

Dear reader:

Welcome to our Annual Report for 2010. The Kodiak Refuge was established "... for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife ...", and we believe that we are fulfilling that purpose along with the other purposes established by ANILCA. We hope you find this report as interesting reading as we found it in writing it. I have tried to summarize our most significant accomplishments for the year and have referenced sections in the report for more information where possible. Enjoy!

Sincerely,
Gary Wheeler
Wildlife Refuge Manager



Selected Kent Sundseth as the new Deputy Refuge Manager.

Three employees were selected to assist with Gulf of Mexico Deepwater Horizon oilspill operations – Bill Pyle, McCrea Cobb, and temporary employee Lee Bonderant.

Supported the Department's youth employment program by establishing a Kodiak Refuge YCC intern program. (12.5.e.)

Sought and received over \$165K for Challenge Cost Share and Science Camp projects. This was more funding than any other Alaska National Wildlife Refuge.

The Ursa Major II conducted a herring charter for ADFG in April at a time when the vessel was not being used by the Refuge. (16.12)

Sought and received \$53K in funding to move the Madsen Bear to the visitor center and to remodel the storage room into an office. (12.1.a., 16.6)

Received \$6.2K for sampling AI in Stellar's eiders. (1.4)

Participated in a Site Inspection performed by EPA. Let a contract to determine if waste oil was present in floor drains in shop or in septic system. Awaiting report on sampling.

Replaced the Viekoda Bay cabin using the old storage shed from the Refuge Headquarters. Used Refuge employees and volunteers to reduce labor costs. (16.6)

Worked with Contracting and the contractor on a major renovation to the headquarters office. Work is to be completed in November or December. (16.6)

Completed a number of surveys to track status and trends of wildlife populations:

- Annual deer mortality survey; (3.3.b.)
- West side seabird colony survey; (5.1.a.)
- West side coastal bird survey; (5.1.c.)
- Annual breeding bird point count survey on Kodiak road system; (5.8.a.)
- Brown bear intensive aerial survey of Karluk watershed; (2.3.a.)
- Annual brown bear stream use survey; (2.3.b.)
- Annual mountain goat survey. (3.1.a.)

Conducted “Climate Change in the Karluk Watershed” 3-day workshop with USGS. Workshop lead to a number of monitoring recommendations by experts in the field. (1.7.b.)

Completed first year of study looking at resource use by female brown bears in the Karluk watershed. (2.4.b.)

Completed third year of likely 5-year study on nesting ecology of Kittlitz’s murrelets on Kodiak NWR in partnership with USGS. (5.5.a.)

Visited most of the set net sites on the island. Ensured that they were up to date in following the regulations. (10.3.a.)

As a result of the lawsuit by Alaska Survival and Alaska Community Action on Toxics, the Refuge was not able to use herbicides this year to control invasive plants such as orange hawkweed on Camp Island. The supervisory biologist continued to write on the EA for pesticide use on and adjacent to Refuge lands. (6.1.a.)

The Refuge funded the Natural Resources Conservation Service to conduct a soil and vegetation survey of Refuge lands in the Old Harbor area. (6.2.b.)

The Refuge supported a volunteer crew that spent a month conducting a botanical survey in the Old Harbor area. (6.2.a.)

The Refuge in partnership with ADFG Sportfish Division conducted a survey to document juvenile Chinook salmon use of the Karluk River. (7.11)

The refuge had a 3-acre spring hunter-caused grass fire this year. Ensured that the fire could not spread and sent refuge plane to check out the area.

Refuge Visitor Center welcomed over 28,000 visitors this year. This is down less than 1,000 from last year. (12.1)

Salmon Camp, the Kodiak summer science camp reached over 200 youth this year in grades K-8. Counselors traveled to four Kodiak villages to put on a mini science camp in each village. (12.4)

The Refuge FUN Program – Families Understanding Nature – is held each Wednesday morning at the Visitor Center targeting preschoolers and their parents and caregivers. (12.8.d.)

The Refuge continued to provide quality wildlife dependent recreation for visitors:

- Over 600 visitors viewed bears at the Frazer fish pass. (10.1)
- Refuge personnel constructed and staffed a public use camp/contact station at the outlet of Uganik Lake. The purpose of the camp was to observe use patterns and mitigate the potential negative effects of increasingly high use during the silver salmon season. (10.1)
- The Refuge hosted 10 members of the National Wildlife Refuge Association and friends including the regional director for a two-day visit to the Kodiak refuge.
- The Refuge hosted the Assistant Director Wildlife and Sportfish Restoration Program and the Regional Director.
- The Refuge distributed a prospectus for the O'Malley bear viewing program. (11.1)
- The Refuge issued 14 permits for the exclusive sport guided fishing program. (11.1)
- The refuge obtained a CCS to help renovate and remove asbestos from the old cabin at the ADFG facility at Frazer fish pass so that FWS interpreters can stay at the facility. (10.1)

A framed photo essay of the gray whale burial and rearticulation process and the gray whale bones was installed on the second floor of the Visitor Center. (12.1.b.)

The Refuge arranged and promoted a number of public talks and slide shows by Refuge staff, volunteers, and guests involved with biological research at the Visitor Center. (12.1.c.)

Volunteers were used extensively in the biological, visitor services, and maintenance program. Over 100 volunteers contributed 15,189 hours to the Refuge in FY-2010. (12.3.b.)

RO Isaac Bedingfield was named "Officer of the Year" due to his staying in shape, his disposition, his field checks, his willingness to help others, and his marksmanship. (10.3.a.)

Regulation package was approved that included three elements: 1) a modification of the existing seasonal closure at O'Malley River to allow for operation of a Refuge-sanctioned bear viewing program; 2) a prohibition on camping within one-quarter mile of public use cabins and federal and state administrative facilities within the Refuge; and, 3) a prohibition on snowmachine use on approximately 4,972 acres of important brown-bear denning habitat in the Den Mountain area of the Refuge. (10.9)

Another issue in the CCP was the revision of the 1987 Commercial Fisheries Management Plan which specifies how the Refuge will manage the cabin sites on Refuge lands utilized by commercial set net fishermen. A public review draft was completed by May 2010. A final meeting was held with fishermen during May 2010, and a meeting with the State was held during summer 2010. (15.3)

Kodiak National Wildlife Refuge

Annual Work Plan/Accomplishment Report FY-2010

Purposes of Kodiak National Wildlife Refuge

On August 14, 1941, President Franklin D. Roosevelt signed Executive Order 8857 establishing Kodiak National Wildlife Refuge . . . for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife on Uganik and Kodiak Islands . . .

Under the Alaska National Interests Lands Conservation Act, the purpose of Kodiak Refuge was expanded beyond that identified in the original establishing order. Section 303(5)(B) of ANILCA states: AThe purposes for which the Kodiak National Wildlife Refuge is established and shall be managed include:

- (i) to conserve fish and wildlife populations (and) habitats in their natural diversity including, but not limited to, Kodiak brown bears, salmonids, sea otters, sea lions and other marine mammals and migratory birds;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and other 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 ensure, 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.

Refuge Vision Statement

The Kodiak Refuge staff has developed the following statement about what they believe the Refuge will be in the future given the mission of the Refuge System, the specific purposes of Kodiak Refuge, and other relevant Service mandates:

Brown bear, fish, and other wildlife populations will continue to thrive on the Kodiak National Wildlife Refuge in their natural diversity, living in pristine habitats. Refuge management will blend public and private partners in a dynamic alliance that fulfills the purposes and goals of Kodiak Refuge. The Refuge will provide a long and lasting legacy of resource stewardship for the enjoyment of current and future generations.

Refuge Goals, Objectives, and Accomplishments

The Refuge vision statement and the Refuge purposes provide the framework for developing goals and objectives for managing the Refuge. Goals are broad statements of desired future conditions. Objectives are concise statements of what the Refuge wants to accomplish.

Objectives identified for one goal are often applicable to other goals. To avoid unnecessary duplication, each objective is listed only under the goal that represents the clearest connection. Objectives are numbered and organized in priority order under each goal.

GOAL 1: Increase our knowledge of fish and wildlife populations, their habitats, and their interrelationships. Subsequently, update the inventory and monitoring plan annually with a regional review and sign off by the Alaska Refuge Chief every five years.

1.1 Within two years of approval of this plan, complete a step-down plan to integrate and direct inventory and monitoring of plants, fish, and wildlife.

1.1.a. Draft wildlife protocols. Protocol development was initiated for the Intensive Aerial Survey of brown bear and previously for birds. Others will follow pending completion of review and evaluation of historic bear and bird surveys. [PYLE]

1.1.b. Complete introduction section. Introduction section was deferred due to priority of development of invasive plant management environmental assessment. Development of the introduction section of the Refuge's revised plan will occur following completion and issuance of the EA and revised national policy. [PYLE]



A Brown Bear sow fishes on O'Malley Creek. Gary Wheeler/USFWS Photo

- 1.1.c. Draft wildlife protocols. The protocol for survey of brown bear abundance, referred to as the Intensive Aerial Survey or IAS, has been drafted. Drafting of the protocol pertaining to survey of bear stream use is on hold pending completion of analysis by Dr. Mark Udevitz of the USGS/Alaska Science Center. [LEACOCK]
- 1.2 Collaborate with the Alaska Department of Fish & Game (ADF&G) when monitoring and conducting research on State of Alaska trust species within the Refuge.

The Refuge collaborated with ADF&G on deer, mountain goat, and brown bear surveys. We consulted with ADF&G in development of research plan pertaining to brown bear movements and habitat use in the Karluk River drainage. Requested and received participation and presentation commitments for the Karluk Climate Change Workshop by personnel affiliated with ADF&G Commercial Fisheries and Wildlife Conservation Divisions. [PYLE/LEACOCK/COBB]

Cooperation has continued with ADF&G through collaborative work with the Brown Bear Working Group of the Northern Forum, Washington State University, the University of Idaho, Kodiak Brown Bear Trust, Kodiak Unified Bear Subcommittee (KUBS) and monitoring bear populations in the Refuge –Stream Surveys, Intensive Aerial Survey, the Southwest Kodiak Brown Bear Project, and numerous other efforts.

We worked with ADF&G and Washington State University to carry out a study of Kodiak Brown Bear diet based on stable isotopes and mercury signatures. [LEACOCK]



Russian scientists sample bear scat in the Karluk Lake vicinity. William Leacock/USFWS

We hosted three Russian scientists during the intensive aerial survey and bear capture operation in late May and early June. [LEACOCK]

We contributed to the Northern Forum’s Brown Bear Working Group and participated in the Annual Meeting held in Primordya, Russia. [LEACOCK]

- 1.3 Curate wildlife study records using professional database-management standards and methods so data and reports may be readily accessed and understood by future Refuge biologists and others.

- 1.3.a. Create Portable Document Files (pdf) of biological publications and final reports and archive these electronic documents on the refuge's network.

We created an Endnote bibliographic database of scientific references that contains over 400 citations linked to pdfs. We scanned and electronically stored historical and recent reports and scientific publications as pdfs. [COBB]

We continued to research the technical literature and to build the archive of scientific papers that variously address condition, dynamics, status, and interrelationships of Refuge resources. Continued to create and archive pdf files of scientific papers and annual reports. [PYLE]

- 1.3.b. Create ESRI ArcGIS and Microsoft Access databases of current and historical spatial data pertaining to Kodiak.

Organized and improved the Kodiak Refuge GIS database [COBB]

We created GIS and Access databases to store and analyze mountain goat surveys from 1972 to present. A total of 2,939 mountain goat groups recorded in Access, and 2,802 of these groups and their associated attribution data were hand digitized and entered into a GIS. [COBB]

We created GIS and Access databases to store and analyze Sitka black-tailed deer mortality survey data. A total of 862 deer carcasses were recorded from surveys between 1992 and 2010. Of these, 162 of the carcasses were adults, 102 were yearlings, 526 fawns and 72 were unknowns. [COBB]

All data from the Southwest Kodiak Brown Bear Project was entered into ESRI ArcGIS and Excel databases. All data from the Connecticut Creek and Upper Karluk River Hill Camps was entered into Excel databases. [LEACOCK]

- 1.4 In cooperation with ADF&G, monitor for fish, wildlife, and avian diseases that may affect the Kodiak ecosystem, including chronic wasting disease and West Nile virus.

The Refuge received \$6,400 in regional Avian Influenza funding to sample wintering Steller's eiders along the Kodiak road system in March and April 2010. The Sea Duck Joint Venture Strategic Plan 2008-2012 identified data on disease, contaminants, and parasites as an important information need for Steller's eiders. We captured 22 Steller's eiders and three long-tailed ducks for sampling. In addition we banded six harlequin ducks, four black scoter, two greater scaup, and one red-breasted merganser. David Sinnett, of USDA-Wildlife Services, sampled all of the non-target ducks for his agencies avian influenza program. Jennifer Wiley (USGS Alaska Science Center) in collaboration with the USFWS Anchorage Field Office and the Seward Sea Life Center collected additional samples to screen for virus and bacteria associated with waste water treatment. All disease samples will be analyzed by the National Wildlife Health Center in Wisconsin.



Preparing to catch seaducks for avian influenza sampling. Shelley Lawson/USFWS

One surprising outcome of the sampling was capturing three Steller's eiders that were previously banded. One male eider recaptured in Gibson Cove was originally banded in that location as an after second year bird on 3/5/2004 (D. Rosenberg, pers. comm.). A second male captured in Gibson Cove was originally banded as an after hatch year on 9/5/1997 by the USGS at Walrus island, Nelson Lagoon, and the oldest eider was a female recaptured in Women's Bay originally banded as an after second year at Kudobin Islands, Nelson Lagoon on 9/1/1995 and recaptured on Walrus Island on 9/5/1997 (K. Sowl, pers. comm.).

In cooperation with David Sinnett of USDA-Wildlife Services, 54 harlequin ducks and 19 Barrow's Goldeneye captured in Uyak, Uganik, and Blue Fox Bays in August 2010 were sampled for Avian Influenza (H5N1). All birds tested negative. [CORCORAN]



Wintering male Steller's eider banded and sampled for avian influenza (H5N1) at Gibson Cove in April, 2010. Robin Corcoran/USFWS

- 1.5 In cooperation with ADF&G, other external partners, and other programs within the Service, monitor for aquatic invasive species such as green crab, mitten crab, Atlantic salmon, New Zealand mudsnails, crayfish, amphibians, and aquatic weeds. With these same partners, participate in the development and distribution of effective education and outreach materials.

[No funding or time allowed for monitoring in 2010. Outreach was conducted.](#)

- 1.6 Strive to publish results from Refuge-sponsored research in peer-reviewed journals. Report routine fish and wildlife survey results regularly in publicly accessible reports.

