Alaska Department of Fish and Game
Division of Wildlife Conservation
March 2003

Wildlife Conservation and Restoration Program

Performance Reports
1 December 2001–30 November 2002

FEDERAL AID
INTERIM PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 2.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Viewing Access and Interpretive Signs

Project Objectives:

1. Identify at least 5 locations where signs interpreting ecological systems and relationships would benefit the public.
2. Develop and install at least 5 interpretive signs and/or kiosks in those locations addressing ecological systems, wildlife viewing opportunities, or other conservation issues.

Summary of Project Accomplishments:

1,2 The following sign projects were selected and are in varying stages of completion:

- Dalton Highway (signs developed, awaiting production and installation)
- Tok area (sign location, subject, content researched, planning for sign production and installation initiated)
- Mendenhall Wetlands State Game Refuge (planning and preconstruction activities towards interpretive kiosk initiated)
- Anchorage Coastal Trail (existing State Parks signs regarding moose selected, planning underway for spring installation)
- Chilkoot River Corridor, Haines (funds allocated for sign)

Interim Project Costs: Federal share $0 + state share $0 = total cost $ 0.00
(Although no funds were charged to this project by the end of the reporting period, funds have been earmarked for these sign projects and expenditures will occur in coming months.)

Prepared By: Michelle Sydeman, Assistant Director of Education & Outreach

Date: January 22, 2003

FEDERAL AID
INTERIM PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
NONGAME RESEARCH AND MANAGEMENT

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-4
PROJECT NR.: 4.0

WORK LOCATION: Juneau and other Southeast communities

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Amphibian Monitoring in Southeast Alaska through Education Partnerships

---

Project Objectives:

1. Partner with U.S. Fish & Wildlife Service and Juneau School District to design a curriculum that will educate Juneau School district students about amphibian declines and habitat conservation.
2. Design a data collection method that will facilitate information gathering from the public as well as agency field staff.
3. Gather historical and current information about amphibian distributions in Southeast Alaska.

Summary of Project Accomplishments:

No funds were expended on this project during the reporting period because our partners in the project had not received the necessary funding to participate. Juneau School District was awaiting processing of a grant from the Coastal Impact Assessment Program which was delayed by a key staff vacancy in the Department of Commerce and Community Development. Additional funds through the local US Fish & Wildlife Service office were also not available during the reporting period.

Once the partners have their funding in place work can proceed. In preparation, Juneau School District personnel and Division of Wildlife Conservation staff have decided on a time schedule for the development of curriculum, and financial arrangements for distributing funds. Samples of field data collection forms have been obtained from various agencies. In addition, federal and state agency staff, and knowledgeable members of the public have been contacted for information on amphibian populations and habitat in southeast Alaska.

Interim Project Costs: Federal share $0 + state share $0 = total cost $ 0.00

Prepared By: Anne Post, Wildlife Biologist II

Date: January 31, 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 4.0

WORK LOCATION: Primarily Yukon-Kuskokwim Delta

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Audubon Bird Academy

Project Objectives:

1. Hold five two-day Audubon Bird Academies in Alaska communities. Weather and schedules permitting, these academies will be in Bethel and rural villages in the Yukon-Kuskokwim Delta.

2. Provide Bird Academy training for teachers and others (6 hours) so that they can assist in leading the academies to be conducted now as well as others in the future.

Summary of Project Accomplishments: (numbers correspond to those of project objectives)

1. A total of 5 sessions served 7 communities, including Bethel, in the Yukon-Kuskokwim Delta area.

2. Two trainings were held, a three day spring training in Bethel was attended by 18 teachers and staff. Six teachers attended a one day training in Kasigluk in the fall.

The project has been completed. A final report and budget from Audubon is attached.

Project Costs: Federal share $10,728.80 + match share $3,576.27 = total cost $ 14,305.07
(Match paid by Audubon)

Prepared By: Karla Hart, Program Coordinator

Date: 21 January 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
NONGAME RESEARCH AND MANAGEMENT

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-4
PROJECT NR.: 3.0

WORK LOCATION: Creamer's Refuge, Fairbanks

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Neotropical Passerine Migration Monitoring

Project Objectives:

1. To monitor population trends of migrating passerines in Central Alaska during the spring.
2. To determine the timing of life history events (migration, reproduction, molt, and fat deposition) in the spring.
3. To provide educational programs for school children and others.

