission of the FWS and our two refuges. They enjoyed seeing our new refuge-specific video program.

On the 12th and 26th, RR Terrell-Wagner & Lind and RITs Kelly & Knutsen participated in conference calls to discuss the 1998 goose calendar contest including a new theme, contest rules, information pages, distribution of calendars, etc. The theme selected for the new contest is "Geese... In our Backyard, in our World."

On the 22nd, RIT Kelly traveled to the village of Egegik to give an EE program on "Birds of Prey," specifically eagles and owls. She worked with nine students in grades K-4th for a total of 2.5 hours of

instruction. The students really enjoyed dissecting an owl pellet to learn what it had been eating.

December. On the 5th and 6th, RIT Kelly attended the Non-game Migratory Bird Environmental Education Workshop in Anchorage. Class attendees learned about raptors, sea, shore and song birds, and teacher kits now available for us to use in our EE programs. Heather Johnson in the External Affairs Office conducted the excellent workshop.

Time was spent this month preparing for the upcoming 1998 goose calendar contest. Letters were written to teachers and calendars prepared for distribution to students in both the Bristol Bay and Lake & Peninsula school districts. On the 16th, we sent the 1997 goose calendars to several schools in the Lake & Peninsula school district.

On the 18th, RIT Knutsen visited the 8th grade class in Bristol Bay school. He gave a program about the mission of the Service and showed our refuge-specific video program. He worked with eight students for about 1.5 hours.

### 3. Outdoor Classrooms (Education Programs) - Teachers

We continued to expand our Resource Lending Library again this year. The Lending Library, housed in the King Salmon Visitor Center, consists of excellent natural resource and educational books, video tapes and audiovisual materials, etc. Staff uses these materials in preparing and presenting EE programs, and we have them available for loans to village teachers. We also use the educational video tapes extensively in the Visitor Center during the summer months. This year a total of **2,256** people viewed educational films in the Visitor Center and in the schools.

### 4. Interpretive Foot Trails

NTR

### 5. Interpretive Tour Trails

NTR

### 6. Interpretive Exhibits/Demonstrations

The Complex's public use staff is responsible for daily management and operation of the King Salmon Inter-agency Visitor Center (Visitor Center). The Visitor Center is a cooperative effort of the U.S. Fish and Wildlife Service, National Park Service, Bristol Bay Borough, and Lake & Peninsula Borough.

The Visitor Center is managed under a "Cooperative Agreement" that details management responsibilities of the four agency partners. The Fish and Wildlife Service has the lead in providing "Personal Services" including

daily operation and staffing the Visitor Center. The National Park Service has the lead in providing for "Non-personal Services" which includes exhibit design/fabrication, informational/educational brochure design and production, and design/production of the "Bear Facts" inter-agency newspaper. All four partners share equally the costs of renting the building and in setting policy for management of the Visitor Center.

The primary purpose of the Visitor Center is to provide information and educational services for adults and children about the natural/cultural resources and recreational opportunities on the Alaska Peninsula. During the summer months the Visitor Center functions as an information, orientation and trip planning center. During the winter (November through April) the facility continues to serve visitors and also functions as an environmental education center providing both on and off-site programs for community school children.

The Visitor Center serves a wide variety of people including local and state residents, U.S. citizens and many international visitors. In 1996, visitors signing the guest register represented 45 states and 18 foreign countries. Approximately 20-25% of the people using the center in the summer months are visitors from foreign countries.

The total number of people using the Visitor Center continues to increase each year. The Visitor Center opened in May 1992, and during the first year of operation a total of 6810 people visited the Center. In 1995 and 1996, major improvements were made to the building including installation of new exhibits, picnic tables and cedar siding. These improvements have helped us better serve more visitors and greatly increased visitations. **Visitation for calendar year 1996 was up 20% with a total of 15,786 visitors (13,166 in 1995) and ANHA sales were up 53% at \$51,939 (\$33,042 in 1995).**

The Visitor Center is conveniently located at the King Salmon Airport and is open year-round. The center is open daily (8:00 a.m. to 5:00 p.m.) May through September and five days per week (10:00 a.m. to 4:30 p.m.) October - April. The facility is open on holidays during the summer and closed on winter holidays.

The Visitor Center currently offers a staffed information desk, a variety of professional exhibits and interactive programs, an audiovisual room featuring films shown on a large-screen television and a bookstore offering educational books, topographic maps, air and sea navigation charts, video tapes, posters and cards. A small outdoor picnic area with two handicap accessible tables is also available and is used extensively.

In 1994 and 1995, professional exhibits were designed and installed in the Visitor Center. The exhibits feature natural and cultural resources, including Native Peoples, commercial and sport fishing, life cycle of salmon, brown bears, "watchable wildlife" including common birds, plants and animals; declining populations of Arctic nesting geese, marine mammals and geology.

Much staff time and effort were spent in 1996, designing a new interactive computer-driven information system for the Visitor Center. The education program (the first of its kind in the state) was completed and installed in April. The educational system highlights wildlife, public lands, commercial and sport fishing, geology, and communities on the Alaska Peninsula. The program is fully expandable and we will be adding to the program as time and funding allow.

The Visitor Center facility is still being developed. Additional exhibits and programs are in the planning stage and will highlight a variety of topics, including success stories of the Endangered Species Act, sport fishing and Alaska Native arts and crafts. We hope to have these new exhibits completed and installed in 1997.

#### **King Salmon Visitor Center Highlights.**

March - On the 8th, the Visitor Center partners met to discuss several issues including visitation figures, current work on an interactive computer driven information system we are developing, new exhibits on sport fishing and success stories of the Endangered Species Act, and staffing for the summer. In attendance were RM Hood, DRM Poetter and RR Terrell-Wagner representing the Service, Park Superintendent Bill Pierce and Chief of Interpretation Mark Wagner with Katmai National Park, Bristol Bay Borough Manager Glen Vernon and Sheila Bergey representing the Lake & Peninsula Borough.

April - On the 18th, our new interactive computer-driven information kiosk for the Visitor Center arrived. Much time and effort were spent this year working with Alaska Multimedia Productions (based in Delta Junction) to develop this education system. Highlights of the program include wildlife (bears, moose, caribou, wolves, marine mammals and birds), fisheries (sport & commercial fishing, and life cycle of salmon), public lands (USFWS and NPS areas) and villages on the Alaska Peninsula. Funding for the project came from the challenge cost-share monies in partnership with the National Park Service, Bristol Bay and Lake & Peninsula Boroughs and ANHA. The information program is fully expandable and we are already developing a new section that will highlight flora on the Alaska Peninsula.

May - On the 11th, we celebrated the Fourth Anniversary of the Visitor Center and International Migratory Bird Day with a series of events. FWS and NPS staff conducted an early morning bird walk and bird banding demonstration. Staff also gave a presentation on bald eagles and then released a rehabilitated eagle. (The mature female eagle had been injured in a trap last winter in King Salmon and was sent to the Bird Treatment and Learning Center in Anchorage). A total of 65 people watched the eagle release, including many school age children. The students informally named the eagle "Freedom." To celebrate the fourth anniversary of the Visitor Center, we sponsored a day-long "Open House." Activities included a ceremony to dedicate our new interactive computer program, refreshments, door prizes and a sale on all ANHA items. We were pleased with the numbers of people attending the Open House. More than 100 people visited

throughout the day, and approximately 50 were present during the computer dedication ceremony. ANHA sales were excellent at \$1,121.00 (our biggest single day of sales ever!).

We had a large increase in visitations (up 205%) and ANHA sales (up 255%) this month compared to May 1995. The large increase in visitations this year is probably due to several factors, including a spring bear hunt and a much larger number of commercial herring fisherman than usual.