[Results from biological monitoring efforts and studies were reported in progress reports and memoranda. A total of eight news articles were collectively contributed by wildlife program staff \(McCrea Cobb, Robin Corcoran, Bill Leacock, Bill Pyle\) for publication in the Service's Fish and Wildlife Journal. \[PYLE\]](#)

1.7 Contribute to implementation of the Service’s strategic plan for responding to accelerated climate change.

1.7.a. Participate in meetings and conferences pertaining to climate change involving Refuge interests.

USGS completed a report entitled “Framework for Ecological Monitoring on lands of the Alaska National Wildlife Refuges and Their Partners”. This report addresses, among other things, contributions made by Kodiak and other Alaskan Refuges to November 2008 and April 2009 workshops held in Anchorage. [PYLE]

1.7.b. Evaluate information needs pertaining to climate change assessment on the Refuge.

The USGS Alaska Science Center implemented a Quick Response Partnership (QRP) grant. In collaboration with the Refuge, the Center hosted a workshop, “Anticipating Climate Change Effects in the Karluk River Watershed” at Kodiak College in early May. The facilitated workshop was attended by a diversity of interests including public and private sector land managers, as well as scientists from Alaska and across the nation. Following a day of presentations focused on the “what we know and might expect”, participants sorted into work groups for discussion of “what we need to know” to increase our capacity to understand, predict, and mitigate climate change effects. On the final day, work groups presented results, followed by a final exercise to rank which projects would provide the most important information. USGS plans to deliver a report of findings in 2011. [PYLE]

Participated in and contributed a presentation to the “*Anticipating Climate Change Effects in the Karluk River Watershed*” held at Kodiak College in early May. [LEACOCK/GLASPELL/WHEELER]



Climate change workshop in progress, Kodiak College, May 2010. Bill Pyle/USFWS

GOAL 2: Ensure that Kodiak brown bears continue to flourish throughout the Refuge and congregate at traditional concentration areas and that this unique population continues into the foreseeable future.

To complement ADF&G objectives for brown bear populations, Refuge objectives include the following:

- 2.1 In cooperation with ADF&G, continue to use all available knowledge to monitor and evaluate trends in bear population size, composition, and mortality associated with recreation, subsistence, research, defense-of-life-or-property (DLP), and illegal kills.

Worked with ADF&G to dedicate a page in newsletter addressing DLP facts and prevention. This page has been used in bear aware outreach and posted on village bulletin boards. [LEE]

We monitored bear mortality and assessed trend in regional subpopulations. An Intensive Aerial Survey (IAS) was conducted in the Karluk Lake area and stream use surveys were conducted in southwestern Kodiak Island. [LEACOCK]

- 2.2 In cooperation with ADF&G, maintain surveyed bear densities no lower than 10 percent below the lowest number within the following ranges: southeastern Kodiak and southwestern Kodiak 0.69–0.76 bears per square mile; northwestern Kodiak 0.64–0.72 bears per square mile.

Trend was assessed in the Karluk Lake area of southwestern Kodiak Island. For summary of results see objective 2.3.a [LEACOCK]

- 2.3 Increase frequency of bear density estimates to improve bear population–trend monitoring in areas of high public use or special management concern (e.g., Karluk Lake vicinity).

2.3.a. Monitor trend in bear population size.

We assessed trend in the abundance of brown bear in the Karluk Lake vicinity in late May. Analysis of survey data indicated a significant decline in bear density between 2003 (483 independent bears/1000 km²) and 2010 (252 independent bears/1000 km²). However, this result may be an artifact of late den emergence associated with below normal temperatures and heavy snowpack that was experienced during 2010. Due to the uncertainty of 2010 survey results, another survey will be conducted in 2011 or 2012. [LEACOCK]



Isaac Bedingfield pilots and surveys for brown bear in the Karluk Lake vicinity.
Bill Leacock/USFWS

2.3.b. Monitor trend in use and composition of bears that utilize salmon-spawning streams of southwest Kodiak Island.

Stream use surveys were conducted between July 14 and August 25 on the tributaries of Karluk Lake, and between July 14 and August 5 on the southwest network of streams and Dog Salmon River. Seven complete surveys were conducted on the SW network of streams compared to the long-term average of eight surveys per season. The peak weekly average recorded in 2010, 52 bears/survey, was substantially lower than the long-term average, 85 bears/survey. Additionally, single bears comprised the highest proportion of the population in 2010 than any time since 1985 (83% vs. the long-term average of 47%). On the other hand, maternal bears, cubs of the year, and older cubs comprised the lowest proportions recorded since 1985. Family groups comprised 17% of bear group observations, substantially less than the long-term average of 53%.

[LEACOCK]

- 2.4 Monitor and evaluate bear use, human use, and bear–human interactions at bear concentration areas that have established public use. Specifically study bear use, bear movements, and bear–human interactions in the O’Malley River area. Apply results to guide adaptive management in these bear concentration areas using an open planning process with ample opportunities for stakeholder involvement.

2.4.a. Analyze data, interpret results, and report findings from study of bear use of the upper Karluk River during September-October of 2006-08.

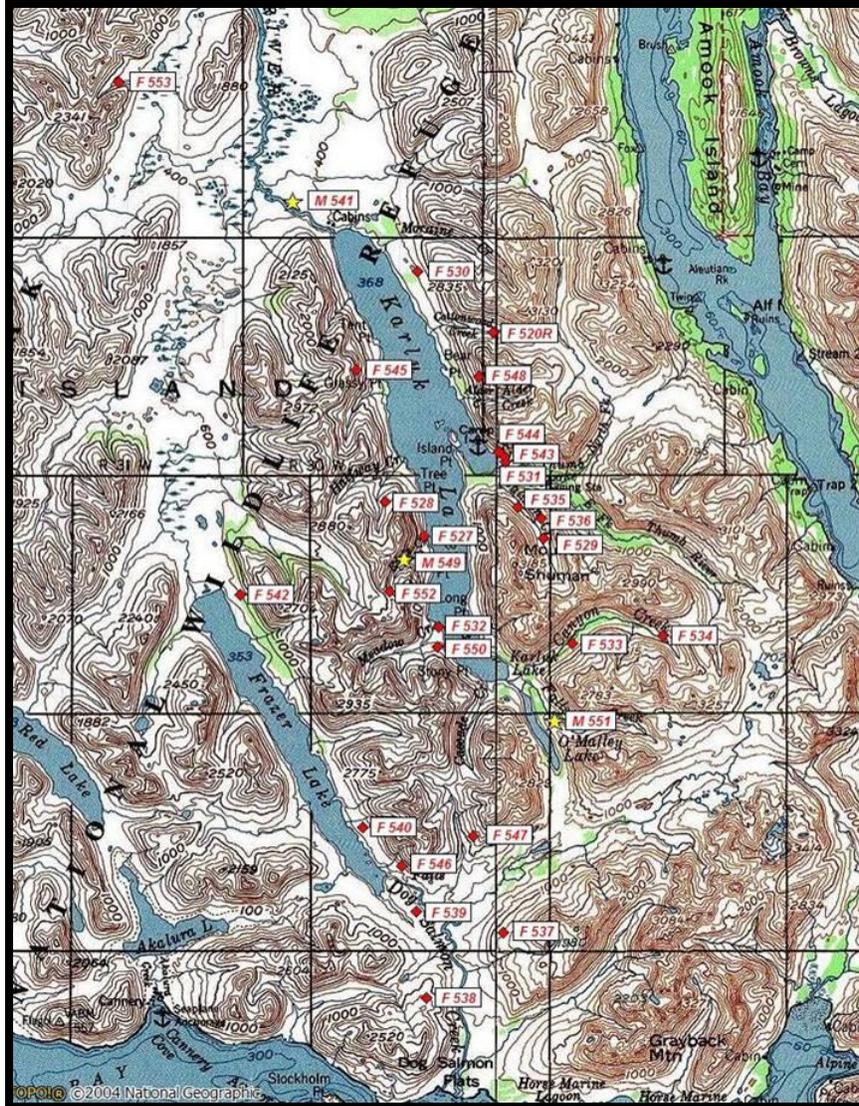
Continued analysis of data collected between 2006 and 2008. [LEACOCK]

2.4.b. Initiate a study of bear movements and resource utilization in the Karluk Lake drainage.

We initiated the Southwest Kodiak Brown Bear Study. Between June 3 and 7 we captured 28 brown bears (25 females and 3 males) in the Karluk and Frazer Lake watersheds. We fitted 22 adult females with GPS collars and subsequently tracked movements of collared bears through summer and fall. Using six volunteers, site-specific data such as plants species fed on was collected at over 500 bear use locations. We developed a camera system to quantify salmon populations spawning in tributaries to Karluk Lake. Two tributaries were monitored for spawning salmon. [LEACOCK/SORUM]



William Leacock and Mat Sorum with a GPS-collared female brown bear at the conclusion of immobilization and collaring operation. Larry Van Daele/ADF&G



Locations of female bears captured and collared in 2010.

- 2.5 Evaluate the management utility of the bear stream surveys using appropriate cross-comparisons with bear density survey data, climatic data, fish escapement data, and biological modeling efforts. Complete evaluation with assistance of Alaska Biological Science Center, U.S. Geological Survey, by 2007.

USGS evaluation in progress. [PYLE]

- 2.6 Investigate population size, movements, and habitat use of bears on Afognak Island. Develop a method for indexing trends in population size by 2008 and complete research on movements and habitat use four years after funding is obtained.

This was a lower priority for the Refuge and funding did not allow for this study. [PYLE]

- 2.7 By 2006, complete assessment of the genetic diversity of the Kodiak brown bear so as to understand gene flow between the southern and northern Archipelago, the vulnerability of Kodiak brown bears to wildlife diseases, environmental stresses, and parameters of population viability.

Report completed in 2006. [LEACOCK]

- 2.8 By 2010, develop and implement a method of monitoring the supply of berries suspected of being essential to the welfare of the Refuge's brown bear population.

Resources did not allow the monitoring of berry supplies.

GOAL 3: Manage nonnative species to minimize impacts on native resources, while continuing to provide opportunities for harvest.

- 3.1 To facilitate population and habitat management, monitor—in collaboration with ADF&G—trends in summer distribution, size, and productivity of the mountain goat population on the Refuge. By 2008, initiate monitoring of trends in winter distribution of the mountain goat population.

3.1.a. Continue collaboration with ADF&G on assessment of trend in summer mountain goat population distribution, size, and productivity.

Cooperative survey flights with the U.S. Fish and Wildlife Service in 2007 covered approximately 75% of the goat range, yielding a total count of 1,674 goats. In 2008, we surveyed about 85% of the goat range and classified 1975 goats. Surveys indicate a stable goat population on the northern and central portion of the island and an increasing population trend on the southern portion of the island. The estimated island-wide population in 2008 was 2,145 goats, with the virtually all suitable habitat being used. (From a draft report by Larry Van Daele ADF&G 23 Feb 2010.)

In 2010 we collaborated with the ADF&G to aurally survey the Kodiak mountain goat population. Poor weather conditions and the start of mountain goat hunting season prevented a complete census. A total of 462 mountain goats were counted on August 11 during the USFWS survey. Combined with 496 additional mountain goats counted by ADF&G on August 6 and September, the survey total for 2010 was 958.

We have drafted a study plan to evaluate mountain goat habitat use and preferences on Kodiak. Field work for this project will start in the summer of 2011. [COBB]

3.1.b. Monitor trend in management of hunter harvest of mountain goats.

During its March 2009 meeting, the Board of Game adopted a proposal from the Kodiak Fish and Game Advisory Committee to combine the drawing and registration goat hunts on the south and west portions of Kodiak Island (DG 475, DG477, RG475 and RG477) into a single registration hunt (RG480) that is open to both resident and nonresident



A band of goats on the annual survey. Brandon Saito/USFWS Photo

hunters, from 20 August–15 December. For the first time for a Kodiak hunt, permits will be available through the internet as well as at local villages, and Alaska Department of Fish and Game offices. The new hunt area was initiated coincident with other registration areas in November 2009 because drawing permits had already been selected for the first part of the season. Annual hunter success declined from a previous 5-year average of 63.4% to 50% in 2007-08 and 48% in 2008-09 (Table 4). As the number of drawing permits available increased, the percentage of nonresidents participating in the hunts also increased (previous 5-year average = 10.6%; 2007-08 = 14.5%; 2008-09 = 17.8%) and the proportion of local residents decreased (previous 5-year average = 46.5%; 2007-08 = 24.4%; 2008-09 = 32.1%). Nonresidents have been the most successful hunters (previous 5-year average = 78.0%; 2007-08 = 71%; 2008-09 = 72%; Table 4).

Estimated age (horn ring) data was obtained from hunter report cards (1994–2000, 2004–2006) and from mandatory horn inspections by department staff (1993, 2001–2003). The mean age of goats harvested during this reporting period was 4.6 years for males and 4.9 years for females.

The goat population was stable in northern and central Kodiak and increasing on the southern end of the island. Based on the comprehensive aerial surveys of goat habitat in Unit 8, we estimated a total of 2,145 goats. During this reporting period, goat harvest

continued to increase due to more drawing permits and the addition of registration permits. The drawing permit hunter success remained above 48%. Registration permit hunter success was lower (30%) due to hunters obtaining multiple permits, harsh winter weather, archery-only hunt areas, and permit access restrictions.

Kodiak Island is currently the most popular goat hunting destination in Alaska, accounting for 35% of the harvest in the state in 2008–09. With the increase in permit numbers and harvest there has been a demographic shift of goat hunters on Kodiak. In 2004–05, local hunters comprised 52% of the hunters afield compared to 34% in 2008–09, while numbers of nonresident hunters afield doubled during the same time frame (9% in 2004–05; 18% in 2008–09). The increased nonresident participation was a result of a notable increase in the number of guides offering goat hunts as hunting opportunities expanded in the Unit.

We have reached a pivotal point in goat management on Kodiak as the population now occupies most, if not all, suitable habitat, and populations in many areas continue to increase. We are shifting our emphasis from encouraging range expansion and increased densities, to limiting the population to a level that will provide sustained hunting opportunities while maintaining habitat quality. The addition of late season registration hunts has enhanced our ability to increase hunter opportunity and stabilize goat numbers, but we must consider other alternatives if these measures are insufficient. We must also consider the relationship between habitat, hunting, and goat-viewing opportunities on the Kodiak road system and develop socially and biologically acceptable ways of balancing these potentially conflicting factors. (From a draft report by Larry Van Daele ADF&G 23 Feb 2010.)

- 3.2 By 2008, design and implement studies to evaluate habitat use and preference of deer on Kodiak Island to facilitate understanding of deer influence on the condition of winter range habitat.