Summary of Project Accomplishments:

1-2. In 2002, the Alaska Bird Observatory (ABO) operated the Creamer's Field Migration Station for the 11th consecutive spring. From 25 April to 7 June, 26 mist nets were used to capture birds on 37 days. Four hundred and fifty-two birds of 25 species were captured, banded and measured in 5,742 net/hours. Data on number captured, timing, size, weight, and breeding condition were entered in computer and combined with information from prior years. Analyses of data are conducted periodically each 8-10 years.

3. Banding demonstrations with conservation programs were presented by the Alaska Bird Observatory to 26 groups totaling 560 individuals, predominantly school classes. An additional 6 programs, workshops and walks were attended by 95 members of the public.

The project has been successfully completed.

Final Project Costs: Federal share $26,600 + match share $10,000 = total cost $36,600
(Match was met with ABO salaries paid by non-federal sources and in-kind volunteer staff.)

Prepared By: John Wright, Wildlife Biologist III

Date: 28 January 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 6.0

WORK LOCATION: Kenai Peninsula

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Ecological relationships between recreationists and wildlife: The nutritional effects of wildlife viewing and sportfishing on brown bears

---

Project Objectives:

1. Develop a study plan for a multi-year research project. This research shall:

   a. Quantify the relationship between salmon availability and bear fishing success (numbers of fish per unit time fishing), daily fishing time, total daily salmon consumption, fishing bout length, bear density, sex/age class use, bear-bear interactions, and selective salmon consumption.

   b. Identify behavior, sex/age class composition, and nutritional condition of bears on salmon runs during periods with no recreational activities, for future comparison with periods with recreational activity. (Note: indices of nutritional condition include body weight, percent body fat, diet, total salmon consumption, and relative energy balance).

   c. Determine if bears displaced from a run by recreation can compensate for lost nutrient resources by spatially or temporally altering resource use or switching to alternative foods.

   d. Determine if selective foraging on salmon by bears is necessary to meet their nutritional requirements.

   e. Develop a qualitative and/or quantitative model of the interaction between recreational activities, bear nutritional condition, and resource availability.

2. Hire and train graduate students and assistants to conduct research.

3. Purchase necessary equipment for conducting the first year of field research, and begin field testing this equipment.

Summary of Project Accomplishments:

1. A study plan was drafted in conjunction with faculty and graduate students of the Biology Department at Washington State University. A copy of the draft plan, as amended for Federal Aid reports, may be found in Appendix A.

2. One graduate Ph.D. student, two undergraduate technicians, and a Fish and Game WBI were hired for the project. Only the graduate student is hired full-time.

3. Equipment was purchased and projects were conducted in the field at two sites (Nikolai and Glacier creeks). A brief summary of the work is included in Appendix B.

Project Costs: Federal share $80,250 + state share $26,750 = total cost $107,000

Prepared By: Sean Farley, Wildlife Biologist III

Date: 13 February 2003

APPENDIX A: Study Plan

for Ecological relationships between recreationists and wildlife: The nutritional effects of wildlife viewing and sportfishing on brown bears

Need:

This study will examine the nutritional and population-level impacts of recreational activities on brown bear utilizing salmon streams. Previous studies have shown that bears will modify their behavior when bear viewing and sport-fishing activities occur nearby, but to date no one has conducted research to identify the cause and effect relationship(s) between human intrusion and bear behavioral changes. Until that relationship has been more clearly defined, biologists faced with monitoring ecotourism activities such as bear viewing and sport-fishing will find it increasingly difficult to justify biologically relevant management decisions.

Salmon are a critical food item for Kenai Peninsula brown bears (Hilderbrand et al. 1999b), which makes it imperative that we improve our understanding of the interactions between fish availability, human disturbance, and bears. There are strong correlations between the fall condition of adult females, their reproductive success, and the stability of bear populations (Craighead et al. 1974 Rogers 1976, Bunnell and Tait 1981, Young and Ruff 1982, Elowe and Dodge 1989, Stringham 1989, Schwartz and Franzmann 1991), thus any disturbance which interferes with Kenai bears eating fish will have negative impacts on the population.

Virtually all studies of human disturbance on bears have monitored overt behavioral responses of the animals but have not included experimental manipulations to test hypotheses. Hence, most studies have produced information that is largely anecdotal and causal relationships between human disturbance and free-ranging bears can only be inferred. This limits the ability to apply study results across various management situations. While documenting overt behavioral changes is an important first step in disturbance research, more direct measures of individual and population effects can be gathered by determining nutritional and physiological impacts from human disturbance (Hanks 1981). A study that combines behavioral monitoring and the measurement of physiological effects with experimental manipulation has the greatest potential to produce clear, unambiguous information that would be useful in a variety of management scenarios. Such a study conducted on the Kenai Peninsula would be vitally important for effective management of the Kenai brown bear population, as well as brown bear populations in general.