June - On the 7th, an inter-agency meeting was held with the King Salmon Visitor Center partners. In attendance were RM Hood and RR Terrell-Wagner representing the Service, Chief of Interpretation Mark Wagner with Katmai National Park, Bristol Bay Borough Manager Glen Vernon and Naknek Mayor Edwin Anderson, Lake & Peninsula Borough Manager Walt Wrede and Economic Development Coordinator Sheila Bergey. The meeting was held to discuss the possible shortfall of funding available for the Visitor Center from the Bristol Bay Borough (BBB). The majority of funding to operate the BBB comes from a 3% raw fish tax collected on the commercial fishing industry. This year the expected run of salmon is only 8.5 million fish (last year was about 20 million). Because of the anticipated small run, the BBB may have about a two million-dollar shortfall of funding to operate the Borough. Each year the BBB contributes \$10,000.00 toward operating the Visitor Center. This includes \$7,800.00 for rent and \$2,200 for building maintenance and exhibits. At the meeting the Borough Manager and Mayor informed the other partners that unless the price of salmon increases and/or the run is larger than predicted, the BBB may have to decrease their funding for the Visitor Center for the new fiscal year (July 1st-June 30th). The Borough will continue to fund the KSVC at normal levels through the end of September. We are exploring several ways that the BBB can continue as a partner of the Visitor Center including in kind services. Partners are also pursuing the possibility of getting a reduction in the amount of rent we pay to use the facility.

Since Katmai Superintendent Bill Pierce was unable to attend the partner's meeting on the 7th, a courtesy meeting was held on the 19th. In attendance was RR Terrell-Wagner, Bill Pierce and Mark Wagner of Katmai National Park and Mayor Edwin Anderson. Mr. Anderson is now the Acting Bristol Bay Borough Manager since Glen Vernon resigned on the 14th, to pursue other job opportunities in the Lower 48.

On the 10th, we received the newly completed "Trails Illustrated" map highlighting the Becharof National Wildlife Refuge, Katmai National Park and Preserve, Alagnak Wild River and McNeil State Game Sanctuary. This map was an inter-agency project (NPS and FWS) designed to show accurate boundaries and provide information and safety messages for visitors using federal and state public lands. The map was greatly needed and is now available through our ANHA outlet for \$8.95. Sales of the map have been excellent, it has become our biggest ANHA sales item at the Visitor Center (June through December we sold 245 maps for a total of \$2,193).

August - On the 1st, an inter-agency meeting was held with the Visitor Center partners. In attendance were RM Hood and RR Terrell-Wagner

representing the Service, Park Superintendent Bill Pierce and Chief of Interpretation Mark Wagner with Katmai National Park, Acting Bristol Bay Borough Manager Edwin Anderson and Lake & Peninsula Borough Economic Development Coordinator Sheila Bergey. The meeting was held to discuss the shortfall in funding the BBB is experiencing and how this will affect Visitor Center partnership. We continue to explore ways that the BBB can continue as a Visitor Center partner. They have agreed to continue administering the lease for the building which is a great service to us. RR Terrell-Wagner contacted Alaska Industrial Development and Export Authority (AIDA) who is currently holding title to the building since the MarkAir bankruptcy and they have agreed to reduce our rent by 25% until the BBB has more funding available. This is also great news!

On the 6th, DRM Poetter and RR Terrell-Wagner attended a Lake & Peninsula Borough Assembly meeting to discuss the Visitor Center partnership. The Borough agreed to continue funding the Visitor Center for the next fiscal year. The assembly members stated their satisfaction with the Visitor Center partnership.

September - This was the second summer of our involvement in lending bear resistant food containers to visitors camping on federal lands on the Alaska Peninsula. The National Park Service purchased several different size (12 and 18-inch backpacking and 12, 15, 20, 30-gallon) containers and had them available for free loans in several locations. Approximately 35 camping groups borrowed the containers from the Visitor Center this summer. It was a successful inter-agency program to educate visitors about proper food storage, and we were very pleased to have a 100% return rate on the containers!

December - Work continues on finishing exhibits for the Visitor Center. On the 9th, we installed a life-size manikin of an Aleut hunter wearing a seal gut parka and bentwood hat in the Visitor Center. We are developing a cultural exhibit about the Native Peoples of the Alaska Peninsula. We will have clothing, tools, arts and crafts representing the Aleut, Yupik Eskimo and Tainana Athabaskan Peoples. We have been working closely with the Anchorage Museum of History and Art and the State Museum in Juneau to develop this exhibit.

To encourage local residents to visit the Center and to promote sales of ANHA educational and interpretive materials, we offered a "Holiday Sale" throughout the month. We were extremely pleased with the community participation. Total visitations for the month was 336 (168 in 1995) and ANHA sales were \$4,399.00 (1,724.00 in 1995).

We are very pleased with our visitation numbers and ANHA sales figures this year. Additional exhibits and our new computer-driven education program are helping us better serve more visitors. A summary of activities at the Visitor Center for calendar year 1996 includes:

#### **Visitation Summary, January-December 1996**

Total visitation:	15,786
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Total films shown:	685
Total film viewers:	1,756
Total interactive computer users:	1,330
Total "Bear Safety" users:	2,018
Total signing guest register:	574
Total information requests:	360
Total ANHA Sales:	\$51,939
Total ANHA Memberships:	63

Visitors signing the guest register represented 45 states and 18 foreign countries this year. We were pleased to see the wide variety of countries represented (Australia, Austria, Canada, England, France, Germany, Guatemala, Holland, Israel, Italy, Japan, Malaysia, Mexico, Peru, Philippines, Russia, Spain and Switzerland). Approximately 20-25% of people using the center in the summer months are tourists visiting from foreign countries.

**Interactive Information Kiosk.** RR Angie Terrell-Wagner spent much time and effort this year developing a new interactive computer-driven information system for the Visitor Center. The educational program (the first of its kind in the state) provides information about the natural/cultural resources and recreational opportunities on the Alaska Peninsula. Highlights of the program include wildlife (bears, moose, caribou, wolves, marine mammals and birds), fisheries (sport & commercial fishing, and life cycle of salmon), public lands (USFWS and NPS areas) and villages on the Alaska Peninsula.

The interactive program (includes written text, color slides, video footage and music stored on a compact disk) consists of a computer-driven touch screen monitor that visitors will use to learn about the Alaska Peninsula. The computer system is a Power Macintosh with a 21" touch screen monitor.

The program is fully expandable and we will be updating and adding to the program as time and funding allows. We are already planning a new section that will highlight local flora (trees and shrubs, wildflowers and wild edibles).

Funding for this project was provided through the challenge cost-share program. Partners involved in helping design/fabricate, the interactive program includes Alaska Multimedia Productions, Bristol Bay and Lake & Peninsula Boroughs, National Park Service and the Alaska Natural History Association.

#### 7. Other Interpretive and Outreach Programs

**National Wildlife Refuge Week Celebration Activities.** We conducted several outreach activities to celebrate "National Wildlife Refuge Week." On September 23-27, RR Lind traveled to several villages to give educational programs about the mission and work of the Service in conjunction with NWR Week. Orville visited schools at Chignik Lake, Ivanof Bay, Perryville and Pilot Point, and spent a total of four hours working with 110 students.

On October 4, RR Terrell-Wagner coordinated a "Birds of Prey" demonstration featuring a live bald eagle and two gyrfalcons for students at the Bristol Bay School. Bob Collins and Kerry Siefert, (volunteers at the Bird Treatment and Learning Center in Anchorage) gave two 45-minute educational talks for 85 students in grades K-3rd and 80 4th-6th graders.

On October 5, RR Terrell-Wagner conducted an "Open House" at the Visitor Center from 8:00 a.m. to 5:00 p.m. RIT Kelly and RM Hood were also present to greet visitors and answer questions. The live bald eagle and gyrfalcons were featured at the Center, (10:00 a.m. to 1:00 p.m.), for visitors to observe and hold, take photographs, and ask questions of the handlers. Also, at 11:00 a.m., a dedication of the Visitor Center's video room was held to honor Fish and Wildlife Service Director Mollie Beattie (deceased). Last year Ms. Beattie provided us funding to develop a refuge-specific video program. At the "Open House" cake refreshments were available, and door prizes including sport fishing trips and educational books were awarded. A total of 510 people attended the day-long activities. Alaska Natural History Association (ANHA) sales items were discounted 15% for non-ANHA members and 25% for members. Total sales for the day were \$1,037.57.

Local dignitaries attending the "Open House" included Bristol Bay Borough Mayor Edwin Anderson, Bristol Bay Borough Assemblyman John Durand and Alaska Peninsula Native Corporation President Ralph Angason.