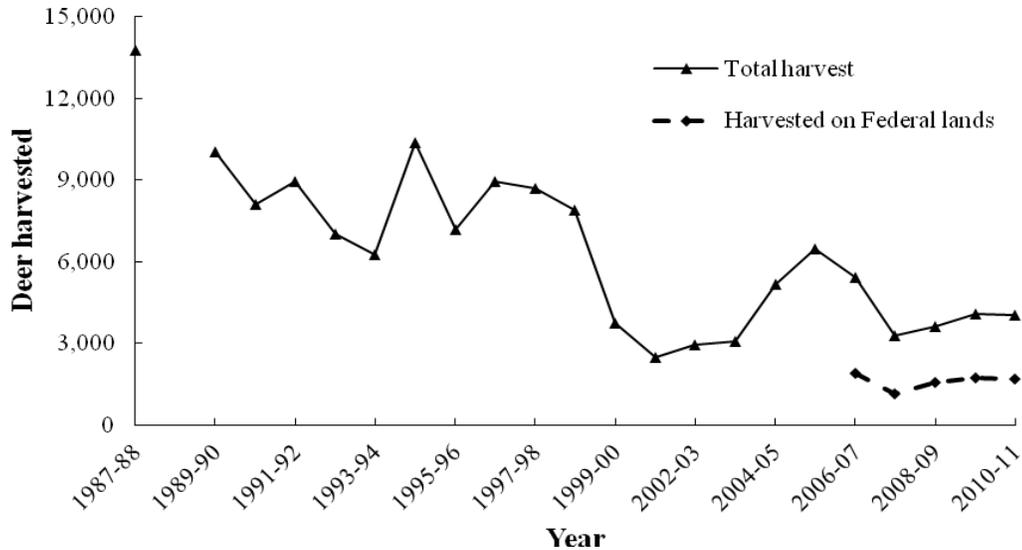
Resources were not available to conduct this study.

- 3.3 By 2008, develop methods, in partnership with ADF&G, to monitor deer population trends on Kodiak Island to facilitate harvest and habitat management.

- 3.3.a. Monitor trend deer harvest via cooperation with ADF&G on its hunter harvest survey.

Previous season deer harvest, representing combined subsistence and recreational sport hunter efforts, is assessed annually by ADF&G via a questionnaire distributed to a large subsample of people who acquired deer harvest tickets for Kodiak Island. Since 2006, the Refuge has cooperated with ADF&G on harvest assessment and added a question regarding harvest on federal land in Unit 8. Results indicated that approximately 1,676 of the 4,046 (41%) deer harvested between August 2009 and January 2010 were taken on federal lands. This harvest total is approximately 15% lower than the previous 5-year average (2004 – 2009, total harvest 4,799). Between the 2005-2006 and 2007-2008 seasons, harvests had declined by approximately 49% (6,469 to 3,290), in apparent response to increased over-winter mortality of deer and reduction in supply of deer

available to hunters (2004 to 2007). However, harvests have increased by 24% (798 deer) since 2007, suggesting that the deer population may be increasing as well (Table below). [COBB/PYLE]



Estimated number of Sitka black-tailed deer annually harvested (total and on Federal lands) on the Kodiak archipelago, based on ADF&G hunter questionnaire, 1987-88 to 2010-11 seasons.

3.3.b. Continue to survey trend in deer overwinter mortality until the method is replaced with another a more direct, accurate, and informative method of population trend assessment.

In cooperation with the ADF&G, deer mortality surveys on Kodiak Refuge were completed in April. A total distance of 37 kilometers was surveyed at 3 sites in different regions of Kodiak Island. Results suggested a pattern of moderate over-winter deer mortality at Chief Cove, low mortality at Sitkalidak Strait, and negligible mortality at Olga Bay. Assessment of carcass condition indicated that most dead deer encountered probably died during mid-winter. Of the 29 carcasses with sufficient remains to be age-classed, 90% (26) were fawns. Causes of death were attributed to starvation, as assessed via sampling of femur marrow conditions. [PYLE/COBB]

3.4 By 2010, evaluate and report habitat use and preference of mountain goats to improve understanding of goat influence on habitat conditions.

We have drafted a study plan to evaluate mountain goat habitat use and preferences on Kodiak. Field work for this project will start in the summer of 2011. [COBB]



Jason Oles helps conduct the annual spring deer mortality survey. Bill Pyle/USFWS

- 3.5 In cooperation with ADF&G, annually monitor trends in distribution, size, and composition of the elk population on Afognak Island. Maintain the sample of marked animals to enable this population monitoring by assisting with funding and logistics related to animal-capture operations.

The elk population was estimated at 610 before the 2010 hunt season, based on pre-hunt surveys in September by ADF&G. There were 8 active radio telemetry collars in 2010. The Refuge plans on assisting ADF&G to fit an additional 14 elk with radio telemetry collars during June 2011. [COBB]

- 3.6 By 2012, develop an objective understanding of the effect of deer on supply of berry-producing shrubs of primary importance to brown bears of Kodiak Island.

Resources were not available to accomplish this objective in 2010.

GOAL 4: Continue to improve understanding and management of furbearing and nongame mammals that use Kodiak Refuge.

- 4.1 By 2007, in cooperation with the Region 7 (Alaska) Marine Mammals Management Office, develop and implement a sea otter survey to annually index population trends.

Provide staff support for periodic, Archipelago-wide surveys conducted by Marine Mammals Management Office staff.

We have been working in collaboration with the Marine Mammals Management office to schedule an annual survey of the Kodiak sea otter population. A proposed revision of survey design would entail survey 1/3 of Kodiak Island each year, resulting in a complete island survey every 3 years. A survey will occur once MMM completes revision of the survey design. [COBB/PYLE]



Refuge Information Technician Tonya Lee with rescued infant sea otter abandoned by mother.

Occasionally the Refuge staff will get involved with rescuing helpless animals. These are generally sent to the Bird Treatment and Learning Center in Anchorage or the Sea Life Center in Seward. George Lee/Photo

- 4.2 In cooperation with the Region 7 Marine Mammals Management Office, expand communication on sea otters with the Alaska Sea Otter Commission, village councils, and others.

We trained two new sea otter taggers. We continued to serve as the communication link between taggers based in villages and the Service's Marine Mammal Management [COBB/LEE]



Sea otter pelts tagged at the refuge. Tonya Lee/USFWS

- 4.3 In cooperation with ADF&G, develop a method for monitoring trends in river otter populations, modify the existing ADF&G trapper questionnaire to capture information on refuge-specific furbearer harvest, and document estimated furbearer harvest and population trends in the annual refuge narrative report.

[Resources were not provided to accomplish this objective in 2010.](#)

- 4.4 Initiate study of habitat ecology of snowshoe hares by 2012.

[Resources were not provided to accomplish this objective in 2010.](#)

- 4.5 During cabin maintenance and management of derelict structures, take precautions to minimize damage to native bat populations.

[Maintenance crews were careful not to disturb native bat populations.](#)

GOAL 5: Monitor populations of resident and migratory birds as indicators of ecosystem health.

- 5.1 Continue to monitor coastal populations of environmentally sensitive resident birds in winter, spring, and summer for general information on species composition, distribution, and population trends to use as indices of marine and coastal resource health.

5.1.a. In collaboration with Migratory Bird Management and Alaska Maritime NWR, census seabird nesting colonies along the East side of Kodiak Island.

A collaborative effort was launched in 2008 to resurvey the majority of colonies in the North Pacific Colony Database and to document new colonies along the Kodiak coastline. Most of these colonies are off shore islands, islets, and rocks within Alaska Maritime NWR. Because the survey window for colony nesters is relatively small the Kodiak Archipelago was divided into three regions: 1) Afognak/Shuyak Islands, 2) East Kodiak Island, and 3) West Kodiak Island, with each region being surveyed during a two week period in late June over three years. Afognak/Shuyak Islands were surveyed in June 2008, East Kodiak Island was surveyed in June 2009, and West Kodiak Island was surveyed in June 2010.

This season, Kodiak National Wildlife Refuge staff and volunteers surveyed seabird colonies along the west coast of Kodiak Island from Ayakulik Island to Spruce Cape. The survey team consisting of Refuge biologist Robin Corcoran, research vessel operator Jeff Lewis and volunteers Will Deacy and Pauline Hsieh visited 80 previously documented colonies and discovered four new seabird colonies. The most abundant seabird species was the black-legged kittiwake with over 11,000 nests and 25,000 individual birds counted. Tufted puffins were also numerous with nearly 16,000 individuals counted, and the survey crew documented close to 1,000 glaucous-winged gull nests and approximately 7,500 individual gulls. Numbers of kittiwakes, gulls, and puffins were very similar to counts made at these same colonies in June 2002. Survey data will be submitted to the North Pacific Seabird Data Portal at seabirds.net.

[CORCORAN]



The Kodiak Refuge seabird colony survey team included volunteers Will Deacy, Pauline Hsieh, and Refuge biologist Robin Corcoran. Jeff Lewis/USFWS

5.1.b. Conclude the evaluation of the winter seabird and waterfowl procedure.

Draft findings were issued by Zwiefelhofer, Reynolds, and Kiem in: "Population Trends and Annual Density estimates for select Wintering Seabird Species on Kodiak Island, Alaska" in 2008 based on data collected by Zwiefelhofer in the 'winter marine survey' over the course of nearly 30 years. Peer-review comments collected in 2009 are being incorporated into the document. New Refuge avian biologist Robin Corcoran completed a partial winter seabird survey in Uyak and Uganik Bays on the west side of Kodiak in February 2010 based on the original survey design and incorporating distance estimation. Based on these analyses, the Refuge is evaluating the options of continuing this survey in a modified form or adopting the Southwest Alaska Network (SWAN) Nearshore Monitoring Program's Winter Marine Bird Survey design. [CORCORAN]



Thousands of crested auklets were seen on the Kodiak winter seabird survey in February 2010.
Robin Corcoran/USFWS

5.1.c. Evaluate and prescribe survey design and analysis methods for estimating trends of selected bird and mammal species from data collected on the summer coastal survey.

Surveys continued in August 2010 in Foul and Blue Fox Bays on Afognak Island. Marbled murrelets were one of the most commonly seen species; the largest flock was almost 200 birds near the Southeast corner of Ban Island. The other most commonly counted species included glaucous-winged gulls, black-legged kittiwakes, harlequin ducks, and pigeon guillemots. A pilot study was also conducted focusing on marbled murrelets and using randomly selected nearshore and pelagic transects and incorporating distance estimation. By completing both surveys simultaneously we hope to develop a calibration factor for comparing the results of new and old surveys despite differences in methodology. Field operations were supported by Jeff Lewis, who piloted the M/V Ursa

Major II, David Sinnett and Darren Bruning of USDA-Wildlife Services, and volunteer Will Deacy. [CORCORAN]

- 5.2 Continue to monitor populations of wintering waterfowl to provide information to the State of Alaska and the Alaska Migratory Bird Co-management Council in support of sound management of recreation and subsistence harvest of waterfowl. Monitoring should emphasize species such as black scoter, harlequin duck, and Barrow's goldeneye, which make up much of the waterfowl harvest in the Archipelago.

Data from the seabird coastal surveys (5.1.c) and molting harlequin duck banding (5.4) are regularly presented.

- 5.3 Continue periodic monitoring of trends in distribution, size, and reproductive success of the Refuge's population of nesting bald eagles. By 2007, determine appropriate frequency and sample sizes for long-term monitoring.

Joel Reynolds, regional refuge biometrician, and contract biometrician Alice Shelly's draft report "Study Design Assessment for Surveys of Bald Eagle Nesting and Productivity on Kodiak NWR" underwent peer-review. [CORCORAN]



A pair of marbled murrelets displaying in Blue Fox Bay during coastal surveys in August, 2010.
David Sinnett/USDA

- 5.4 By 2007, develop a banding program to monitor trends in survival and productivity with a focus on sea duck species (black scoter, harlequin ducks, Barrow's goldeneye) that make up much of the local waterfowl harvest. Areas along the Kodiak road system and adjacent to the villages would be given priority for the program.

In August 2010 Refuge biologist Robin Corcoran and three volunteers captured 149 harlequin ducks including 15 birds banded by the Refuge in previous years. Since 1994 the Refuge has banded 1267 harlequin ducks, recaptured 59, and received 53 band returns from hunter killed birds. This information has identified Uyak Bay as an area of high hunter harvest rates corresponding to a localized population decline in this species. This data can also be used to determine the degree of winter philopatry.

The sea duck banding program is expanding to include Barrow's goldeneye and this season we captured 56 molting goldeneye at Blue Fox Bay on Afognak Island. Six of the goldeneye were previously banded by the refuge at this exact location in 2006, the only other time molting Barrow's goldeneye have been targeted for capture. At that time 60 were captured and banded. This may be the only known location in North America where Barrow's goldeneye molt in large numbers on salt water. Kodiak is under consideration for inclusion in a study of connectivity among annual cycle stages, rates of site fidelity and scale of dispersal in this species using satellite transmitters. This is a cooperative study between Environment Canada, Simon Fraser University, Ducks Unlimited Canada, and the U.S. Fish and Wildlife Service. Between 2006 and 2010 satellite transmitters were deployed on 184 Barrow's goldeneye at locations in western Canada and in Prince William Sound, Alaska. [CORCORAN]



Molting Barrow's goldeneyes await banding in Blue Fox Bay, August 2010.
David Sinnett/ USDA

- 5.5 Identify important habitat areas on the Refuge for bird species of conservation concern, including bald eagles, Steller’s eiders, harlequin ducks, emperor geese, marbled and Kittlitz’s murrelets, red-throated loons, gray-cheeked thrush, orange-crowned warblers, and yellow warblers. Develop habitat maps by 2010.

5.5. a. Study nesting ecology of Kittlitz's murrelet.

This summer was the third year of a multi-year field study of Kittlitz’s Murrelet (KIMU) breeding ecology on Kodiak National Wildlife Refuge. Cost-share funds were matched with 1,642 hours of in-kind services contributed by two volunteers, Owen Baughman and Timothy Knudson, who assisted wildlife science technician James Lawonn with KIMU field research during May 10-September 3, 2010. Between early-June and mid-August, the team successfully located 16 active nests. Of those 16 nests, 10 made it to the chick stage, and four successfully fledged a chick. Camera images of chick provisioning, nest depredation and egg abandonment were recorded from a total of eight nests. Vegetation and landscape data were collected for nest sites and surrounding areas to determine the characteristics that define nesting habitat.

Another objective of the study was to conduct frequent early morning audio-visual surveys for KIMUs. A total of 238 KIMU detections were recorded during 23 audio-visual surveys from four locations.

In addition to characterizing nest sites and early morning attendance behavior, embryo, egg fragments, and feathers were collected that will be used to expand the genetic database of KIMUs in Alaska. The total of 34 KIMU nests studied over the last three years on Kodiak represent about 30% of all nests ever found, making the Refuge a very important center for the study of this species. [LAWONN/CORCORAN/PYLE]



Adult Kittlitz’s murrelet incubating with remote camera in background.
James Lawonn/USFWS

5.5. b. Radar monitoring of *Brachyramphus* murrelets on Kodiak Island.