Study site The Glacier and Nikolai creek areas on the Kenai National Wildlife Refuge are excellent locations for this study since no authorized commercial bear viewing occurs there. Nikolai Creek has an early run of sockeye salmon (*Onchorynchus nerka*)(July 16-August 5) whereas Glacier Creek has a late run (August 8-Sept. 4), thus these two runs can be studied consecutively each year (Woody 1998). Additionally, an extensive study has documented the specific and reliable timing of the sockeye runs and the extent and concentration of bear activity on both Nikolai and Glacier creek (Woody 1998). The Kenai Peninsula is the most popular recreation area in the state of Alaska, including 1,000,000 visitor days per year for camping, fishing, wilderness hiking, and other outdoor-related activities (Schwartz and McArthur 1997). While the Refuge currently has no plans to develop commercial bear viewing sites, there undoubtedly will be pressure in the future to do so. Additionally, sportfishing is already

becoming popular on lower Nikolai. Due to increased human activity in bear habitats, the Kenai brown bear population was classified as a "population of special concern" in 1998 to promote attention to research and management actions needed to ensure a sustainable population of brown bears on the Kenai.

Objectives:

Objective 1: Quantify the relationship between salmon availability and fishing success (# of fish per unit time fishing), daily fishing time, total daily salmon consumption, fishing bout length, bear density, sex/age class use, bear-bear interactions, and selective salmon consumption.

Job/Activity a.: *Behavioral observations*

During all 4 years, behavioral observations will be made from 2 tree stands located along the length of both creeks. Researchers will minimize the impacts of their presence by using an off-stream trail to access each tree stand, minimizing movements and noises, and minimizing the number of trips made to the tree stand each week by conducting relatively long consecutive behavioral observations. Additionally, if possible, videocameras will be used to monitor bear activities, capture rates, and behavior to aid in minimizing human effects during control years.

Scan sampling will be used to collect data on brown bear behavior on both creeks. Scans of all bears in the area will be conducted every 5 minutes. Rather than identifying specific individuals, we will monitor behavioral data based on sex and age class, except in the case of collared bears. Collared bears will be identified via ear tags and verified with GPS locations. Sex and age class (adult, subadult, yearling, or cub of the year) will be determined for each bear observed. Visual identification of genitalia or the presence of ear tags on previously captured bears will be used to sex bears. Each bear's behavior will be recorded during each scan. Behavioral categories include: eating, searching, running, walking, standing, mating, vigilant TOB (to other bears), vigilant TA (to angler), vigilant TV (to bear-viewer), resting, aggression and towards whom (species, sex and age class of the other bear). The aim of vigilant behavior will be based on the direction of the head and eye contact. Differentiating between vigilant behaviors will aid in determining if vigilance towards recreationists or other bears influences changes in capture rates.

The timing of entry and departure from the stream and the number of fish captured will be recorded for each bear. For each fish captured, the sex and condition of the fish will be recorded when possible. Condition categories will include live, dead, spent (based on the presence of decay or white fungal patches), and pre-spawned or spawned out (for females only based on the presence of eggs). Sex of fish will be based on the presence of a hump which occurs only in male sockeye. Selective feeding will be monitored and categorized as brains, roe, viscera, or skin. Because Glacier and Nikolai creek are relatively narrow runs, we do not anticipate observing large numbers of bears at once (e.g., >10-15), thus the above data collection is feasible for this number of focal animals. Additionally, if necessary, a second observer will be used to aid in accurate data collection.

Job/Activity b.: *Fishing activity*

GPS collars fitted with temperature data loggers (TDL's) will be used in combination with behavioral observations to determine daily time spent fishing (see Capture and Handling below). TDL's have proven effective at determining when bears are fishing based on changes in temperature and settings in the data logger which measure whether the TDL is wet or dry (unpubl. prelim. data 2001). TDL's have been tested on several Kenai Peninsula female brown bears. GPS locations confirmed fishing attempts based on temperature declines recorded by the TDL. TDL's will be programmed to read temperature and moisture levels (wet or dry) every 10 minutes prior to and following the salmon run (to save memory and battery), and every 5 seconds during the run. GPS collars will be programmed to record bear locations every hour prior to and following salmon migration, and every 15 minutes during the runs. GPS collars and TDLs will be removed to download data during post-salmon run captures and replaced with VHF collars to allow for location of bears during the following spring. To assure post-salmon run captures, locations of each collared bear will be monitored by fixed wing aircraft at least every 3 weeks throughout the summer. GPS locations of each streambank will be determined by walking the stream with a GPS unit.