**Other Outreach programs.** On April 1 and 2, Regional Archeologist Debra Corbett traveled to Pilot Point and Port Heiden to give educational programs in the village schools in celebration of Alaska Archeology Week. RIT Lind accompanied Debra and together they presented two programs in each school. They worked with a total of 25 students (K-12th) in Pilot Point and 22 students (K-10th) in Port Heiden. We received many positive comments about the great job that Debra did.

On April 24, RR Terrell-Wagner attended the fourth organizational meeting of the Bristol Bay Visitor Council. The council is a new group of borough, state, federal, profit and nonprofit Native groups, local business owners and others interested in promoting tourism in the Bristol Bay region. This group provides a good networking opportunity with potential partners in our outreach efforts.

On October 10-16, RIT Kelly, traveled to Anchorage to give several presentations about her work with the Service to various groups of adults and youths. She gave a program for 15 adults at the Regional Office on the 10th, and worked with Native students at East and West high schools on the 11th, 16th and 17th. At the high schools she gave a total of five presentations for about 100 students. On the 14th-16th, Shirley helped staff a booth during the Youth and Elder Conference at the Egan Center. She talked with approximately 150 people providing information about job opportunities with the Service.

## 8. Hunting

Hunting is a major public use on the Complex. Commercial guiding includes hunts for world-class trophy brown bear, caribou and moose. Some hunters take advantage of overlapping seasons to pursue all three species. Brown bear seasons occur on a 18-month rotation (spring hunt during even years and fall hunt in odd years).

King Salmon is the hub for commercial air service to access the Complex. Once a hunting party arrives in King Salmon, air taxi and charter services are available to most areas on the two refuges. King Salmon is the base of operation for numerous guide/lodge businesses operating on the Alaska Peninsula. Those hunters wishing to hire the services of a guide will generally find that fees can be costly and highly variable depending on the length of the hunt, amenities provided, area, and species of animal hunted. Commercial guide fees for caribou or moose hunts range from \$2,500 to \$3,500 and a brown bear hunt costs \$10,000 to \$15,000.

Individuals wishing to go hunting on their own will have to be more prepared, but can save money. According to state law, nonresident hunters are required to be "guided" on brown bear hunts. The fees set by ADF&G for resident and nonresident licenses and tags are listed in Table 6. Once the proper licenses and tags are obtained, the cost of an air charter can range from \$150 to \$625 for each hour of flight time. An average round-trip flight to a hunting location will take three or more hours.

Table 6. Alaska resident and nonresident license and tag fees for 1996.

Type of License	Nonresident	Resident
Hunting	\$85.00	\$25.00
Hunting and sport fishing	\$135.00	\$55.00
Caribou tag	\$325.00	0.00
Moose tag	\$400.00	0.00
Brown bear tag	\$500.00	\$25.00

Hunters are required to submit a "hunt report" to Alaska Department of Fish and Game (ADF&G) at the close of the hunting season. The report includes information on harvest success. Due to the long hunting seasons, ADF&G lags behind one year in processing the harvest reports, thus hunter success in calendar year 1995 is shown in Tables 7 and 8.

Table 7. Caribou and moose reported harvest for Alaska Peninsula Game Management Units (GMU) 9C and 9E, 1995-1996 (ADF&G data). <sup>a</sup>

Species	Bulls	Cows	Unknown	Total
Caribou	491	48	4	539 <sup>b</sup>
Moose	109	3	0	112

<sup>a</sup>Harvest reports include both Alaska Peninsula and Becharof refuges.  
(Reporting dates for caribou are from August 1995 to March 1996.)

Moose are for the 1995 season only.)

<sup>b</sup>Other Alaska residents (not local) took 240 caribou, non-resident hunters took 216 caribou and local resident hunters reported 108 caribou taken (this number is considered to be very low as the majority of local subsistence hunters do not report their success to ADF&G.

Table 8. Brown bear harvest for the Alaska Peninsula, 1975-1995, GMUs 9C and 9E (ADF&G data).

<u>Date<sup>b</sup></u>	<u>Total Bears</u>	<u>Percent Boar</u>	<u>Mean Age</u>		<u>Percent Harvest<sup>a</sup></u>	
			<u>Boar</u>	<u>Sow</u>	<u>Boar</u>	<u>Sow</u>
1975-76	261	62	6	7	49	51
1977-78	311	64	6	7	45	55
1979-80	316	68	6	6	47	53
1981-82	339	59	6	6	47	53
1983-84	268	61	6	8	53	46
1985-86 <sup>c</sup>	263	64	7	8	60	37
1987-88 <sup>d</sup>	398	62	6	6	69	29
1988-89	347	66	-	-	66	34
1989-90	328	67	-	-	-	-
1991-92	350	66	-	-	-	-
1993-94	310	66	-	-	-	-
1995-96	306	70	-	-	-	-

<sup>a</sup>Figure represents bears 5 years of age or older.

<sup>b</sup>Brown bear hunting season on the peninsula is on a rest-rotation schedule, e.g., the fall of 1995 was open, followed by a season in the spring of 1996. There will not be another open season until the fall of 1997, essentially an 18 month cycle.

<sup>c</sup>Includes seven bears of unknown age and/or sex. Drainages listed on harvest reports indicate 144 (55 percent) of the total harvest was taken either on Alaska Peninsula or Becharof refuges.

<sup>d</sup>Includes 12 bears of unknown age and/or sex.

## 9. Fishing

The rivers and lakes within the Alaska Peninsula/Becharof Refuge Complex provide world-class fishing opportunities. Game fish include five species of Pacific salmon (chinook, sockeye, coho, pink and chum), Arctic grayling, dolly varden/Arctic char, rainbow trout and burbot. In large lakes, northern pike and lake trout are common. Flowing-water areas most often utilized for sport fishing include King Salmon rivers (Becharof Refuge and Chignik Unit, Alaska Peninsula Refuge); Big, Featherly, Gertrude and Painter creeks; and Upper and Lower Ugashik lakes, including the Ugashik Narrows (Narrows). In 1981, the Alaska record Arctic grayling was caught in the Narrows:

A total of 22 guides/lodges offering fishing packages were "permitted" to operate on the Complex in 1996. Most operators promote "catch and release" angling for resident fish species. A variety of package programs that include lodging and air transportation to the fishing areas are available. These package deals range in price from \$1500 to \$5000, depending on the length of stay and quality of amenities offered by the

lodge.

To document the winter subsistence harvest of fish in the King Salmon and Egegik Rivers, RIT Kelly has been designated as a "creel clerk" for the ice fisheries that occur near the village of Egegik. The information she collects is being used by the KSFRO.

Each year we celebrate National Fishing Week a little later than others do, as selected youths and Complex staff is not usually available in June. We celebrated "National Fishing Week" this year on July 18, to coincide with good fishing in our area. On a cool and breezy day, RM Hood, MW Terry, AP Smoke and BT Aaron Poetter (on loan from KSFRO) used one government boat and three personal boats to take three adults, two high school students and four elementary students on the Naknek River to fish for king salmon. RR Heidi Smith coordinated the trip and prepared a delicious homemade picnic lunch for everyone. Several fish were hooked and a few fish were landed, and lots of fun was had by all.

#### 10. Trapping

Historically, the trapping of fur bearing mammals was a full-time winter endeavor on the Alaska Peninsula. Today, trapping popularity is highly variable due to the price fluctuation of raw hides. Fox, mink, ermine and beaver are commonly trapped; and to a lesser extent, coyote, wolf, wolverine, lynx and land otter are caught. As a method of monitoring take, ADF&G requires a sealing tag on the untanned skin of wolverine, wolf, lynx, land otter and beaver. Data from the sealing records is listed in Table 9. No records are available on ermine, fox, mink, or coyote.

Table 9. Fur bearer harvest in GMUs 9C and 9E (ADF&G data).