In cooperation with Alan Burger and Jenna Cragg of the University of Victoria, British Columbia (B.C.), the Refuge initiated a study investigating diurnal, seasonal, and spatial patterns of inland flight behavior of Kittlitz's and marbled murrelets using radar. Marine radar is a commonly used tool to study marbled murrelets throughout B.C. and along the west coast of the U.S., and has shown high statistical power to detect population trends. This is the first effort in Alaska to use radar for monitoring murrelets. Field work in 2010 occurred in Grants Lagoon on the western end of Kodiak Refuge in June and July. Thirty-seven radar counts (189 hours) were completed yielding 2,089 murrelet detections. This was the first season in a proposed three-year study.

5.5. c. Alaska Landbird Monitoring (ALMS) Program

In June 2010 the Refuge partnered with the Alaska Bird Observatory (ABO) to establish and run an Alaska Landbird Monitoring Survey (ALMS) plot on Uganik Island. Two ABO-trained surveyors (Erin Kiely and Claire Giuliano) were flown out to the Uganik Island public use cabin and spent June 8-9 surveying birds and collecting vegetation data and photo points according to protocols developed by the USGS for this region-wide program. The team was able to survey 23 of the 25 points in the pre-selected grid, two points were inaccessible due to terrain. Over the two days of surveys the crew documented 301 individual birds of 13 different species (Table 1). Birds detected included three species of conservation concern, Gray-cheeked Thrush, Yellow Warbler, and Orange-crowned Warbler. The Refuge intends to survey this plot every other year according to ALMS guidelines. [CORCORAN]

Table 1. The number of birds detected by species on the Uganik Island Alaska Landbird Monitoring Survey, June 8-9 2010.

Species	Number Detected
Greater Yellowlegs	1
Willow Ptarmigan	1
Black-billed Magpie	1
Common Raven	2
Gray-cheeked Thrush	8
Hermit Thrush	39
Orange-crowned Warbler	7
Yellow Warbler	7
Wilson's Warbler	54
Savannah Sparrow	9
Fox Sparrow	71
Golden-crowned Sparrow	91
Common Redpoll	10



Erin Kiely of the Alaska Bird Observatory (ABO) at Uganik Island ALMS point 23, Kodiak NWR 6 June 2010. Claire Giuliano/ABO

- 5.6 Continue collaboration with the Migratory Bird Management Office, Alaska Region, on periodic monitoring of wintering Steller's eider populations to contribute to monitoring and recovery efforts under the Endangered Species Act. Expand this effort to include monitoring of emperor geese.

Paul Anderson and Bill Larned of the AK Migratory Bird Management Office, in cooperation with Refuge biologist Robin Corcoran, completed the sixth Kodiak Steller's eider winter aerial survey from 3-7 February 2010, covering most of the eastern coastal portion of the Kodiak Archipelago. (Previous surveys have shown that Steller's eiders are largely absent from the west side of Kodiak and Afognak Islands.) The survey design consisted of a single flight parallel to the shoreline between 200 and 400 meters offshore, with s-turn patterns as necessary to cover shoals shallower than 20 meters providing known or potential habitat for Steller's eiders. All groups of eiders and other waterbirds and marine mammals were identified and counted or estimated by the pilot and the starboard observer. A total of 2,699 Steller's eiders were recorded for the 2010 survey, compared with 5,349 in early March 1994, and an expanded estimate of 5,341 in 2001, the two previous seasons with the most complete survey data. Survey coverage was not complete in 2010, but an analysis by area indicates that the number of Steller's Eiders counted was lower across the entire survey with the most pronounced declines in Chiniak Bay. Prospective power analysis using data from the Kodiak wintering Steller's eider aerial surveys in 1993, 1994 and 2001 indicates that declines of 50% in this population could be detected with a survey done at 5-year intervals and surveys for this species are planned on this schedule.



Kodiak Refuge biologist Robin Corcoran and Migratory Bird Management pilot-biologist Paul Anderson on a break from surveying wintering Steller's eiders at the village of Akhiok on Kodiak Island in February, 2010. Bill Larned/USFWS

While this survey targeted Steller's eiders, emperor geese also feed almost entirely in the intertidal zone in winter and thus counts of geese may reasonably estimate goose populations as well. Numbers of emperor geese have increased from 3,092 in 1994 and 2,216 in 2001 to 6,768 in 2010. [CORCORAN]

- 5.7 Develop baseline contaminants information for environmentally sensitive resident birds by 2010.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

- 5.8 Facilitate annual operation and completion of two breeding bird surveys in the Kodiak vicinity.

- 5.8.a. Conduct annual road system breeding bird survey.

Established in the early 1980s, both road-based surveys were successfully completed by volunteers Cindy Trussell (observer) and Rich MacIntosh (data recorder, navigator) in June 2010. Results were issued to USGS in July. [CORCORAN]

- 5.8.b. Conduct Alaska Landbird Monitoring System survey of breeding birds on the Refuge.

In June 2010 the Refuge partnered with the Alaska Bird Observatory to establish and run an ALMS plot on Uganik Island. Two ABO-trained surveyors, Erin Kiely and Claire Giuliano, were flown out to the Uganik Island public use cabin and spent June 8 and 9th

surveying birds and collecting vegetation data and photo points according to protocols developed by the USGS for this region-wide program. The team was able to survey 23 of the 25 points in the pre-selected grid; two points were inaccessible due to terrain. Over the two days of surveys, the crew documented 301 individual birds of 13 different species. The most common species detected were golden-crowned sparrow, fox sparrow, Wilson's warbler, and hermit thrush. The Refuge intends to survey this plot every other year according to ALMS guidelines. [CORCORAN]

GOAL 6: Maintain and restore native plant populations, communities, and habitats.

6.1 Develop and conduct reconnaissance surveys for invasive plants—particularly orange hawkweed (*Hieracium aurantiacum*), a known invasive on Kodiak Island—every five years in the vicinity of villages, private lands within the Refuge (e.g., lodges, canneries), and Refuge sites subject to routine use by people. Where invasive plants are detected, initiate collaborative control and eradication actions.

6.1.a. Continue implementation of approved Integrated Pest Management (IPM) plans.

We continued manual and mechanical control, but not chemical control, of oxeye daisy at Refuge HQ and orange hawkweed at Camp Island. In January 2009, chemical control was suspended by the Regional Director of the Alaska Region pending completion of the NEPA process regarding the Refuge's invasive plant management program. Volunteers again proved invaluable to project work. During spring and summer 2010, a total of 10



Blythe Brown and Bill Pyle sample response of invasive orange hawkweed and native plants to Integrated Pest Management on permanent plots established in 2003. Wesley Pyle/USFWS

volunteers contributed 560 hours of support of invasive plant management field operations. With exception of Refuge HQ, support of fieldwork including transportation was provided by a grant from the Service's Invasive Management with Volunteers Program. [PYLE]

Led orange hawkweed monitoring and control efforts (picking flowers before seed set) at Camp Island between May and August. [LEE]

6.1.b. Conduct surveys and outreach pertaining to invasive plants in remote areas of Kodiak Island within and adjacent to the Refuge.

We continued to survey and map infestations in the vicinity of Camp Island. No additional surveys were conducted. [PYLE]

Coordinated with Kodiak Soil and Water Conservation District to survey invasive species in six village communities. [LEE]

6.1.c. Complete planning process to address invasive plant management strategy.

The planning process advanced substantially during the course of the fiscal year. Milestones included completion of peer review of the draft environmental assessment in May, release of the draft for 30-day public review in July, and analysis of comments in September. [PYLE]

6.2 By 2008, describe species composition of plant communities for selected areas of the Refuge, with special emphasis on the Kodiak Refugium and areas likely to contain endemic plants.

The Refuge has annually sponsored cooperative floristic surveys since 2005. The surveys, which have been instrumentally supported by the Service's Challenge Cost Share Program, have targeted different regions of Kodiak Refuge and vicinity. In 2005 and 2007, surveys covered different areas within the Kodiak Refugium. Distributionally restricted species were described and unique plant assemblages were identified. Results have been routinely reported by the Carolyn Parker of the Museum of the North Herbarium, University of Alaska Fairbanks (UAF); and by Stacy Studebaker, local volunteer botanist. These reports describe species composition of landcover types encountered during surveys, and include detail on new occurrence records, rare species and unique habitats. Reports generated by UAF have been routinely distributed to the Alaska Natural Heritage Program. [PYLE]

6.2.a. Survey flora of the Old Harbor vicinity.

In 2010 we received UAF's report on floristic survey of selected areas of southern Kodiak Island, and we conducted a survey of selected areas in the vicinity of Old Harbor. The surveys were performed by Stacy Studebaker and Carolyn Parker. Following the survey, we shipped collected specimens to UAF for processing by its Herbarium, and Studebaker generated and delivered summary results of fieldwork in a PowerPoint presentation. [PYLE]



Carolyn Parker recording notes about the alpine flora of the Big Creek watershed north of Old Harbor. Stacy Studebaker/USFWS

6.2.b. Survey soils and ecological sites of selected watersheds of Kodiak NWR and vicinity.

The NRCS continued a second-year of cooperative soil survey assessment targeting areas identified by the Refuge. A total of 576,000 acres was mapped including portions of the Olga Lakes watershed, Kaguyak Creek watershed, Old Harbor vicinity and Sitkalidak Island. Intensive fieldwork involving subsampling of soils and vegetation occurred over a five week period between late June and early August. Preliminary results indicated that the soils and vegetation differ substantially in southern Kodiak Island. Based on these results, the NRCS has proposed a new landscape-level soil resource area (i.e., MLRA) for this region. In support of objective 6.2, the NRCS will provide the Refuge with plot-based data (species composition, soils) it acquired on survey plots sampled within the Refuge's legislative boundary. [PYLE]



Mike Mungoven, Soil Scientist and leader of the NRCS's Kodiak Soil Survey, examines soils at a sample site on Sitkalidak Island. USDA

6.2.c. Draft study plan to survey alpine vegetation in mountain goat summer range.

[Draft of study plan completed.](#) [COBB]

6.3 By 2010, develop a monitoring program to evaluate major plant communities in the vicinity of remote weather stations.

[No action was accomplished on this in FY-2010 due to a lack of staff and funding.](#)

GOAL 7: Conserve the abundance of natural salmonid populations for continued human and wildlife use and to ensure the diversity of species as indicators of the health of the Refuge's ecosystem. [VAN HATTEN]

7.1 In collaboration with ADF&G, annually monitor escapement of salmon by means of aerial surveys and weir counts to ensure adequate escapement for future production and to support important commercial, recreation, and subsistence fisheries.

[ADF&G monitored the escapement of salmon by weir counts and aerial surveys. The 2010 Kodiak Area Salmon escapement counts were classified as weak. The classification is based on yearly escapement counts compared to historical counts, which is normally the 10 year average. There are five systems on Kodiak Refuge lands and two systems on Federal submerged lands administered by Alaska Maritime Refuge \(Litnik and Buskin River systems\). Salmon escapement goals were not met in 2010 on one system, the](#)

Karluk River. Over all there were 7 out of 12 salmon populations that were higher in 2010 than in 2009, and although the 5 salmon populations that had lower escapement counts in 2010, they were high enough to meet their lower escapement goal. Even though the lower escapement goal was not met for the Karluk River Chinook and early run sockeye salmon their numbers were higher in 2010 than in 2009.

The 2010 lower escapement count was not met on the Karluk River for Chinook (2,917 fish; escapement goal range 3,600 to 7,300 fish), and early run sockeye (70,544 fish; escapement goal range 100,000 to 210,000 fish).

However, the 2010 sockeye escapement counts for Karluk River late (277,558 fish, escapement goal range 170,000 to 380,000 fish) run; Ayakulik River (262,327 fish, escapement range 200,000 to 500,00 fish); Dog Salmon (135,100 fish, escapement range 95,00 to 190,000 fish); Frazer Lake (94,680 fish, escapement range 70,000 to 150,000 fish); Upper Station early (42,046 fish, escapement range 30,000 to 65,000 fish) and late (141,122 fish, escapement range 120,000 to 265,000 fish); Litnik (52,255 fish, escapement range 20,000 to 50,000 fish); and Buskin River (9,788 fish, escapement goal range 8,000 to 13,000 fish) met their lower escapement goal. The Ayakulik River Chinook salmon (5,301 fish, escapement goal range 4,800 to 9,600 fish) met its lower escapement goal,



Longtime Kodiak volunteer Red West participates in the Karluk River juvenile Chinook salmon Study on the Karluk River. Heidi Helling/USFWS

The Karluk, Ayakulik, and Buskin River systems were closed to all user groups (subsistence, sport, and commercial) for portions of the 2010 season. The Karluk River restrictions were not lifted but the restrictions on the Ayakulik River were lifted once the Chinook salmon escapement goal was forecasted to be met. These management decisions were made to protect both Chinook (Karluk and Ayakulik Rivers) and sockeye (Karluk, Ayakulik, and Buskin Rivers) salmon populations. Management decisions were based on historical run timing data.

The Alaska Department of Fish and Game – Commercial Fisheries Division conducted aerial salmon surveys throughout the summer. Data from these surveys have not been released to our office at this time. [VAN HATTEN]

- 7.2 Monitor salmon escapement in streams on the Refuge that are key seasonal feeding areas for brown bears and bald eagles and work collaboratively with ADF&G to maintain escapement levels that reflect wildlife needs.

Salmon escapement counts were monitored by ADF&G on Karluk, Ayakulik, Dog Salmon Rivers, Upper Station (Olga Lakes) and at Frazer Fish pass. These systems are the only systems that weirs are used to monitor salmon populations within the refuge boundaries. While there are other areas of interest (i.e., Sturgeon, Little, Uganik, and Humpy Rivers, and 7-Mile Creek) escapement data is not available for these systems. [VAN HATTEN]



Juvenile Dolly Varden taken in a minnow trap in the Karluk River Juvenile Chinook Study. Heidi Helling/USFWS

- 7.3 Annually review commercial, recreation, and subsistence harvest of salmon by means of ADF&G commercial harvest reports, special use permit reports, creel censuses, and

subsistence reporting. Harvest data, along with escapement data, will be used to monitor productivity of salmon populations that occur in waters within Refuge boundaries.

The Kodiak Refuge Information Technician (RIT) continues to provide subsistence harvest data from villages that she has established contact with. The information collected by the RIT was provided to the Fishery Biologist which was then summarized into a weekly report and submitted to the Office of Subsistence Management. Due to confidentiality, ADF&G is reluctant to provide any harvest data pertaining to commercial, recreational and subsistence user groups. [VAN HATTEN]

- 7.4 Continue to review management plans and harvest regulations that may affect exploitation of fish populations located within the Refuge. Make recommendations to ADF&G, regional advisory councils, the Federal Subsistence Board, local advisory committees, and the Alaska Board of Fisheries, as needed, for modifications to existing plans and regulations and/or for new plans and regulations.

Reports were provided to and oral presentations given to the Kodiak/Aleutians Regional Advisory Committee at their spring and fall meetings outlining the Refuge's activities associated with subsistence species. The Alaska Board of Fisheries provided a list of proposals for changes to the state's fishing regulations. These proposals for change were addressed at the March 2010 Kodiak Regional Advisory Council meeting. Public user groups and state and federal biologists worked diligently on providing input in the best way to conserve the Kodiak Management Area fishery. [VAN HATTEN]

- 7.5 Work with ADF&G to evaluate the need for steelhead escapement goals for Karluk, Ayakulik, and Sturgeon rivers. Additionally, recommend to ADF&G management actions or regulatory proposals that foster conservation of population structure and productivity of stocks that use these rivers.

There are currently no escapement goals for steelhead on the Karluk, Ayakulik, or Sturgeon Rivers. The Kodiak Refuge office has consulted with ADF&G – Sport Fish Division to start the process in establishing escapement goals for these systems. Although there is no escapement goals established within Refuge boundaries, our office has been contacted by Koniag personnel to study the steelhead population on Karluk River. There is concern by Koniag, that with the decline in Chinook salmon populations, lodges and subsistence users are focusing their attention on steelhead. There have been no resources available to study steelhead populations. We have also been contacted by ADF&G – Sport Fish Division to see if the steelhead population in Dog Salmon (Frazer Lake drainage) is being targeted by lodge and subsistence user groups. [VAN HATTEN]

- 7.6 Assess and monitor populations to gather baseline data on noncommercial fish species such as Arctic char in Karluk Lake, Dolly Varden char, and resident rainbow trout. Use study methods such as mark-recapture, radio-tagging, weirs, video, and creel surveys with assistance of the Service's King Salmon Fish & Wildlife Service field office and ADF&G.

In 2010, we attempted to study the Dolly Varden/Arctic Char population on Spiridon Lake but due to lack of personnel, this study was not fully completed. Proposals will be submitted this winter to try to get funding for a project of this nature. In addition we are

contacting other partners (Kodiak Regional Aquaculture Association) to provide support. [VAN HATTEN]

- 7.7 Continue to require ADF&G to implement monitoring programs for Kodiak Regional Aquaculture Association (KRAA) enhancement projects conducted on the Refuge, as outlined in specific refuge management plans (i.e., Spiridon and Hidden lakes enhancement management plans). Annually review project reports provided by ADF&G to ensure that biological parameters continue to meet management plan criteria, which will ensure protection of wild salmon stocks, char populations, and wildlife within the project area.

Steve Schrof, Kodiak Finfish Biologist for the ADF&G – Division of Commercial Fisheries, has provided our office with a copy of the 2010 Spiridon (Fishery Management Report No. 10-37) and Hidden Lakes (Fishery Management Report No. 10-46) Sockeye Salmon Stocking Project and Related Monitoring Parameters report. Review showed that ADF&G has met all criteria established for this project. [VAN HATTEN]



Refuge Biotech Heidi Helling prepares the bait for the Karluk River juvenile Chinook salmon study. Red West/USFWS

- 7.8 Through a collaborative effort with ADF&G, evaluate situations when fish populations are determined not to be meeting escapement goals or management targets. When weak stocks are identified (e.g., the early run of sockeye in Akalura Creek) develop strategies to improve and stabilize runs, which may include implementation of specific

management actions and research or rehabilitation projects, while maintaining genetic integrity of these fish populations.

The 2010 Chinook salmon escapement goal was not met on the Karluk River for the fifth consecutive year. Because this was over the third year that the lower escapement goal was not met, ADF&G submitted a recommendation to the Board of Fish to list this stock as a stock of concern. [VAN HATTEN]



Workers camped out along the Karluk River to accomplish the May juvenile Chinook salmon study. Heidi Helling/USFWS

- 7.9 Complete data collection and write a report describing and classifying genetic characteristics of salmon populations in the Kodiak Refugium by 2008.

The Anchorage genetics lab has drafted a proposal to request funding to analyze samples collected from Karluk River sockeye salmon. [VAN HATTEN]

- 7.10 In cooperation with ADF&G, document and describe genetic characteristics and variability of natural fish populations that are important indicators of the diversity on the Refuge for both human and wildlife use.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

- 7.11 Through a coordinated effort with ADF&G, evaluate salmon spawning and rearing habitat to determine productivity of salmon-producing systems within the Refuge.

No salmon spawning habitat studies were conducted on the Refuge in 2010. Funds acquired through a Challenge Cost Share Agreement enabled Refuge personnel to conduct a study which attempted to collect baseline data on Karluk River Chinook salmon juveniles. The sampling period was from May 6 to 16, 2010. A total of 12 Chinook, 13 coho, and 56 sockeye salmon; 437 rainbow/steelhead; 1,500 Dolly Varden; 98 stickleback and 2 sculpin were caught during this sampling period. There wasn't a big enough sample size of juvenile Chinook salmon to achieve an adequate temporal distribution profile throughout the Karluk River drainage. The data was a snapshot of where juvenile Chinook salmon were located on the date they were captured. [VAN HATTEN]

- 7.12 Through a collaborative effort among ADF&G, the Refuge, and the Anchorage Fish & Wildlife Service field office, use escapement, habitat, and other pertinent data to establish sustainable or biological escapement goals—subject to review by the Alaska Board of Fisheries—for all species of salmon within the Refuge.

No action was accomplished on this in FY-2010.

- 7.13 Establish and implement monitoring plans for streamside areas to ensure salmon and Arctic char rearing and spawning habitats remain productive.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

GOAL 8: Provide the opportunity for local residents to continue their subsistence uses on the Refuge, consistent with the subsistence priority and with other Refuge purposes.

Most of the objectives listed under Goals 1 through 7 are also objectives for the subsistence goal. For example, there are numerous objectives related to management of deer (Goal 3), fish (Goal 7), and migratory birds (Goal 5), which are commonly used subsistence resources in and around the Refuge.

Continued to tag sea otters and walrus tusks and provide information to hunters when requested. [LEE]

Continued to issue permits and do outreach on Refuge subsistence hunt programs including designated deer, elk and village brown bear hunts. [LEE]

- 8.1 Coordinate with ADF&G and the Federal Subsistence Board to issue special actions, as authorized under federal in-season management, when necessary to ensure conservation of healthy fish stocks and to provide for subsistence uses (subject to Title VIII of the Alaska National Interest Lands Conservation Act [ANILCA] of fish in federal waters. Efforts will be made to minimize disruption to resource users and existing agency programs, as agreed to in the Interim Memorandum of Agreement for Coordinated Fisheries and Wildlife Management for Subsistence Uses on Federal Public Lands in Alaska.

Due to a very weak Chinook salmon forecast by the ADF&G for both the Karluk and Ayakulik Rivers, a decision was made to restrict harvest of Chinook salmon by subsistence, sport, and commercial user groups before the season started. A Special Order was issued by Federal In-season Manager Gary Wheeler to close subsistence harvest of Chinook (king) salmon in the Karluk River from May 15-July 13. Early sockeye salmon escapement numbers on the Karluk River indicated that the lower escapement goal would not likely be met. In response, an emergency order was initiated to close sport fishing for sockeye salmon on the Karluk River beginning June 30. Residents of Karluk reported low catch-per-unit-effort of sockeye salmon prior to the closure. The Ayakulik River Chinook salmon season was reopened to subsistence and sport fishing when the lower escapement goal was met (July 7).

The northern section of the Kodiak Management Area varied in run strength throughout the fishing season. In early June, low numbers of sockeye returning to the Buskin River resulted in an ADF&G emergency order to close the river and a Special Action to close Federal waters to subsistence fishing for salmon on June 15. Subsequently returns improved and the fishery was reopened to all user groups by emergency order and Special Action. The Litnik River system on Afognak Island experienced a strong return of sockeye salmon. An emergency order was issued to increase the bag limit, and the closure area for subsistence fishing was reduced (to the stream terminus) by Special Action on June 9 to allow additional harvest and prevent higher than desired escapement. Subsistence users from Ouzinkie and Port Lions were able to meet their subsistence needs during this strong return. The subsistence salmon harvest area at Litnik was returned to the normal area by a Special Action effective August 6. [WHEELER]

Assisted in Special Action for Karluk River Chinook salmon subsistence closures. [LEE]

- 8.2 Continue to coordinate with and assist the Division of Migratory Bird Management in completing the annual Migratory Bird Harvest Survey in rural communities surrounding Kodiak Refuge.

Conducted Migratory Bird Harvest Surveys in Larsen Bay, Karluk, Port Lions, Akhiok, Women's Bay and a portion of Kodiak town. [LEE]

- 8.3 Coordinate with ADF&G and the Service's Office of Subsistence Management to complete subsistence use surveys as needed.

No action was accomplished on this in FY-2010.

GOAL 9: Improve baseline understanding of natural flowing waters on the Refuge and maintain the water quality and quantity necessary to conserve fish and wildlife populations and habitats in their natural diversity.

- 9.1 In coordination with the Service's Fisheries and Ecological Services and the Water Resources Branch, in the Regional Office, ensure the Four Dam Pool and the Kodiak Electric Association comply with instream-flow requirements of the Terror Lake Project

agreement and the Federal Energy Regulatory Commission license. Additionally, monitor and maintain water quantity and water quality that could be affected by future hydroelectric or other water development projects.

Monitored water releases from Terror Lake to ensure they complied with the minimum flows in the Terror River as specified by FERC in the Terror Lake license. KEA was in the second year where minimum flows were measured by a 24-hour rolling average and no flows could be below 7.5% below the minimum flow. Flow reports were issued on a quarterly basis by KEA. [WHEELER]

Alaska Village Electric Cooperative initiated the Old Harbor Hydroelectric Project and their consultants conducted studies on wetlands, fisheries, archaeology and bald eagles. A portion of the project is located on the refuge and a portion of the project is located on Exxon-Valdez conservation easement lands administered by the Refuge. At full capacity the project would divert 7 cfs from Mountain Stream a tributary of Barling Bay. [WHEELER/SUNDSETH]

- 9.2 By 2009, complete the Five-Year Plan of Study for the Water Resources Inventory and Assessment on the Kodiak Refuge and, in coordination with the Service's Water Resources Branch, quantify and file for instream water rights for the maintenance and protection of fish and wildlife habitats.

Completed.

- 9.3 In cooperation with ADF&G and the Anchorage Field Office, initiate limnological studies at lakes and streams within the Refuge that provide important habitat for fish and wildlife. Specifically, begin studies at Karluk, Ayakulik (Red Lake), Frazer, Akalura, Uganik, Sturgeon, Spiridon, and Little river systems.

ADF&G continued limnological studies on Karluk, Frazer, Red, Uganik and Spiridon Lakes to quantify lakes as fish habitat.

GOAL 10: Provide opportunities for quality public use and enjoyment of Refuge resources through compatible fish- and wildlife-dependent recreation activities, including hunting, fishing, wildlife observation, and photography.

- 10.1 Improve monitoring and continue appropriate onsite management of seasonal aggregations of public use at Ayakulik River, Karluk River, Frazer fish pass, and Uganik River and expand to other areas as use develops.

Ayakulik River: A joint June patrol was made by the Law Enforcement and Visitor Services staff. The goal of the patrol was to put up voluntary camping closure signs and check fisherman. Only part of the river was patrolled as weather made hiking the ridge top back to Bare Creek difficult. [BEDINGFIELD/OLES]



Ayakulik River during June surveys. Isaac Bedingfield/USFWS

Karluk River: The Karluk sport fishery was closed once again this season. No river patrols were conducted, however, the Refuge Youth Conservation Corps (YCC) program made two separate trips to the area to work on the Portage trail. About 1,000 feet of trail was improved and/or hardened with geoblock (work performed in cooperation with Island Trails Network and Koniag, Inc.). [GLASPELL/LAWSON/YCC CREW]

Frazer Fish Pass: Air taxis brought 606 visitors to Frazer Fish Pass for bear viewing. Challenge Cost Share funds were used to support remediation and remodeling of a 1960's era cabin at the fish pass. The building's asbestos siding was removed it was re-sided and converted into temporary housing and a storage garage. The building will meet Refuge housing needs for a FWS presence at the bear viewing site during peak public visitation. In addition, a short trail was constructed allowing visitors to easily view the fish pass, including the salmon housing tanks and fish counting gate. At the close of the season, interpretive and directional signs were removed to prevent weathering over the winter. [OLES/GLASPELL]

Uganik River: For the third consecutive year, a public use contact station was maintained at the outlet of Uganik Lake during most of September (peak Silver Salmon season). Refuge staff contacted 163 individuals and distributed maps and fishing etiquette leaflets. Some visitors were also contacted at the Uganik Lake cabin and minor maintenance was completed: The cabin outhouse was moved to a new site; the cabin porch, deck and walkways received a coat of stain; and the door of the outhouse was repaired after being torn off in a wind storm. [OLES/LAWSON/HUPP/SUNDSETH]



An old cabin at Frazer fish pass was remodeled to provide housing for interpretive personnel. Rob Baer/ADF&G

- 10.2 In cooperation with ADF&G, Koniag, Inc., Akhiok-Kaguyak, Inc., and Old Harbor, continue to implement and manage easement agreements to minimize impacts of public use on fish, wildlife, and habitat; to ensure compatibility with Refuge purposes; and to provide for sustainable fish, wildlife, and wildlands recreation.

10.2.a. Consult with Koniag, Inc. as needed regarding its development and business service plans for Camp Island and the Koniag Conservation Easement area.

Koniag was selected to provide bear viewing at O'Malley Creek. We plan to negotiate with Koniag to ensure they fully understand our desires at O'Malley. Koniag plans to house their visitors at Camp Island at the lodge that they intend to build there. They will access the bear viewing area by boat. [WHEELER/GLASPELL/SUNDSETH]

10.2.b. Support implementation of Native of Larsen Bay's Tribal Wildlife Grant, much of which pertains to management of resources on the Koniag Conservation Easement.

Coordination on grant implementation continued and accomplished a milestone with the successful procurement of high resolution orthoimagery coverage of a 287,000 acre

project area in November 2010. The Tribe's project area encompassed private and public lands within and adjacent to the Karluk River watershed. Copies of the orthoimagery subsequently were provided to project cooperators Koniag, Inc., and Kodiak Refuge. In December, staff with Koniag, Inc. and the Refuge travelled to Larsen Bay, gave a presentation on the project, and discussed next steps pertaining to the grant and regarding collaboration on GIS projects using the grant orthoimagery products. [PYLE]

10.2.c. Support implementation of Old Harbor Tribal Council's Tribal Wildlife Grant pertaining to bear-proofing the community landfill and outreach to minimize bear-human conflict.

The Refuge, along with the ADF&G has worked closely with Old Harbor's tribal staff to provide technical and educational assistance for this project; in the form of community meetings, coordination with Old Harbor's Village Public Safety Officer, and school programs on bear awareness, safety and biology. [LEE]



Sow with three cubs forages at the Larsen Bay dump. Gary Wheeler/USFWS

- 10.3 In 2007, develop an operations plan encompassing all aspects of law enforcement to be completed by 2008. Annually monitor commercial activities on the Refuge, including compliance with special use permit conditions and operation plans. Expand law-enforcement outreach to include education programs and media releases regarding Refuge regulations, and increase the number of field patrols to protect resource values and to enhance visitor experiences on Refuge and conservation easement lands.