Year (winter)	Number Harvested				
	Beaver	Otter	Lynx	Wolverine	Wolf
1984-85	-- <sup>a</sup>	24	4	14	14
1985-86	166	25	23	20	10
1986-87	240 <sup>b</sup>	112 <sup>b</sup>	27	22	10
1987-88	254 <sup>b</sup>	152 <sup>b</sup>	3	30	14
1988-89	57	53	4 <sup>c</sup>	36	23
1989-90	108	52	2	31	23
1990-91	91	31	2	23	12
1991-92	191	90	16	56	55
1992-93	150	47	22	17	13
1993-94	116	26	35	27	52
1994-95	89	49	36	30	11

<sup>a</sup>No data available.

<sup>b</sup>Indicative of increasing prices for short-hair furs.

<sup>c</sup>All taken from Unit 9E.

# 11. Wildlife Observation



Abundant opportunity for viewing wildlife is found throughout the Complex. These caribou were found in the Ugashik Unit.

7/95, DAD

# 12. Other Wildlife Oriented Recreation

NTR

# 13. Camping

NTR

# 14. Picnicking

NTR

# 15. Off-Road Vehicles

The Alaska National Interest Lands Conservation Act (ANILCA) modified the way we manage off-road vehicles (ORVs) in Alaska. When a person is pursuing traditional activities on Complex lands (including wilderness) they may use snow machines, motorboats, airplanes and non-motorized surface transportation. When rural residents are involved in subsistence activities, they may use snow machines, motorboats, **off-road vehicles**, and other means of surface transportation that have traditionally been used.

**Recreational ORV Users.** This use was determined to be "not compatible" with refuge purposes by both the Alaska Peninsula Refuge Comprehensive Conservation Plan (CCP) and accompanying Record of Decision (ROD) and the Becharof Refuge CCP and ROD. This use was found to be harmful and inappropriate because it results in habitat degradation due to plant destruction, soil compaction, and soil erosion. One winter ORV access route over frozen Big Creek was found compatible in the Becharof Refuge CCP/ROD. Recreational ORV use of refuge lands is also prohibited by regulation (43 CFR 36). Development of the PUMP has resulted in clarification of the ORV use issue among recreational and subsistence users. Funding for adequate law enforcement effort is required.

**Subsistence ORV Users.** Title Eight of ANILCA authorizes access to refuge lands by subsistence users by "traditional" methods. On the Alaska Peninsula, use of 3 and 4-wheeled ORVs was an established method of access when ANILCA passed. Therefore, this use has been judged to be traditional. Both refuge CCPs were silent on this issue. Complex staff developed a Public Use Management Plan (PUMP) that included a review and recommendations on limiting ORV use by subsistence users. This traditional access cannot be limited without promulgation of new regulations with public hearings in the affected villages. Completion of the PUMP is an important step in defining the issue and the need for regulations. A final PUMP was completed in December 1993 (see Section D.2.). The ROD was signed in 1994. New regulations were published in the Federal Register in 1996 (See D.2. above.).

#### 16. Other Non-Wildlife Oriented Recreation

NTR

#### 17. Law Enforcement

On February 14, RM Hood observed what appeared to be duck feathers on a doll for sale at the local gift shop. He called Refuge Officer/AP Smoke to investigate as the dolls were made by a local resident. Smoke interviewed the doll maker at her home and while there noticed seal fur trimming on some doll boots. The woman explained that she had gotten the duck feathers from a duck killed locally during the fall hunting season. Smoke explained that only feathers from nonmigratory birds could be used for her decorations. When asked about the seal fur trimming, she did not know that it was illegal for a nonnative to possess or sell marine mammal parts and produced a receipt from the Shishmaref Tannery. A copy of the receipt was forwarded to Law Enforcement (LE) in Anchorage for follow up. Smoke explained the possible violations and why they are illegal, then he advised her that if she removed the feathers and seal fur from the dolls that no action would be taken.

A March drug bust on a local individual uncovered a walrus head and set of tusks that were in the possession of a non-Native and not registered/tagged. Refuge Officers Poetter and Smoke conducted interviews of the individual in the Borough lock up and of the Native, said to have

provided the tusks to the non-Native. A \$250.00 citation was issued for being in possession of unregistered ivory on the 23rd. The ivory may have been traded for drugs but we were unable to make a solid case.

In April, spring waterfowl enforcement in the King Salmon area took a change from the past. This year, after ongoing community subsistence waterfowl surveys and associated literature and information dissemination, local hunters began inquiring and ultimately hunting an area that had not been hunted in the recent past. By the time the dimensions of the newly discovered FWS policy that allows for limited hunting of spring waterfowl (primarily ducks and white-fronted geese in this area), was uncovered we were fortunate to have warm enough weather to open up nearby wetlands and help disperse waterfowl. This made hunting much more difficult and relieved the pressure on the Naknek River.

Special Agent Stan Pruszenski used the Complex's supercub, N278Z, for law enforcement patrols from May 9 through 11. SA Pruszenski flew a total of 17 hours on waterfowl and spring bear patrols. His assistance has been greatly appreciated.

On May 17, a complaint was filed with Alaska Fish and Wildlife Protection (FWP) by a bear hunter who had been hunting on the refuge at Alinchak Bay. The hunter stated that he had observed a pair of hunters apparently kill a bear after harvesting their limit earlier. On the 20th, AP Smoke, in the supercub, flew with two Alaska FWP aircraft to the area to investigate. Wind gusting to 35 knots and associated turbulence prevented the supercubs from landing but the FWP Cessna 185 was able to observe what appeared to be a third carcass in the area. On the 21st, Alaska FWP flew their Robinson R-22 helicopter from Dillingham to Alinchak Bay and were able to collect physical evidence including a hunting knife from the scene. The investigation was still in progress at months' end.

On June 7, a dead bald eagle was reported at the Bristol Bay Borough dump. AP Smoke found an immature bald eagle in the area with its talons removed and no leads.

AP Smoke checked licenses on a group of 12 guided fishing clients at Cabin Creek on June 22. Only four had their licenses in their pockets, the others had left their licenses in their bags near the planes ½ mile downstream. Names and telephone numbers were taken and the guide was asked to FAX copies of fishing licenses by the 24th. DRM Poetter staked out the Ugashik Narrows but did not find any wrongdoers.

Law enforcement patrols were flown by AP Smoke on July 16, 23rd and the 25th. Sport fishermen were checked and two old outfitter camp sites were cleaned up.

On July 24, AP Smoke attended a law enforcement meeting at Brooks Camp. NPS, FWS and FWS special agents discussed the upcoming hunting season and areas where cooperative enforcement might be feasible.

Law Enforcement patrols were flown in both the C-206 and PA-18 during

August. Special Agent Jill Schweiger accompanied AP Smoke on patrols the 20th through the 22nd. SA Schweiger was able to gain some hands on experience in an area of the state that she had not physically worked in but has been of significant help to us in the past.

The September moose season was a busy time for law enforcement. DRM Poetter and AP Smoke spent several nights in the field at both Becharof Lake and Lower Ugashik Lake. Low water levels of the rivers accessing the big lakes kept the Complex's 24-foot boat in King Salmon this year. A 16-foot Boston Whaler was used for limited patrols on Becharof Lake while a 17-foot Zodiac was used on the Ugashik Lakes. Both boats worked well but neither provided the safety and comfort of the Refuge Runner. On September 8, 9th and 10th DRM Poetter checked hunters with the boats while AP Smoke checked hunters with the C-206.

On September 11, State Fish and Wildlife Protection (FWP) received information from an informant that someone was providing guided raft trips for moose hunts on the King Salmon River, Becharof NWR. On the 12th, AP Smoke flew the PA-18 to the King Salmon River and observed a raft with three people and two sets of moose antlers. Contact was made on the 13th when DRM Poetter, AP Smoke and FWP Officer Folger intercepted the rafters near the downstream refuge boundary. The investigation continues with FWP taking the lead at this time.

On September 12, State FWP received a report from a hunting camp near Blue Mountains that they had shot an undersize moose. On the 17th, AP Smoke assisted FWP Officer Folger in receiving the meat and antlers when the hunter returned from the field. The hunter had seen a large moose enter an alder patch and shot without having his target clearly in sight, killing a 40-inch antlered bull. It is State policy to issue a warning to game violators that turn themselves in.

On September 15, a complaint was received from Big Game Guide-Outfitter Phil Shoemaker over the aircraft radio that hunters had killed two moose and a caribou along the Kejulik River and had not salvaged all the meat. The hunters were located along the river but there were no float plane landing sites in the area. On the 16th, AP Smoke flew to the Kejulik River in the PA-18 and field checked three brothers, one resident and two nonresidents. It was difficult to determine how much meat may have been left behind since bears had been making nightly visits to their camps. The investigation continues with LE Special Agents working on the case.

On September 17, AP Smoke flew the C-206 to Rollins Lake, 85 miles south of King Salmon, to investigate a report from an air taxi owner stating that one of his clients did not have enough moose meat with his antlers. The meat and antlers were photographed in the field and the kill site located 1 3/4 miles from the nearest lake through heavy brush. On the 18th, AP Smoke met FWP Officer Quist at Cub Lake and flew to Rollins Lake to hike to the kill site to gather evidence. During the night a bear had buried the carcass. Approximately 1/3 to 1/2 of the meat was still at the site. The hunter was interviewed at FWP on the 19th. The nonresident hunter said that he was too tired to haul meat the day after he shot it

and when he did return most of the meat had spoiled. There was still edible meat at the site seven days after he killed it. A citation for failure to salvage will be issued by FWP. Numerous items of trash were found at the site. A citation for littering will also be issued by the refuge.

Also on September 17, AP Smoke received a complaint over the aircraft radio of a possible same day airborne, wanton waste moose kill in the Dog Salmon River area. On the 20th, AP Smoke flew with FWP Officer Quist to the site using GPS coordinates provided by the complainant on the 19th. Again a bear had claimed the kill, dragged parts into the brush and buried the carcass. About 150 pounds of meat was found at the site along with some other physical evidence. A meal detector was used without success to find a bullet. Photographs were taken and the site quickly turned back over to the bear. Further investigation by FWP revealed that the moose was taken by a nonresident hunter with no tag and tagged by a resident relative. Citations will be issued by FWP.

Other investigations underway in September included illegal transporting on the refuge, illegal use of a permitted cabin, herding game with an aircraft, and use of and shooting from an air boat on the refuge.

**Big Game Guide-Outfitter Fraud Case.** Investigation into fraud by a local big-game guide-outfitter continued throughout the spring after AP Smoke discovered inconsistencies in the guides 1995 client use reports. It takes an enormous amount of staff time to investigate fully a case that involves continuous deception. In June, the staff put many hours into the investigation, calling former clients and employees of the guide. The apparent fraud centered around under reporting of client use days and failing to report hunts on the refuge makes up the corner stone of the case. Violations of special use conditions were also discovered.

After several months of investigating by Refuge Officers Poetter and Smoke, and many reviews and rewrites, a letter giving notice of intent to revoke special use permits (BCH 02-93-16586 and BCH 03-93-16587) for big game guiding on Becharof NWR guide use areas BCH 02 and BCH 03 was mailed to Big Game Guide-Outfitter Phillip Shoemaker on July 31. The letter cited failure to comply with special use permit conditions. Primarily, failing to report accurate client use days, failing to report hunts to us and the State, and use of non-listed aircraft and boats. Mr. Shoemaker had 20 days from receipt of the letter to present an oral or written statement in opposition to the proposed action. A request by Mr. Shoemaker to extend the response date until October was approved by RM Hood.

On October 15, Big Game Guide-Outfitter Phil Shoemaker's written appeal to the revoking of his special use permits for big game guide-outfitting on the Becharof National Wildlife Refuge was received. By letter dated October 28, 1996, RM Hood provided official notice to Mr. Shoemaker that he was revoking Special Use Permit Numbers BCH 02-93-16586 and BCH 03-93-16587 for big game guide-outfitter use areas BCH 02 and BCH 03, Becharof National Wildlife Refuge, following the procedures for revocation under 50

Code of Federal Regulations (CFR) Subpart 25.45(b). Mr. Shoemaker then appealed this decision to the Regional Director (RD). R D David Allen heard Mr. Shoemaker's appeal of this action on December 19. By letter dated December 30, 1996, RD Allen ruled, "After thoroughly reviewing the administrative record and carefully considering the information you provided to me, I concur with Refuge Manager Hood's finding that you did violate conditions of your special use permits. However, I am instructing Refuge Manager Hood not to revoke your permits. Instead, I am placing you on probation for the remainder of the term of your permit and will have Refuge Manager Hood reduce your number of authorized caribou hunting clients from 25 to 8 during the fall 1997 season." This decision also means that Mr. Shoemaker will not receive an automatic five-year extension of his permits in 1998 and will have to compete for renewal rights.



Kanatak Village site, Becharof NWR.

7/96, DAD

**Kanatak Village Issue.** An attempt is being made to re-establish the former village of Kanatak located on the Pacific Coast of Becharof Refuge at Portage Bay. A written "Notice and Order to Vacate and To Remove Unauthorized Structures/ Property" from the U.S. Fish and Wildlife Service administered lands at the former site of the Village of Kanatak, Becharof Refuge, was issued to five members of the "Native Village of Kanatak." On January 11, 1996, Refuge Officers Smoke and Poetter made personal contact with the village vice president in Naknek, and provided him with a notice and order to vacate. Certified letters and orders to vacate were mailed to the remaining members on January 12, 1996. While this group alleges that they are the legitimate Indian Reorganization Act (IRA) tribal council, the Bureau of Indian Affairs (BIA) has issued a formal opinion that they are not.

AP Bill Smoke and DRM Rick Poetter, both refuge officers, flew in the C-

206 to Kanatak on March 22 to execute a search warrant for the 22' boat and unauthorized cabin and sauna constructed at the site of the former village of Kanatak. DRM Poetter and Special Agent Jill Schweiger prepared the search warrant which was issued by the magistrate on March 21, 1996. Weather conditions were ideal and they had no problems getting on-site, which is not the norm by any means. Items seized included firearms, ammunition, calendars, notebooks, construction tools credit card receipts and miscellaneous other papers. The purpose of the search was to collect evidence of occupation of the structures.



Remodeled cabin at Kanatak Village searched by refuge officers on March 22, 1996. 1995, FWS

The eviction of the old Kanatak village site trespassers progressed in May. On the 15th, the leader of the group was to appear in U.S. District Court for arraignment. He did not show, so the judge issued a bench warrant for his appearance. The U.S. Marshals, through the local Borough Police Chief arrested the man and took him to jail for 3-4 days before he finally appeared in court. He was released on \$5,000 bail after pleading not guilty with the aid of a public defender. We had hoped this to be settled out of court in a plea bargain in which all personal items are removed from the village site and implementation of a restraining order of his use of refuge lands.

In June, the Kanatak trespass case headed for U.S. District Court. Carlene Faithful, Special Assistant to U.S. Attorney, spearheaded the case for us. The defense provided an expert witness that questioned whether the cabin being occupied was on FWS lands. We got a surveyor on-site and he made a positive determination. Also, a former resident of the village stated the structure used to be his house and is on FWS lands.

**United States of America vs. George F. Gottschalk, Jr.**

The United States District Court, District of Alaska Case No. A96-0011 CR (JKS)

**Presiding Judge:** The Honorable James K. Singleton

**Plaintiff:** Carlene Faithful, Special Assistant to the U.S. Attorney

**Court Dates:** July 23 & 24, 1996

**Charges:** Counts I & II. The defendant destroyed and made unauthorized use of government property in 1995. [modified and used a cabin at the historic village site of Kanatak within Becharof National Wildlife Refuge without a special use permit]

**Proceedings:** Defendant waived his right to a jury trial.

**Court Ruling:** The Court found the defendant **GUILTY**, beyond a reasonable doubt, on Counts I and II.

**Imposition of Sentence:** Defendant was placed on probation for two years. The Court imposed the following special conditions: That the defendant remove a boat and stored fuel stored at the Kanatak site; remove tools and personal items from the structures; dismantles the runway that he marked out; and return logs from the beginnings of a new structure to the beach. Prior to entering the site to conduct a cleanup, that he notify the refuge of his plans to be on the refuge, let the refuge know his itinerary, and the names of the people in his party. Cleanup is to be completed no later than October 1, 1996.