A new visitor services park ranger position (OLES) added in January 2010 was amended to include LE duties. The addition of a second officer to the Refuge staff will help monitor compliance special use permits and conduct preventative outreach.

- 10.3 In cooperation with ADF&G, Koniag, Inc., Akhiok-Kaguyak, Inc., and Old Harbor, continue to implement and manage easement agreements to minimize impacts of public use on fish, wildlife, and habitat; to ensure compatibility with Refuge purposes; and to provide for sustainable fish, wildlife, and wildlands recreation.

In April we hosted the annual Refuge-Koniag-ADF&G coordination meeting at the Refuge visitor center. Throughout the year, we consulted regularly with Koniag representatives on cabin construction, operation plans, Camp Island facilities, and permitting procedures. Refuge staff and the Island Trails Network continued to make progress on the multi-year Portage Trail repair and hardening project.

[GLASPELL/OLES/LEACOCK/SUNDSETH/WHEELER]

- 10.3 In 2007, develop an operations plan encompassing all aspects of law enforcement to be completed by 2008. Annually monitor commercial activities on the Refuge, including compliance with special use permit conditions and operation plans. Expand law-enforcement outreach to include education programs and media releases regarding Refuge regulations, and increase the number of field patrols to protect resource values and to enhance visitor experiences on Refuge and conservation easement lands.



Isaac Bedingfield Region 7 Refuge Officer of the Year for 2010 with Jim Hjelmgren, Chief of Refuge Law Enforcement. USFWS

10.3.a. Conduct field patrols to maintain visibility and ensure compliance with fish and wildlife laws and refuge regulations. [BEDINGFIELD]

This year Refuge Officer (RO) Bedingfield was assigned to work two LE details- one on Alaska Peninsula during spring bear season and the other in September assisting the BIA on the Mescalero Apache Indian reservation. This made for fewer field contacts. RO Bedingfield checked 120 fisherman and hunters.

During the fall bear hunt, RO Bedingfield checked many of the Refuge permitted bear guides in the field. Assistance was given to the Alaska Wildlife Troopers investigating an illegally shot bear near the boundary of the Refuge. RO Bedingfield met with two air transporters in Larson bay to discuss Refuge regulations regarding commercial use, guiding, and transporting on Refuge lands. Many of the deer hunters that were contacted commented on their surprise at being field checked by a Refuge officer.

Zone Officer Bill Raften came down and patrolled with RO Bedingfield April 18th and 19th. Due to a late spring very few bear hunters were out. One citation was issued to a bear hunter for starting a fire on Refuge lands in Halibut Bay. The state was informed of RO Bedingfield being detailed to the AK Peninsula and agreed to patrol Refuge lands for the second half of the spring bear season. They reported that no incidents were observed. No spring waterfowl hunters were found.

There were few fisherman on the Refuge during king season this year due to the continued weak king run and subsequent closures. Patrols were conducted with the Husky on the Ayakulik and Karluk Rivers.



A successful bear hunter on the Refuge poses for the camera. Bedingfield/USFWS

All set net site permit holders paid their permit fees on time this year. A post-season aerial inspection of each set net site was accomplished in late September to determine if permittees were complying with the season of use provision of their permits. Each site inspected was boarded up and closed.

Cabin inspections were performed throughout the year. Individuals staying in the cabins were often visited by the Refuge Officer to encourage compliance and educate the users about the Refuge.

Historic ATV trails were documented on the Old Harbor easement lands. There was no new ATV use discovered on Refuge lands this year. RO Bedingfield posted the Refuge boundary along the Port Lions ATV trail. In January RO Bedingfield flew to the village of Karluk and talked with some of the locals about ATV use on the Refuge.

Winter '09-fall '10 waterfowl patrols - RO Bedingfield assisted FWS special agents and AK Wildlife Troopers in checking waterfowl hunters on the road system near the City of Kodiak. He also conducted waterfowl hunter checks on Refuge lands using the Husky.

Bedingfield maintained his firearms instructor qualification and helped run the shooting ranges at LE in-services. He was named "Officer of the Year" for Region 7.



RO Bedingfield checks waterfowl hunters on the road system. Jason Oles/USFWS

- 10.4 Assess the nature of visitor experiences available in different types of bear-viewing settings to support the design and development of viewing programs at O'Malley River

and other potential sites. Complete the assessment(s) in advance of the implementation of any new bear-viewing program(s).

This year, substantial work was completed toward full implementation of the O'Malley Bear Viewing Program: A final program prospectus and request for proposals was prepared and made available to the public for a 60-day period; a full-time GS-9 park ranger was recruited to support, develop, and monitor the viewing program; a regulatory change to permit operation of the O'Malley bear viewing program during the seasonal closure, June 25 to September 30, was finalized; the Refuge CCP was amended to allow for the viewing program to be run solely by a permittee; a twelve by sixteen foot bear viewing platform was constructed overlooking the O'Malley River and a trail to the platform was created and recorded by GPS; program staff visited McNeil State Bear Sanctuary to learn how the State of Alaska has organized and implemented its bear viewing program at McNeil Falls; and, finally, the special use permit for operation of the viewing program was awarded to Karluk Wilderness Adventures, a subsidiary of Koniag Native Corporation. [OLES/GLASPELL/LEACOCK]

- 10.5 Using rigorous social science methods assess the nature of visitor experiences, significant influences on those experiences, and public acceptability of potential management actions at Frazer fish pass. Use results of the study as input to visitor-use management and potential visitor-capacity decisions at that site.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

- 10.6 Manage the public use cabin system to support a variety of compatible recreation activities by carefully considering the location of all current cabins and potential future additions to the system.

2010 was the first full year for the "updated" cabin program, including nine public cabins, online reservations at recreation.gov, and complete information available on both recreation.gov and the Kodiak Refuge website. The Viekoda Bay cabin was relocated and completely rebuilt, in part to address public comments about the location, size, and general quality of the old cabin. The new cabin was constructed from a re-purposed, cedar "panabode" structure formerly located at refuge headquarters, and it meets or exceeds the quality standard of all other cabins in the system. The new location is easier to access at low tide, and easier to hike from as well. The public use cabin system supported a total of 257 individual visitors and 1,501 use days, and generated \$23,515 in rental fee revenue. [MONZON/GLASPELL/KING]

- 10.7 Continue to monitor use of 17(b) easements and implement management actions as necessary to prevent resource impacts to the easements. (Also see Goal 1.)

10.7.a. Assist Koniag Inc. with their project to harden another 1,500 feet of the Portage Trail.

YCC interns and refuge staff, in cooperation with Island Trails Network, completed hardening on approximately 1,000 feet of trail. [GLASPELL/LAWSON]



Viekoda Bay replacement cabin. David King/USFWS

- 10.8 By 2008, assess off-road vehicle (ORV) use on conservation easements lands.

No ORV use was observed on conservation lands other than authorized trails.
[BEDINGFIELD]

- 10.9 Initiate assessment of snowmachine use on the Refuge.

Regulation was approved that included three elements: 1) a modification of the existing seasonal closure at O'Malley River to allow for operation of a Refuge-sanctioned bear viewing program; 2) a prohibition on camping within one-quarter mile of public use cabins and federal and state administrative facilities within the Refuge; and, 3) a prohibition on snowmachine use on approximately 4,972 acres of important brown-bear denning habitat in the Den Mountain area of the Refuge. [GLASPELL]

GOAL 11: Improve management of commercial use opportunities that are compatible with Refuge purposes, provide quality public use opportunities, enhance visitor experiences, and ensure compliance with provisions of ANILCA.

- 11.1 To accommodate an increasing number of permittees, review the current process for administrating special use permits and develop a simplified, more time-efficient system for receiving applications, issuing permits, processing use reports, and distributing billings. [MONZON]

The permitting process is continuously updated to improve customer service and reduce staff burden. This year, among other minor changes, the special use application and

permit form was converted to fillable pdf format and posted on the Kodiak Refuge website and the regional refuges website.

This year also included two major prospectus permitting processes, for the O'Malley Bear Viewing Program, and for the limited-entry sport fish guiding program. Each process included an initial public meeting, development of public review drafts and final prospectus documents, 60-day open "bid" periods, review and scoring of applications by a panel of Refuge employees, and final selections made by the Refuge Manager. For O'Malley, one permit was available and only one application was received. For the sport fish guiding program, 33 applications were received and 14 permits were awarded. [GLASPELL/MONZON/OLES/SUNDSETH/LEACOCK]



A fisherman tries his luck at the outlet of Uganik Lake. Lisa Hupp/USFWS

- 11.2 By 2008, develop an education program for commercial operators to inform permittees of refuge requirements, goals, and regulations. As a part of this, provide updated information on bear safety and awareness for distribution to clients.

Participated as instructor and content developer in KUBS/Refuge commercial bear viewing course at Kodiak College. Target audience was existing or would-be refuge permittees and the long-term goal is to make the course a requirement for obtaining a refuge special use permit. [GLASPELL/LEACOCK]

- 11.3 By 2007, obtain stakeholder input, determine if the 1987 Management Plan for Commercial Fishing Activities needs to be revised, and update this plan if warranted.

A final draft of the Commercial Fish Facilities Management Plan and revised CD was issued in April with final comments due by May 15. Comments were received at a public meeting held at the Refuge Visitor Center in May. We met with the state on June 8 to

work out the differences in the plan and their comments. The Plan will be finalized as soon as we can address the comments that we received. [WHEELER/SUNDSETH/VAN HATTEN]

GOAL 12: Provide outreach, environmental education, and interpretive programs that increase a sense of stewardship for wildlife, cultural resources, and the environment and that enhance visitor experiences on the Refuge.

- 12.1 Plan, design, and construct a Refuge visitor center in the vicinity of downtown Kodiak to be complete by 2009.

Visitor Center completed and opened in November 2007. The Visitor Center welcomed an estimated 28,182 visitors this year.

- 12.1.a. Facilitate completion of building, exhibits and FF&E (fixtures, furniture and equipment). [Also reference Goal 12.2]

Developed a MOU with the City of Kodiak to transfer custodial responsibilities for the “Madsen Bear” statue to Kodiak Refuge; worked with KUBS and the Kodiak historical society to move the statue to the Refuge visitor center grounds, and to develop and manufacture an interpretive sign to accompany the statue. A concrete pad was constructed for the visitors and the bear. Bear statue was moved during August.

[GLASPELL/BANYAS/KING]



The Madsen Bear statue was moved to the Visitor Center in August. Lisa Hupp/USFWS

Assisted in assessing specifications for remodel of Visitor Center storage closet into additional staff office space; selected and purchased necessary furniture. [HUPP]

Supplement furs and skulls were on display with hands on exhibits and used as environmental education tools. [LAWSON]

Facilitated volunteer creation of a video on the Bear Collaring project for use in Visitor Center. [HUPP]

Facilitated the design and creation of a Junior Ranger Activity Book that features exhibits in the Visitor Center within the activities. [SHAW]

Facilitated the development of a Land Mammal Kit. [SHAW]

12.1.b. Facilitate rearticulation and installation of gray whale with The Gray Whale Project Coordinator.

Designed and installed a photo exhibit of Gray whale re-articulation process. [SHAW/KING]

Coordinate with the non-profit organization, The Gray Whale Project for approval of design and installation of scientific illustrations of Gray Whale anatomy and natural history. [SHAW/KING/BONDURANT]

12.1.c. Plan, publicize and present public talks, radio and newspaper interviews and press releases informing the public about building/exhibit progress, mission and public involvement.

The Kodiak Refuge overview video is shown continuously throughout the day on cruise ship days is used as an introduction to the refuge for school groups and is regularly featured for the viewing public. [SHAW]

Hosted a public unveiling of the newly acquired Gray whale photo display and scientific illustrations with related public talk. [SHAW/LAWSON]

Coordinated with ADFG for the display of a temporary exhibit of ADFG fishery research projects. [SHAW]

Coordinated, advertised and hosted guest speaker to coincide with unveiling of ADFG temporary display. [LAWSON]

Staff and volunteers coordinated and/or participated in a number of radio interviews to publicize Refuge events, programs and research. Radio interview topics included:

Salmon Camp [DONALDSON]

International Migratory Bird Day [SHAW]

KIMU Research [LAWONN/HUPP]

Bear Collaring Project [HUPP/SORUM/DUNKER]

YCC Program [LAWSON/SQUARTSOFF]

Facilitated, coordinated and publicized temporary Mergini Sea Duck Display for the VC. [SHAW]

12.1.d. Draft Standard Operating Procedures for visitor center operation, visitor center volunteer training, Alaska Natural History Association (ANHA) Scope of Sale and coordinate ANHA sales branch in sync with grand opening in Fall 2007. [See also Goal(s) 10, & 12.2]

Developed Draft Standard Operating Procedures for the opening, closing and staffing of the Visitor Center building. [SHAW]

Developed front desk training checklist for intern, staff and volunteer docents. [LAWSON]

Created Standard Operating Procedures for the multipurpose room audio/visual equipment. [POLITO/SHAW/LAWSON]

Coordinated volunteer docent and temporary staff training in Alaska Geographic policies and procedures. [SULESKI/POLITO/HUPP/LAWSON]



Refuge Supervisor Tracey McDonnell (left) gives Visitor Center Manager Tina Shaw a token of appreciation from the Region. Tina left in May. Jone Suleski/USFWS

- 12.2 By 2007, provide better access to Refuge information on topics such as bear safety, campfire safety, permits, and public use cabins through a Web site and other electronic media. Information would also be available through a variety of non-electronic sources.

Updated VS program resource file for VC information desk – trapping permits, etc. [HUPP/LAWSON]

Managed public use computer kiosk and updated to more accessible system. [HUPP]

Created and maintained a Kodiak Refuge Visitor Center Facebook account to: publicize refuge events; post photographs of refuge sponsored activities, research and programs; and engage visitors in Refuge related information. [SHAW/LAWSON/HUPP/PALMER]

- 12.3 Increase visitor center staffing to allow the center to be open seven days per week during peak visitor use season (dependent on funding).

12.3.a. Coordinate with refuge management and regional office on the hiring of a permanent, full-time Environmental Education Specialist to be stationed at new visitor center and lead Salmon Camp planning and execution. [See also Goal(s) 12.7 & 12.8]

Full time Environmental Education Specialist stationed at the Visitor Center, hired and coordinates the Salmon Camp, Youth Conservation Corps., Families Understanding Nature Program and others. [DONALDSON/LAWSON]



Visitor Center staff during summer of 2010 included L to R Jone Suleski (Alaska Geographic), Shelley Lawson Environmental Education Specialist, Sue Mayo Acting Visitor Center Manager and Lisa Hupp Volunteer Coordinator. Gina Palmer/USFWS

12.3.b Recruit volunteers for participation in visitor center staffing and Refuge programs and continue to broadly recruit across Kodiak and elsewhere. [See also Goal 12.6]

Scheduled and tracked docent shifts for staffing information desk and roving Visitor Center in support of regular operations and special events. [POLITO/HUPP]

Volunteer Coordinator served as central contact for 18 Visitor Center docents; recruited and trained 5 new volunteers; assigned special projects as needed; supported retention through regular phone calls and appreciation. [POLITO/HUPP]

Volunteers have become a major force in staffing for the Refuge. In 2010, 104 volunteers provided 15,189 hours of labor at a value of \$316,696. [POLITO/HUPP]

12.3.c Provide visitor center staffing year-round.