**The defendant is not permitted to enter the village of Kanatak for any purpose for two (2) years without the prior approval of the refuge manager.** The defendant is required to notify the refuge manager, prior to entering the Alaska Peninsula or Becharof refuges, to explain the purpose, location, and duration of his stay.

**Comment:** The Court ruling sustains the responsible refuge manager's obligation to act to protect government property and cultural resources. The abandoned village of Kanatak has both archaeological and historic elements that require protection. In addition, the site has been selected under Section 14(h)(1) of ANCSA by Koniag, Inc. and has been certified eligible by BIA. This ruling demonstrates that no claim of tribal status, immunity, or sovereign rights, as asserted by the defendant, served to inoculate him from the consequences of his unauthorized activities.

The Complex staff wants compliment Carlene on her prosecution of this case. Methodically and effectively, she built an overwhelming case against the defendant. There were moments of high drama when the Court had an unruly spectator ejected from the courtroom by Security Officers. That moment produced a new derogatory title for Carlene (maybe she will share it with you) that will probably follow her all the way to retirement.

18. Cooperating Associations

With the opening of the King Salmon Inter-Agency Visitor Center, a branch of the Alaska Natural History Association (ANHA) was established in 1992. This was the fifth year of operation for the Visitor Center and ANHA sales of educational and interpretive material continues to be very good. We

were very happy with our sales which totaled \$51,939.00 for January - December. We sold a total of 63 ANHA memberships (42 in 1995).

We currently offer 100+ book titles, an extensive map selection including topographic maps, FAA air charts, nautical charts, and numerous posters & note cards. We expanded our selection of materials in 1996, which helped to boost sales 53% above the 1995 figure!

To encourage local residents to use the Visitor Center and to promote ANHA sales, we offered a "Holiday Sale" throughout the month of December. All items are discounted 15% for non-ANHA members and 25% for members. Sales were excellent and we were very pleased with a December total of \$4,399.00 (\$13.09/visitor). We also did well in our ANHA sales during our annual Anniversary Celebration of the Visitor Center in mid-May (sales of \$1,121.00, our biggest day ever!), and during National Wildlife Refuge Week in mid-October (sales totaled \$1,038).

**Personnel.** Local resident Heather Poetter resumed duties as the Assistant Branch Manager for the Visitor Center and Katmai National Park ANHA Branches in May 1996, and worked part-time until the middle of September. Heather's duties included ordering sales materials, completing stock inventories and making bank deposits. She worked approximately 20 hours per week on an "as needed basis." Heather did an excellent job this season and was given a \$200.00 performance award for her efforts.

On December 5-7, RR Terrell-Wagner attended the annual ANHA Branch Manager's Workshop in Anchorage.

#### 19. Concessions

NTR

#### 20. Cabins

It is the policy of the Service to allow the continued customary and traditional uses of existing cabins (constructed prior to December 2, 1980), provided that the uses are consistent with existing laws and regulations and are compatible with the purposes for which the refuge was established (ANILCA 304(d), 1303(b), 1315 and 1316). Service policy is to limit new cabins to those essential for the continuation of an "ongoing activity" or use allowed within the refuge (ANILCA 304(d), 1303(b)).

We currently maintain a database of all cabins located within the Complex exclusive of those on private inholdings. The database includes 50 cabins and tent platforms listed by Complex Unit; Location by Township, Range and Section(s); a description of each structure; and type of use pattern.

In 1996 one new permit was issued for a subsistence tent platform within the Refuge.

1. In July, Scott Olsen was issued a permit for a tent platform located at T27S, R45W, Sec17 near the Gas Rocks on Becharof lake.

## 21. Guides-Outfitters

A total of 38 special use permits was issued for commercial big game, sport fish guiding, and transporting activities occurring within the refuges (Table 10). Commercial big game permits issued in 1993 were five year permits. There are currently 29 valid permits held by 21 different big game guides.

On the March 14 letters were sent to all Native Corporations that have selected lands within the refuge borders requesting their views concerning commercial sport fish guiding and transporting on selected lands. The corporations had 45 days to respond. The Koniag corporation was the only corporation to respond to this letter with a letter of non objection.

After many months of investigating by Refuge Officers Poetter and Smoke, and many reviews and rewrites, a letter giving notice of intent to revoke Big Game Guide-Outfitter Philip Shoemaker's BCH 02 and BCH 03 special use permits for big game guiding on Becharof NWR was completed on July 31 (See H.17 above for details).

Table 12. Special use permits for Big Game/Fish Guides/Outfitters and Transporters 1987-1996.

YEAR	BIG GAME GUIDING	FISH GUIDING	ECO-TOUR	TRANSPORTER	TOTAL PERMITS
1996	29	25	1	12	67
1995	29	23	1	10	62
1994	28	21	0	12	61
1993	26	23	0	12	61
1992	23	14	0	13	50
1991	27	20	0	10	57
1990	27	24	0	9	60
1989	30	20	0	8	58
1988	36	19	0	6	61
1987	36	13	0	4	53

A special use permit violation was noted on the hunt report for guide use area AKP-13 in December. The permittee guided five bear clients but was allowed only four, three bear were taken on refuge lands. AP Smoke spoke with the permittee who stated that he thought he was allowed five clients. The permittee reported all information on his hunt reports and accepted

responsibility for his mistake. A letter of reprimand was written and attached to his files.

A total of 46 commercial guide-outfitter permittees recorded 3086 client use days within the Complex last year. Fishing clients represented approximately 60 percent of the total client use days.

A total of 21 big game guide-outfitter permittees was responsible for harvesting 56 brown bears, 38 moose and 36 caribou last year. Sows represented approximately 11 percent of the bear harvest, while no cow moose and no cow caribou were harvested.

A total of 25 fish guide-outfitter permittees was responsible for 17,288 fish being caught, of these, 1252 or 7 percent were kept. Approximately 52 percent salmon, 37 percent arctic char, 6 percent arctic grayling and 3 percent rainbow trout made up the total reported catch.

A total of five permittees was responsible for the harvest of approximately 67 ptarmigan. Game bird harvest was incidental to big game hunting.

## 22. Subsistence

WB Moore served on an interagency panel which reviewed applications for seats on the Federal Subsistence Board Regional Advisory Council (Region 4 - Bristol Bay). Ten applications were received for the three seats open this 1996 year. The panel met in Anchorage to finalize its recommendation to the Staff Committee. Final recommendations are made by the Federal Subsistence Board, and then appointment will be made by the Secretary of the Interior this fall.

RITs Kelly, Knutsen and RR Lind spent time conducting subsistence waterfowl harvest surveys in several villages including Naknek, South Naknek, King Salmon, Chignik Lake, Chignik Lagoon, Chignik Bay, Egegik, Ivanof Bay, Perryville, Pilot Point and Port Heiden.

RM Hood and WB Moore attended the March 18-19, 1996 Bristol Bay Federal Subsistence Council meeting held in King Salmon. A report of Complex activities was presented by Hood. It was with great pleasure that we passed the mantle and traveling award for contentious proposals to Togiak Refuge and Aaron Archibeque's capable shoulders. The Bristol Bay Board continues to demonstrate an outstanding appreciation of their stewardship responsibilities and set high standards for the staff work presented to them.

DRM Poetter, WB Moore, RR Lind and AP Smoke flew to Dillingham on November 12-13 to attend the public meeting of the Bristol Bay Regional Advisory Council to the Federal Subsistence Board. The meeting was originally to be held in Togiak during October, but was postponed and relocated due to poor weather.

## I. EQUIPMENT AND FACILITIES

### 1. New Construction

NTR

### 2. Rehabilitation

We were advised by memorandum dated May 21, 1996 (received 6/19) that an energy efficiency project, submitted by Engineering, for the King Salmon Administrative Site had been selected for funding. The project, "new heating controls, boilers and light fixture/ballast changeovers," received \$24,000.00. No work was completed on the project during 1996.

New heavy load metal shelving arrived by barge early in June. MW Mumma and YCC Enrollee Peterson spent a couple weeks dismantling the wooden shelving, which we were told to get rid of due to them not being load tested. "Warehouse Food Store" type adjustable metal shelving was purchased and does provide a much better and versatile storage system. An order for more plastic bins and containers was placed to supplement the shelving.

Regional Chief, Construction John Harris and Construction Representative Tom Egan spent August 12th-21st in King Salmon installing new boilers and boiler water-maker hot water heaters in Residence Nos. 26, 27, 28 and 29. Replacement of the boilers was needed since three of the four had been frozen and cracked and the fourth was not functioning properly. John and Tom did an excellent job and their work is greatly appreciated.



Residence No. 28's leaking fuel line. The break was at the right angle under the window. 09/26/96, RDP

September 4-14, Construction Representative Tom Egan and Tank/Energy Coordinator Charles Grant traveled to King Salmon. Their task was to remove heating oil underground storage tanks for Office Building. No. 4 and Residence No. 28, remove above ground tanks at Residence Numbers 9, 10, 11, and install above ground heating oil tanks for the aforementioned buildings and a new diesel fuel dispensing tank. Unfortunately, the plumbing was left as an underground installation and, at Residence No. 28, an underground joint was broken some 20 feet from the connection point. The result was a 500-gallon heating oil spill that was discovered on the 24th. Personnel of the Alaska Dept. of Environmental Conservation (ADEC), Prevention and Emergency Response Program were contacted as well as the appropriate RO staff. MW Terry and DRM Poetter jumped into action and removed 21 cubic yards of contaminated soil to a lined bermed area at the King Salmon Administrative Site compound for aeration remedial treatment. Gary Folley, with ADEC, traveled from Kenai to King Salmon on the 26th to inspect the spill site and gave approval to back-fill the hole with clean soil. Supervisory Architect Davis Bales and Charles Grant also traveled to King Salmon to provide their assistance. As a result we will now be re-plumbing the underground connections to above ground.

Bart Bias with Quality Electric of Anchorage, Alaska arrived in King Salmon on September 28th to begin electrical work that has compiled over the years. We have been trying unsuccessfully to piecemeal the work with a local electrician, but until we got the package large enough, he wasn't responsive. Fortunately, he did not win the contract. The contract was put together by Construction Representative Tom Egan. Without his efforts, the projects would still be waiting for completion. The successful bid amount was \$8,260.00 to complete the following jobs: wire in a new yard light near the shop and warehouse Building No. 5; install winter plug-ins for government vehicles on the south end of warehouse Building No. 5; rewire staff vehicle winter plug-ins of compound parking area; wire in electric fans for restrooms in office Building No. 4; install multiple outlets/circuits for freezers/refrigerators in office Building No. 4; wire in the three lighted exit signs in warehouse Building No. 5; and rewire shop Building No. 6 including, 220 volts for new welder, 220 volt outlet to service 220 volt appliances, hardwire dust collectors and power tools, electrical outlets throughout the building due to the current use of multiple outlet adapters, new switch for a ventilation fan, and hardwire overhead fan.

### 3. Major Maintenance

Items repaired at Residence No. 26, in January, included: installed a dead bolt on the north wall door, replaced the idler wheel on the dryer with one off another unserviceable dryer, and the furnace has been shutting down on several occasions and a new aquastat was installed.

In January, an auxiliary Toyo fuel oil stove was installed in the living room of Residence No. 1, to help keep the forced air furnace from running continuous during the sub zero temperatures and to warm the living room area.

The Bunkhouse Building.. No.3 was painted, where needed, on the inside by MW Mumma. The high use areas such as the kitchen, entrance hallway, the dormitory hallway, the back recreation room and the shower room were painted. This was accomplished in January.

The inside of the Office Building.. No. 4 was painted in February. The two front offices; offices of refuge ranger, deputy manager, maintenance staff; and men's restroom were painted.

In February, plastic ducting was replaced by aluminum ducting on all the cloths dryers in all the residences and the bunkhouse. This was a safety issue addressed by the safety committee.

Several repairs were made to Residence No. 11 in April: the kitchen faucet was replaced, the drain in the bathroom was unclogged, the drain to the washer was repaired, the front door was adjusted to close better, the door knob was also repaired, and the front walkway was repaired.

Repairs made to Residence No. 26, in April, included: repaired the hinges to the garage door, installed new dead bolts, reset the boiler, and installed a new storm door on the north side of the house. A similar storm door was also installed at Residence No. 28.

MW Terry spent most of April updating and repairing all the outboard boat motors for the refuge and fisheries in preparation for the field season. KSFR0 wanted all motors made fully operational.

#### 4. Equipment Utilization and Replacement



The new van prior to "Servicing".

09/26/96, RDP

Numerous items stored up for several years were finally put out for GSA Bid/Sale, thanks to OAC Riddle. Items included: two above-ground fuel tanks, S-10 pickup, boat motors, cabin kit, HF/VHF radios, bicycles, fuel pumps and hoses w/reels, confiscated 11' jon boat, riding/push lawn mowers, computers, trash compactors, washers, portable generators, etc. were part of the items no longer useful to this station or others. The inspection period was from July 22nd-26th. In August, Lot sales of the excess property items were picked up and removed by successful bidders through GSA. Most of the items still had some useful value, but not to the Complex. Total revenue gained was \$6,197.53.

The replacement for the 1988 Chevy passenger van arrived this month on the barge September 4. We received a 1996 Ford Aerostar XLT in a 7-passenger model. It was ordered as an all-wheel drive model but came as rear-wheel drive only.

In November, the new Miller Model 350 Shop Master welder was assembled this month and MW Terry attended applicable training for its operation. The welder is both MIG and TIG capable. A plasma cutter was also purchased with it.

**Aircraft.** On February 20, AP Smoke flew the Complex's PA-18, N278Z to Anchorage for annual inspection. Office of Aircraft Services (OAS) maintenance found metal in the oil screen and diagnosed it as a valve spring wearing on the cylinder head. A new cylinder was installed. In August, N278Z maintenance included a 100 hour inspection and a cylinder change. The cylinder was changed due to erosion around an exhaust port.

The Complex's Cessna 206, N32PX was flown to Anchorage on May 12 for gear change to floats. An engine compression check was performed on N32PX while in Anchorage due to excessive oil consumption. All cylinders were below average with some very close to the minimum allowable. OAS decided to do a "top" overhaul at the next 100-hour inspection. On May 22, N32PX was flown to Anchorage for 100 hour inspection and cylinder change.

On June 4, N32PX, returned from a 100 hour inspection at OAS in Anchorage. Oil consumption had been high and OAS decided to do a "top" overhaul on the engine. A top overhaul consists of changing the just the cylinders while a "major" overhaul would involve rebuilding the entire engine.

On September 26, AP Smoke made a precautionary landing on the Naknek River in the C-206. Takeoff seemed a bit sluggish with three passengers [including OAS accident inspector Dave Broadnax from Boise, Idaho]. Shortly after takeoff, N32PX shuddered for one to two seconds and seemed to lose more power. Landing was made down river near King Salmon Creek. During taxi back to the Complex's dock, engine checks were made and although all run up checks were normal, N32PX would not develop full power. On the 30th, OAS Mechanic Mark Patrick came out from Anchorage and, after checking systems and a short run up, found that a deflector in the right muffler had broken off and was plugging or partially plugging the exhaust pipe. After removal of the errant part, all systems were found to work normally again.

On October 4, AP Smoke flew N32PX, the Complex's C-206 to Anchorage for gear change from floats to wheels. The engine had missed one time during cruise on the flight previous to going to Anchorage but all systems checked out normally afterward. AP Smoke told OAS mechanics that although the engine checks and all gauges were within tolerances, that it just wasn't right. After checking systems and a short run up, OAS mechanics found that a deflector in the left muffler had broken off and was plugging or partially plugging the exhaust pipe. This was the same problem experienced with the right muffler on September 26 in King Salmon.

#### 5. Communications Systems

Regional Telecommunication Manager Tim Miller and National Park Service (NPS) Radio Maintenance Supervisor Chuck Holm flew into King Salmon on May 8 to conduct radio maintenance for Katmai National Park and the Complex. This is a new joint venture cooperatively developed by FWS and NPS to more economically service field sites. In the past, Tim would have to contract an electronics technician and rent a helicopter when the NPS technicians were similarly flying around the state. It worked very well for us this year. We feel we got the best service ever. A couple weeks later, two NPS technicians paid us a visit and installed a new local VHF radio antenna.