Coordinated visitor center staffing year-round with combined use of permanent staff, Student Conservation Association interns and seasonal staff. [SHAW/HUPP]

Facilitated Visitor Center operations in the 4-month vacancy of a Visitor Center Manager. [LAWSON/HUPP]



Summer helpers and permanent Visitor Center staff undergoing training in May.

Brian Glaspell/USFWS

12.4 Acquire base funds for the Kodiak Summer Science and Salmon Camp base camp and village outreach project through Refuge System funding processes to avoid depending on annual fund-raising.

12.4.a. Seek Challenge Cost Share funding (\$20,000.00) to continue community education efforts through Kodiak Summer Science & Salmon Camp (now entering its 8th year). [See also Goal(s) 12.]

In 2010 we celebrated our 16th season of Salmon Camp. [ENTWISTLE/LAWSON]

12.4.b. Collaborate with Alaska Geographic on generating our annual appeal letter (a.k.a., donation letter) in support of Salmon Camp. [See also Goal 12.4]

Completed. [DONALDSON]

12.4.c. Bring Salmon Camp to Kodiak City and all 6 of Kodiak's remote villages. [See also CCP Goal(s) 12.5 & 12.8]

Salmon Camp traveled to the villages of Port Lions, Old Harbor and Larsen Bay. Trips to Akhiok and Karluk could not be completed due to flight cancellations. The trip to Ouzinkie was cancelled out of respect to the community due to a funeral in the village. [ENTWISTLE/LAWSON]

12.4.d. Conduct Salmon Adventure Camp for middle school students.

The 3rd year of Adventure Camp was conducted this year with the addition of a Leave No Trace camping trip on Long Island. [ENTWISTLE/LAWSON]



Herding cats? No, Salmon Camp 2010. Melly Jacobs/USFWS

- 12.5 Annually sponsor, co-sponsor, or participate in community events, festivals, and programs (e.g., Migratory Bird Day, Crab Fest, Whale Fest) to build awareness of the Refuge and Kodiak ecosystems.

Created, coordinated and hosted International Migratory Bird Day events in conjunction with Audubon and Alaska Bird Treatment and Learning Center. [SHAW]

Partnered with AK GEO to sponsor Crab Festival youth drumming event. [SHAW/HUPP]



Kodiak Island Drummers drew a crowd at the Visitor Center during Crab Fest.
Brian Glaspell/USFWS

Crabfestival art show and award ceremony for Junior Ranger Cover Design Contest. [LAWSON]

Participated and designed Float in Crab Festival Parade. [MASANOFF]

12.5.a. Sponsor National Wildlife Refuge Week, planning, promoting and presenting public talks in support of the National Wildlife Refuge System.

No action was accomplished on this in FY-2010.

12.5.b. Participate in WhaleFest 2008, both in planning (planning begins Winter 2007) and in facilitating environmental education efforts in the K-6 schools, home school groups and informal interpretive programs for all ages. [See also Goal 12.8]



Our Crab Fest parade float proved quite popular with the High School Jazz Combo onboard. Despite the rainy weather, we managed to take first place among marching groups. Jone Suleski/USFWS

Facilitated and hosted a Whalefest lecture Series. [SHAW]

Provided whale related environmental education programs to school groups during Whalefest. [LAWSON]

12.5.c. Participate in Kiwanis Pink Salmon Derby, increasing awareness about Kodiak Refuge and educational programs.

Organized 'Get Outside' / Salmon inspired games to coincide with the Kiwanis's Pink Salmon Derby. [LAWSON/MASANOFF]

12.5.d. Develop a Kodiak Envirothon event to foster environmental awareness and scientific skills in high school students.

Planned, sponsored and facilitated Envirothon in April, 2010 [POLITO/DONALDSON]

Initiated event planning and volunteer recruitment for 2011 State Envirothon Competition. [HUPP/LAWSON]

Assisted with Kodiak Envirothon and gave two presentations on Kodiak Brown Bears to participating High School students. [LEACOCK]

12.5.e. Develop the Kodiak Youth Conservation Corps program to allow Kodiak high school students to gain a glimpse of what it is like to work for the FWS and to help with the Secretary's emphasis on youth hire.

In 2010, this program involved four high school student hires and one STEP/ANSEP YCC coordinator. The YCC students were involved in a number of refuge and partner agency projects both in the field and in town. Examples of work in the refuge included building a bear viewing platform at O'Malley, learning and implementing trail building techniques with Island Trails Network on the Larsen Bay/Karluk River conservation easement trail and joining the Refuge bird biologist and the boat captain on the Ursa Major II for bird research. In town, YCC students participated in ADFG lake surveys, conducted interviews, created videos, assisted with road system bird research, and provided interpretation to visitors among many other projects. [LAWSON/GLASPELL]



The YCC students gained experience with the FWS in field operations and at the Visitor Center. Here they donned survival suits on the Ursa Major II. Shelley Lawson/USFWS

YCC 2010 created a video highlighting their summer events that has been shown at a YCC hosted public event and at an Alaska Youth Climate Summit in Anchorage, AK. The video will also be used on the FWS youth employment website. [SQUARTSOFF]

Video interviews were conducted of all youth hires by the Kodiak YCC crew and a short video was created to be shown to the public in the Visitor Center. [SQUARTSOFF/LAWSON]

- 12.6 By 2008, work within the community to increase partnerships and volunteers to form a friends group for Kodiak Refuge.

The Friends of Kodiak NWR group disbanded during summer 2009. No further efforts were expended.

Volunteer Coordinator attended regional Friends Annual Membership and Board Meetings and served as Refuge Liaison during regular teleconference meetings. Initiated dialog with regional board regarding potential Kodiak sub-chapter in lieu of defunct local independent Friends group. [HUPP]

- 12.7 As staff and funding allow, conduct workshops with schools and teachers across Kodiak Island to enhance curriculum and outreach dealing with Refuge resources, issues, and opportunities.

12.7.a. Facilitate teacher workshop and create Refuge-specific K-6 curriculum for bi-annual classroom environmental education efforts. Class visits to all six K-6 schools and home school organizations. [See also Goal(s) 12.8]

Hosted a Project Growing Up WILD workshop for teachers, parents and childcare providers. [DONALDSON/LAWSON]

12.7.b. Partner with the school district to participate in the after school program, "KACLAC," (Kodiak Alaska Community Learning Activity Center).

KACLAC is no longer a program with the Kodiak School District.

- 12.8 Expand opportunities for individuals, organized groups, and families to learn about the Refuge through on- and off-headquarters programs, environmental education, nature walks and interpretive programs.

12.8.a. Plan and budget 2010 educational and interpretive activities in conjunction with cooperating association (AK GEO).

Planned and budgeted a number of education and interpretive activities in conjunction with Alaska Geographic. [SHAW/DONALDSON/LAWSON]

12.8.b. Plan and provide summer interpretation programs through the Visitor Center.

Plan and provide interpretation programs such as: cruise ship interpretive programs, YCC interpretive displays and others. [LAWSON/SQUARTSOFF]

Conducted or arranged a weekly summer interpretive program on Refuge topics including research, public use cabins, wildlife and other. [PALMER]

12.8.c. Create 'Families Understanding Nature' educational backpacks ('FUN Pack') for loan to Kodiak and visiting families. [See also Goal(s) 10.3, 12.1]

Monitor, maintain and enhance the continued use of the FUN Packs. [SHAW/MASANOFF/PALMER]

12.8.d. Conduct Families Understanding Nature (FUN) programs for children and their families to learn more about Kodiak's flora and fauna.

Provided weekly FUN programs throughout the year. [DONALDSON/LAWSON/PALMER]



Cruise ship day at the Visitor Center always means a busy time. Shelley Lawson/USFWS

12.8.e. Update and expand visitor center website with the purpose of educating Kodiak community about upcoming and ongoing events, programs and activities taking place at the new Visitor Center.

Refuge staff updated Visitor Center website (event calendar, highlights, etc.) through FY10. [SHAW/DONALDSON/LAWSON/HUPP]

12.8.f. Schedule public talks about and discussions of conservation and Kodiak ecosystems.

Coordinated, planned or presented public talks on topics relating to conservation and knowledge of Kodiak ecosystems such as:

Kodiak Refuge KIMU project [HUPP/LAWONN]

Introduced wildlife species impacts to land and culture [HUPP/TENNESSEN]

ADFG Kodiak Island Ocean Biodiversity presentation [LAWSON]

Women on Water (Kodiak ADFG fisheries researchers) [LAWSON]

Refuge Sea Duck Research [SHAW/CORCORAN]

Will Troyer with Kodiak bear research beginnings [SHAW]

Kodiak Gray Whale Project Presentation [SHAW/LAWSON]

Facilitated partnership with Kodiak Audubon to plan and host two events - Biologist Robin Corcoran on New Zealand birds & Whalefest speaker on Gray Whales. [HUPP]

Facilitated a winter-time monthly conservation film series [SHAW]

Coordinated a winter-time monthly art show to draw in visitors [SHAW/SULESKI]

12.8.g. Seek involvement of local volunteers to assist with operation of MAPS project.

In the summer of 2010, Refuge biologist Robin Corcoran and volunteers established a Monitoring Avian Productivity & Survivorship (MAPS) Program near Refuge Headquarters on the Buskin River State Recreation Area. MAPS is a nation-wide program established in 1989 to monitor landbird survivorship and productivity through mist netting and banding. The Refuge initiated the program to complement the two road-side Breeding Bird Surveys conducted annually on Kodiak and to connect the public with conservation issues through bird banding.

We banded 259 birds representing 16 species. Some birds were captured more than once during the season which brought the total number of birds handled to 351. The most common species captured were Wilson's warblers, hermit thrushes, and fox sparrows. Our cooperators from the community included Cindy Trussell, a biology professor at Kodiak College, and Rich MacIntosh, a retired biologist with NOAA Fisheries, who was instrumental in establishing the Breeding Bird Survey Routes on Kodiak. Most mornings we had three to five volunteers helping us with the banding process including the Kodiak Refuge Youth Conservation Corps participants. [CORCORAN]



Adult male yellow warbler captured during the 2010 Kodiak Buskin River Monitoring Avian Productivity & Survivorship (MAPS) program. Lisa Hupp/USFWS

GOAL 13: Conserve cultural and archaeological resources of the Refuge.

- 13.1 Identify priority areas to inventory for archaeological and other cultural sites and conduct surveys as time and personnel permit. Perform surveys at a level sufficient to evaluate, without a follow-up visit, eligibility of sites identified for inclusion on the National Register of Historic Places. While actual surveys will be conducted as funding and personnel become available, the identification of priority areas and overall planning for surveys should be completed by the end of 2007.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

- 13.2 Formalize the existing partnership with the Alutiiq Museum by the end of 2006. This agreement should spell out participation of the Refuge, the Service's Regional Office in Anchorage, and the Museum in terms of both funding and tasks. Seek out and develop partnerships with Native corporations, universities, other government agencies, etc., to cooperatively inventory, manage, and protect cultural resources.

The Alutiiq Museum has taken the lead in developing partnerships to protect cultural resources. The Refuge remains a vital part in protecting these resources.

- 13.3 Identify and acquire archaeological, historical, and ethnographical archival resources to provide the necessary background material to support archaeological and historic site protection, public interpretation, and paleobiological information useful in wildlife and habitat management.

Funding was provided to the Alutiiq Museum to better care for collections made on the Refuge.

- 13.4 Provide Archaeological Resources Protection Act training to Refuge law-enforcement personnel. Provide basic cultural resource training to Refuge staff. Identify sites or areas at risk for vandalism and monitor with periodic law-enforcement patrols.

Law enforcement personnel are aware of the need to provide protection for cultural resources. No violations were observed during patrols of the Refuge.

- 13.5 Strengthen and expand the Alaska Heritage Resource Stewardship program for site monitoring and evaluating site conditions on Kodiak Refuge.

The Alutiiq Museum headed this program and it aided in conservation of cultural resources.

GOAL 14: Conserve special and unique features of the Archipelago ecosystem within the Refuge.

Note: Most of the objectives listed under Goals 1 through 7 are also objectives related to the special and unique features of the Archipelago ecosystem.

- 14.1 With public involvement, develop a management plan for the Mount Glottof Research Natural Area that identifies conservation and monitoring measures to preserve and document featured values and identifies how management under the plan may influence public use and access.

No action was accomplished on this in FY-2010 due to a lack of staff and funding.

GOAL 15: Promote close working relationships through effective coordination, interaction, and cooperation with other federal agencies, state agencies, local communities, tribes, organizations, industries, the general public, and landowners adjoining the Refuge whose programs affect, or are affected by Refuge management activities.

- 15.1 Routinely report results of biological and subsistence management, monitoring, and research to external audiences, including Kodiak Fish and Game Advisory Committee, Kodiak-Aleutian Regional Advisory Council, tribal councils, and other interested groups and individuals.

We submitted two biannual activity reports to the KARAC and addressed the council with our updates. (Reports are in a later section of this report.) In coordination with

OSM, we participated in evaluation and recommendation of candidates who submitted applications for membership on the Council. [COBB/LEE/PYLE/SUNDSETH /VAN HATTEN /WHEELER]



Bird surveys were conducted off Afognak Island in August. Refuge Biologist Robin Corcoran conducted the survey with help from David Sinnett and Darren Bruning of USDA-Wildlife Services, and volunteer Will Deacy (pictured). Jeff Lewis/USFWS

- 15.2 Use and assist in the fish and game regulation process through interaction with ADF&G, local Fish and Game advisory committees, State Boards of Fisheries and Game, Federal Subsistence Board, Kodiak-Aleutians Federal Subsistence Regional Advisory Council, and the Alaska Migratory Bird Co-management Council.

Staff regularly attended meetings of the local Fish and Game advisory board and Federal Subsistence Board. We provided our recommendations on proposals when deemed appropriate. [LEACOCK/ PYLE/ COBB/ VAN HATTEN/SUNDSETH/WHEELER]

- 15.3 Use public processes as necessary to encourage stakeholder involvement in implementation of this Conservation Plan.

Comments were received regarding the draft Commercial Facilities Management Plan at a public meeting held at the Refuge Visitor Center in May. [WHEELER/SUNDSETH/VAN HATTEN]

- 15.4 Continue the Refuge Information Technician program to enhance information exchange with local communities on refuge issues, particularly those dealing with subsistence and bear management (such as bears killed in defense-of-life-or-property).