#### 6. Computer Systems

A Gateway 2000, Pentium 100 desktop personal computer was purchased for the Office Automation Clerk. The unit included a CD ROM with sound card and speakers. A similar Gateway 2000, Pentium 120 desktop personal computer was purchased for the Airplane Pilot to handle spreadsheet data for the permit program. An even better Gateway 2000, Pentium 166 mini-tower personal computer was purchased for the subsistence biologist position. Due to the extra costs, sound card and speakers were not purchased.

OAC Riddle investigated and purchased a \$2,400.00 Intellitrac Barcode Inventory System to manage our personal property. She has begun to enter the information into the database which utilizes Microsoft Access. We are many staff hours away from a completely operating check-in/check-out and inventory systems, but once on-line it will be great.

#### 7. Energy Conservation

Refer to Section I.2. where a description of installation of new heating boilers and the removal of electric hot water heaters was accomplished.

#### 8. Other

DRM Poetter developed a Maintenance Activities tracking log system to show projects and hours worked by the maintenance staff. It is meant to help the King Salmon Fisheries Resource Office (KSFRO) management to be informed on maintenance that is being completed for them, as well as for the Complex. KSFRO provides funding for one-third of MW Terry's salary to

have maintenance work completed for them. DRM Poetter and MW Terry have set up a program of monthly coordination meetings between Complex maintenance/management and KSFRO management, to be held the 1st workday of each month. Hopefully, these meetings will improve and smooth-out communication problems with KSFRO management.

Inspection for possible OSHA violations was conducted by Deputy Refuge Manger Rick Poetter, Safety Officer/Maintenance worker Dwight Mumma, and safety Committee Member/Fisheries Biologist Jeff Adams in April. Some of the needed corrections were accomplished in the next couple days but more work is needed. The inspection was conducted based on RO recommendations. Malheur NWR had undergone an OSHA inspection and it was used as a guideline.

On June 4, RM Hood, DRM Poetter, and Fishery Biologist (FB) Adams, KSFRO, met with Howard Holtan of Unwin Scheben Korynta Huettl, Inc. (USKH) on the proposed access rights-of-way for sewer service to Residence Nos. 28 and 29. USKH is designing the next phase of this Bristol Bay Borough sewer project.

## J. OTHER ITEMS

### 1. Cooperative Programs

This spring the FAA began a massive project to construct more than 30 quarters in King Salmon. It was clear to all observers that this far exceeded their current needs. At the same time, the FWS has identified a need for about eight new quarters in King Salmon. In early May, RM Hood was contacted by Regional staff about construction project priorities and the needs of other Region 7 refuges versus ours. A contact with local FAA management revealed that they were nearing a decision to remove eight houses from their construction project and that the FWS needed to move quickly. Ccmail and the telephone brought the issue to the Regional Directorate's attention. Deputy Regional Director Robyn Thorson carried the ball and made the contacts. The end result was a decision by FAA to construct the houses and lease them to us. The nuts and bolts remain to be worked out, but it appears that our quarters needs have been met.

### 2. Other Economic Uses

In addition to special use permits issued for cabins, guides, outfitters and transporters, permits are normally issued for other uses (Table 11). However, none were requested in 1996.

### 3. Items of Interest

The Complex assisted the National Park Service (NPS) in two search and rescue efforts in September. AP Smoke flew missions on September 19 and 21 for the Katmai NP&P in conjunction with their search a missing hiker

lost in the Valley of Ten Thousand Smokes. The hiker was never found.

On September 24, a DeHavilland Beaver on floats that was chartered by the NPS crashed on takeoff in Katmai National Park on Brooks Lake with four employees on board. No one seriously hurt. Since the NPS Cessna 206 was in Anchorage, AP Smoke was asked to fly the NPS employees to King Salmon for a medical check up in our C-206. On arrival at the scene near Brooks Camp with Chief Ranger Jim Hummel, the wind was sustained at 35 knots with gusts 40 to 45 knots. The condition of the crash victims was stable. They were shook up but otherwise ok with bumps and bruises. Although landing posed no real problems, conditions for takeoff were marginal at best with the high wind and potential for wind shear over the trees. A decision was made by AP Smoke not to land and to return to King Salmon. Finally, on the 25th, AP Smoke flew two loads of NPS employees (including the crash victims) from Brooks Camp to King Salmon.

Table 11. Special use permits issued for other economic and non-economic uses.

Year	Other Economic Uses			Sub Total	Non-Economic Uses			Sub Total	Total
	Oil/Gas	Mineral			Federal	State	Other		
1984	9	1		10	4	2	1	7	17
1985	5	1		6	3	2	0	5	11
1986	0	1		1	2	2	1	5	6
1987	1	1		2	4	1	0	5	7
1988	1	0		1	5	1	1	7	8
1989	0	1		1	4	1	0	5	6
1990	2	2		3	2	2	2	9	9
1991	2	0		2	3	0	4	7	9
1992	2	0		2	3	0	2	5	7
1993	0	0		0	1	2	1	4	4
1994	0	0		0	1	0	1	2	2
1995	0	0		0	1	0	2	3	3
1996	0	0		0	0	0	0	0	0

#### 4. Credits

Without the efforts of the following people, this annual narrative would not be possible. Thanks and appreciation go to everyone.

Dewhurst	Sections G.3., 5., 6., 7., 8., 16., and 18.
Hood	Introduction; Sections A.; C.; D.; E.5., and 8.; F.; H.15.; J.1. and 2.; K.; and editing.
KSFRO	Section G.11.
Lind	Section E.6.; H.22.; and J.3.
Montano	Table of Contents, compiling, and production.
Poetter	Sections E.1., 2., 3., and 4.; H.17; I.; and editing.
Smoke	Sections B.; H.20. and 21.
Terrell-Wagner	Sections H.1., 2., 3., 6., 7., 8., 9., 10., and 18.

Photograph credits are listed in alphabetical order.

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RPM  
RDP  
FWS

Donna Dewhurst  
Randy Moore  
Rick Poetter  
Unknown

Complex Staff  
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Service

#### K. FEEDBACK

1. Since 1983, we have been conducting spring migration watches on the Naknek River. The importance and uniqueness of this river as a spring staging area for waterfowl coming to and through southwest Alaska has been thoroughly documented. Another unique aspect of the river has been the almost total lack of spring waterfowl hunting along the river [perhaps a result of the FWS presence in King Salmon].

Then in 1995, this office began to collect subsistence harvest data on waterfowl for Migratory Bird Management. As a result of this effort, and continuation of the public information and education thrust required by the "U.S. Fish and Wildlife Service Policy on Harvest of Migratory Birds in Alaska During the Closed Season," local hunters have become aware of the Service's enforcement "rules of engagement." Waterfowl harvest along the Naknek River made a dramatic increase this spring. Suddenly ducks and geese were dying where they had enjoyed rest and plenty before moving onto the nesting grounds of Bristol Bay and Western Alaska.

None of this take violated Service policy - no flagrant violations; no take of forbidden species; no wanton waste! However, many of these subsistence users were recent arrivals from the Lower-48 who were now being liberated from legal and ethical constraints. Local Service staff chaffed under the pressure of a lifetime of ethical dogma when they told one inquirer after another: "It is against the law to take waterfowl during the closed season. However, the Fish and Wildlife Service policy is . . . ." And then watched another hunter take off for the river.

2. We were notified about mid-May that the Washington Office had rescinded \$69,000 of Regional quarters' funds (8610) and were looking for additional opportunities to raid these monies. It is indeed disappointing that at a time when, in responding to the National Performance Review, the Fish and Wildlife Service is reorganizing and pushing responsibility for decisions downstream, a recession decision was made at the Washington Office level without any consultation with those that contributed these funds and were directly impacted. Since 1989, the Alaska Peninsula/Becharof Refuge Complex has had a project on the books to replace a condemned quarters. It is and has been our number one quarters maintenance project. The funds lost in this recession could have been better used in reducing this or other quarters maintenance backlogs. Clearly, this is just another example of quarters funds being stolen to cover Washington Office debts!