Michael Inga with plaster cast of caribou track cast that he made at Cape Alitak Culture Camp.
Tonya Lee/USFWS

Education programs included delivering land mammal education kit to Old Harbor, Larsen Bay, Akhiok and Karluk; shadowing Lisa Matlock (Environmental Educator Alaska Maritime NWR); assisting with Jr. Duck Stamp Program and FUN Program; salmon camp village coordination; Dig Afognak Culture Camp; Cape Alitak Culture Camp and Old Harbor Tribal Wildlife Grant education support. [LEE]

FY 2010 Village Travel		
Village	# Visits	Purpose
Larsen Bay	4	<ul style="list-style-type: none"> Issued Subsistence Bear Permits Land Mammal Education in School Subsistence Fisheries outreach
Old Harbor	4	<ul style="list-style-type: none"> Issued Subsistence Bear Permit Bear fence outreach, community meeting Parent /Teacher Conference Alutiiq Week / Bear and Land Mammal Education
Port Lions	1	<ul style="list-style-type: none"> Attended Council meeting with Gary Wheeler
Akhiok	4	<ul style="list-style-type: none"> Attended Council Meeting with Gary Wheeler Seabird and duck education in the school Issued Subsistence Bear Permit Migratory Bird Harvest Survey Cape Alitak Culture Camp (1-week)
Karluk	3	<ul style="list-style-type: none"> Land Mammal Education in school Eagle Release with Community Weed survey and Eagle presentation for the kids
TOTAL :	16	[LEE]

RIT Tonya Lee and RO Bedingfield worked on a letter to provide bear hunters with clear information on state and federal regulations regarding the subsistence bear hunts. [LEE/BEDINGFIELD]

15.5 Participate in interagency activities, cooperative agreements, data sharing, and sharing of equipment and personnel to accomplish mutual management goals and objectives.

Cooperated with Alaska Department of Environmental Conservation to do weekly MDN (mercury) sampling at the fairground rainwater equipment site. [LEE]



Refuge Information Technologist Tonya Lee produced the biannual Refuge newsletter. Tonya Lee/USFWS

Worked closely with ADF&G on bear outreach for Old Harbor's Tribal Wildlife Grant and requested ADF&G assistance in various departments during newsletter review. [LEE]

Coordinated with National Marine Fisheries Service, University of Alaska Fairbanks and Alaska SeaLife Center during sea otter, humpback whale and harbor seal strandings. [LEE]

Coordinated with Kodiak Soil and Water Conservation District to survey villages for invasive species. [LEE]

Coordinated with town and village tribal councils to receive migratory bird harvest survey continuing resolutions. Trained three town and three village surveyors for the migratory bird harvest surveys. [LEE]

Participated in Kodiak GIS Users Group to engage in data sharing. [PYLE/COBB]

- 15.6 When requested, partner with community members to address bear-management concerns at villages, remote cabins, and lodges.

Coordinated with Old Harbor TWG workers to improve landfill with an electrified fence, and to provide education to village community and schools. [LEE]



.Bears at the Old Harbor dump. Tonya Lee/USFWS

- 15.7 Hire full-time refuge-wide Volunteer Coordinator to manage community partnerships and volunteer opportunities in support of Refuge mission.

Hired new permanent GS-7 Volunteer Coordinator Lisa Hupp, May 2010. [GLASPELL]

- 15.8 Volunteer Coordinator will work to enhance cross-program volunteer recruitment and retention and foster collaboration and cooperation with Kodiak area agencies and organizations.

Updated Refuge volunteer opportunities postings on Region 7 website. [POLITO]

Provided oversight to Refuge staff by maintaining volunteer agreements, summarizing volunteer hours and achievements across programs. [POLITO/HUPP]

Planned, coordinated, and hosted annual volunteer appreciation award event. [HUPP]

Facilitated recruitment, training, and support of biology and maintenance program volunteers. [POLITO/HUPP]

Coordinated public use of visitor center multipurpose room, including processing use requests, reserving facilities and posting events on visitor center website calendar, collecting fees or identifying in-kind donations, and training event hosts on visitor center and audio/visual system use. [POLITO/HUPP]

Developed internship for 3 college credits with UAA to encourage local college student participation in Visitor Center operations. [HUPP]

GOAL 16: Provide for safe, efficient, cost effective administration of refuge facilities and programs.

- 16.1 Provide for a permanent and seasonal staffing pattern necessary to meet existing program management needs as identified in approved management plans.

The existing staffing pattern seems the optimal that can be expected given the current budget allocations. [WHEELER]

- 16.2 Oversee AWP and budget process including budget tracking, automated data processing, document preparation and control, time and attendance, travel administration, personnel records, and purchasing.

Managed budget entry/tracking/reconciling process. Provided manager with updates upon completion of monthly reconciliation. Budget planning meeting held in January 2010 to plan activities for 2010 field season. Kodiak IT network was highly dependable with only a few minor/short term outages. personnel records, and purchasing consistently met administrative requirements. [CASTONGUAY]

Document preparation, time and attendance, personnel records, and purchasing were accomplished in accordance with regulations and guidance. [CASTONGUAY, CHILDERS]

Captured and entered travel, completed travel requests, authorizations, and travel vouchers and accomplished travel management through GOV.Trip. [CHILDERS, CASTONGUAY]

- 16.3 Work with ITRM to provide a seamless, robust, secure ITRM system useful to Kodiak users and compliant with national and regional mandates.

ITRM supported the refuge this year, and Gerri Castonguay served as liaison between IRTM and Refuge personnel. [CASTONGUAY]



Refuge pilot Kevin Van Hatten jokes with Clerk Cinda Childers before taking off at Camp Island in the Refuge's Beaver. Gary Wheeler/USFWS

IRTM personnel Ben Sherburne and Mike Lewis helped move the computer and telephone area from the break room to the copier/computer room as part of the HQ building remodeling.

- 16.4 Provide a pro-active safety program in accordance with the Station Safety Plan and other Service and OSHA policies and regulations.

Annual safety training requirements met and exceeded for permanent, seasonal, and volunteer employees. [WHEELER/SUNDSETH/BANYAS]

- 16.5 Develop and implement an aviation program to support Refuge biological, visitor services, law enforcement, and maintenance programs.

Refuge pilot/fisheries biologist Van Hatten and RO Bedingfield flew a combined total of 653 hours this year in the Refuge Beaver and Husky. Of the total, 365 hours were flown by Bedingfield and 288 hours were flown by Van Hatten. Approximately 90 hours were dedicated to law enforcement with Bedingfield's remaining 275 flight hours in support of the biological programs and transportation for the maintenance staff. FB Van Hatten flew 230 hrs. transporting Refuge biologists and volunteers to and from the field. The remaining 58 hours were flown for low level survey work and emergency maneuver training. Some hours were spent ferrying the two planes to and from Anchorage for AMD maintenance. Van Hatten and Bedingfield met all currency requirements for DOI pilots and maintained certifications to fly the Husky and Beaver on both floats and

wheels. Van Hatten and Bedingfield maintained their blue card status to conduct low level surveys, off airport operations and external loads in order to help meet the aviation needs of the Refuge.

Aviation program was the primary support for Youth Conservation Corps trips to the field and Salmon Camp trips to villages. [VAN HATTAN/BEDINGFIELD]

- 16.6 Utilize the FWS fire program to enhance habitat, where possible, and to minimize damage to infrastructure on the Refuge and on adjacent lands.

A fire was started on May 4 by some bear hunters that let their campfire escape near Halibut Bay. The fire consumed about 3 acres and was extinguished naturally.



Fire on the Refuge near Halibut Bay.

- 16.7 Maintain and replace equipment and facilities and effectively use and update real and personal property records, SAMMS, and MMS databases.

Viekoda Bay public use cabin was relocated to an area closer to the head of the bay. A cedar Panabode cabin previously used near Refuge Headquarters was dismantled, transported to the new site by commercial transport, and reconstructed. A new meat cache and outhouse were constructed and a deck was also included for the new cabin. [KING/ BONDURANT/FROELICH]



The Refuge Headquarters Building before the remodel. Gary Wheeler/USFWS

A major remodel of the Refuge Headquarters Building was contracted. Work included a new roof, additional office construction, new paint (interior and exterior), bathroom remodels, some new windows and new carpeting. Additional contracts beyond the original scope were prepared. Daily work reports for the contractor were reviewed and work was inspected for sufficiency. [BANYAS/KING/SUNDSETH/WHEELER]

The bathroom at Triplex Unit 1 was completely remodeled. This included removal of all existing fixtures and replacement of flooring, shower/tub and vanity. [KING/BONDURANT]

A major remodel of Buskin Housing Unit 3 was accomplished. This included new flooring through nearly the entire unit, all new cabinets and appliances in the kitchen, and new vanities in the bathrooms. [BANYAS/KING/BONDURANT]

The “Madsen Bear” was moved from a location near the harbor to the Refuge Visitor Center. A new concrete slab complete with actual bear paw prints was also poured and finished at the new site. [BANYAS/KING/GLASPELL]



Supervisory Maintenance Worker Paul Banyas gives the Madsen bear statue a good scrub before moving it to its new location on the south side of the Visitor Center. Lisa Hupp/USFWS

Rolling doors were installed in the Headquarters shop facility via contract. [KING]

Contracted for an indoor air quality study of the Refuge triplex housing unit. Results were negative. [BANYAS]

16.8 Complete annual RAPP report with accuracy, consistency, and timeliness.

Compiled relevant data and entered into online RAPP database by August deadline. [GLASPELL/SUNDSETH]

16.9 Manage the Refuge special use permit (SUP) program to ensure that refuge uses are appropriate, compatible, and have minimal impact upon refuge resources.

Issued and managed a total of 95 Special Use Permits for the following activities: Air Transporter (7); Big Game Guiding (25); Small Game (6); Sport Fish Guiding (19); Wildlife Viewing (23); and other miscellaneous (14). \$7,600 in permit administrative fees were collected. [MONZON/GLASPELL]



VIP trips are important to show managers what the Refuge has been doing to conserve the resources entrusted to them. Here Regional Director Geoff Haskett poses with a bear at Frazer Fish Pass. USFWS

16.10 Maintain file system in accordance with Service standards.

Ongoing. [MONZON/STAFF]

16.11 Establish centralized, data management system of administrative, public use, and biological data that is accessible by all staff and the public as appropriate.

Ongoing. [MONZON/STAFF]



The National Wildlife Refuge Association Board of Directors and their families toured the Refuge in June. They supplied their own food and transportation. Kevin Van Hatten/USFWS

- 16.12 Manage the Refuge’s digital and slide images to facilitate their effective use in Refuge programs and by the Public.

Current media is digital images and these are stored on the T: or shared drive on the Refuge’s computer. Some people have been storing the images on their own computers and the Visitor Center personnel have some trouble accessing the T: drive, but the standard is that images are stored on the common server. Refuge slides are in storage at the Refuge.

- 16.13 Utilize the Refuge vessel Ursa Major II and other watercraft in support of Refuge programs and activities.

The Ursa Major II conducted three marine bird surveys/excursions along the west side of Kodiak Island. These included a winter seabird survey, a nearshore coastal/colony survey, and waterfowl banding. A total of 45 staff members and volunteers worked from the Ursa Major II and 3,500 miles were covered. [LEWIS/CORCORAN]

In April while in dry dock, Operator Lewis installed a Wesmar HD800 Sonar through the hull of the Ursa Major II which facilitated our ability to detect small fish and invertebrates. [LEWIS]

In April we conducted a herring survey charter with ADF&G. They used our vessel on the east side of the Island to estimate the size of herring schools and thereby manage the fishery. [LEWIS]

Two fuel hauls were conducted to supply fuel to administrative facilities and aircraft at Camp Island. A total of 67 drums of fuel were delivered to Larson Bay by the Ursa Major II and then transferred to the Beaver to be flown to Karluk Lake. [LEWIS]



Lisa Hupp overlooks the Uganik River. Jason Oles/USFWS

- 16.14 Continue to acquire private lands inside the refuge boundary in accordance with the Land Conservation Plan as opportunities arise from willing sellers.

No lands were acquired this year.

- 16.15 Assist the Regional Office realty division when land actions or program action activities occur.

The Service has been negotiating with the Old Harbor Native Corporation about a conservation easement on Sitkalidak Island. The Division of Realty has been the central Service entity in these negotiations, but the Refuge has played an important part in talking with the lawyers representing Old Harbor and in reviewing drafts of the conservation easement. A visit to Sitkalidak Island occurred in August with Regional Director Geoff Haskett and Assistant Director of Wildlife and Sport Fish Hannibal Bolton. [WHEELER/SUNDSETH]

PERSONNEL

- | | | |
|------------------------------|--|--------------------|
| 1. Gary Wheeler | Wildlife Refuge Manager | |
| 2. Kent Sundseth | Deputy Refuge Manager | EOD 2/28/10 |
| 3. William Pyle | Supervisory Wildlife Biologist | |
| 4. Robin Corcoran | Wildlife Biologist – Birds | |
| 5. William Leacock | Wildlife Biologist – Bears | |
| 6. McCrea Cobb | Wildlife Biol–Unglates/subsistnce | EOD 6/14/10 |
| 7. Tonya Lee | Refuge Information Technician | |
| 8. Jeffrey Lewis | Small Craft Operator | |
| 9. Brian Glaspell | Supervisory Park Ranger | |
| 10. Tina Shaw | Visitor Center Manager | LDD 5/21/10 |
| 11. Kristin Donaldson | Environmental Education Sp | LDD 5/7/10 |
| 12. Lisa Polito | Volunteer Coordinator | LDD 3/15/10 |
| 13. Lecita Monzon | Administrative Technician (Permits) | |
| 14. Jason Oles | Park Ranger | EOD 1/3/10 |
| 15. Jose Monzon | Custodial Worker | |
| 16. Isaac Bedingfield | Refuge Officer/Pilot | |

- | | | |
|-----------------------------|---|--------------------|
| 17. Kevin Van Hatten | Fisheries Biologist/Pilot | |
| 18. Gerri Castonguay | Administrative Support Assistant | |
| 19. Cinda Childers | Refuge Clerk | |
| 20. Paul Banyas | Maintenance Worker | LDD 8/29/10 |
| 21. David King | Maintenance Worker | |
| 22. Michelle Lawson | Environmental Education Sp | EOD 6/20/10 |
| 23. Lisa Hupp | Volunteer Coordinator | EOD 5/9/10 |

SUMMER BIOTECHNICIANS AND PARK RANGERS

- | | |
|---------------------------|-----------------------------|
| 1. James Lawonn | Biotechnician |
| 2. Mat Sorum | Biotechnician |
| 3. Heidi Helling | Biotechnician |
| 4. Michelle Lawson | Park Ranger |
| 5. Gina Palmer | Park Ranger |
| 6. Matt Entwistle | Salmon Camp Director |
| 7. Lacy Squartsoff | YCC Crew Leader |