Job/Activity c.: *Bear captures and handling*

Currently between 24-26 bears are collared on the Kenai Peninsula from an ongoing study by Alaska Department of Fish and Game. Collared bears that currently use the study area will be used along with 3 bears captured during the summer of 2001 and additional bears captured aerially and via foot snares in 2002. Bears captured aerially will be located by fixed-winged aircraft and anesthetized with Telazol using a dart rifle from a helicopter (Hilderbrand et al. 1999c).

Snaring will occur the first year of the study. Chi et al. (1998) found that all black bears snared at Anan Creek left the salmon run and returned the year following snaring activity. However, 3 brown bears captured in foot snares and fitted with GPS collars on Glacier Creek in the summer of 2001 all continued to fish on the creek in the weeks following capture (S. Farley, unpubl. preliminary data). Additionally, a number of snaring studies found no change in habitat use by bears immediately following snaring activity (Laverne Beier, pers. comm.). Because data will be collected during a control year with snaring and a control year without snaring, the effects of snaring can be examined to determine if data collected during year 1 can be used as a control. During initial captures, bears will be fitted with GPS collars carrying TDL's.

Job/Activity d.: *Determination of relative index of bear density*

A relative index of bear density will be determined by weekly flights over Glacier and Clear Creek during the length of the salmon runs. An effort will be made to get an accurate count on two fly-overs to minimize aerial disturbance to feeding bears.

Job/Activity e.: *Measuring salmon availability*

Because the creeks in our study area are narrow and shallow with relatively slow-moving water, salmon availability to bears will be based on salmon abundance and density. Abundance will be measured as the number of fish that have migrated upstream

at 4 salmon counting stations along each run. Salmon density will be quantified over the area and volume of water in the 3 sections of stream between the 4 salmon counting stations. Time lapsed video-recordings will be taken from cameras mounted above each salmon counting station. Pictures will taken at each station every 2.5 seconds and recorded on a 160 min. videotape (Hatch et al. 1994). The camera will be powered with a deep cell battery and solar and wind generators. Lights will be mounted within the stream to illuminate salmon passing at night. A computerized editing system will select and remove video frames not containing fish images (Hatch et al. 1999) which can reduce the length of tape viewed by 75%. Based on these estimates we anticipate 1.5 hours of counting salmon on frames per 3 days of migration (210 hrs for each 6 week run). Water depth and and velocity will be monitored as described in Woody (1998). Area will be measured as the width time the length of stream sections. Volume will be measured as area times the stream depth.

Job/Activity f.: *Total daily and seasonal salmon use*

Total daily salmon consumption will be determined using behavioral observations, TDL's, and stable isotope diet analysis. Behavioral observations will be used to determine average capture rate and fishing time during each week of the salmon run. We anticipate that a week is necessary to obtain a large enough sample size for an accurate measure of capture rate. Capture rates and fishing time will be determined for specific sex/age classes if sufficient data is available and if these values are significantly different. For collared bears, daily fishing time will be determined from TDL's. Total daily fishing time will be multiplied by the average weekly capture rate to determine total salmon consumed each day.

Seasonal salmon use will be quantified by summing up the total daily salmon consumption for the season. The percentage of the diet that consists of salmon, terrestrial meat, and vegetation will be determined from stable isotope analysis of red blood cells and hair taken during captures prior to and following the salmon runs. Red blood cells are representative of bear diets over 2-3 months and hair reflects the diet during hair growth which lasts from mid-summer through the fall. Hair will be taken from the foreleg of anesthetized bears and stable isotope analysis will follow the methods of Hilderbrand et al. (1996) with the exception of determining plant isotope dietary endpoints. Plant isotope dietary endpoints will be determined from isotopic analysis of known bear plant foods in the study area (Hobson et al. 2000).

Statistical analyses The functional response of capture rate to salmon availability will be modeled and categorized as a Type I, II, or III response curve. Either a Pearson's (parametric) or Spearman's (non-parametric) correlation analysis will be conducted on salmon density (independent variable) and total salmon consumption, daily fishing time, bear density, fishing bout length, frequency of aggressive interactions, frequency of selective consumption, and the percentage of each sex/age class using the run (dependent variables). The significance of the correlation will be compared between areal and volumetric measures of salmon density. A two-way ANOVA will be used to test the effects of bear density, salmon availability, and their interactive effects on capture rate.

Objective 2: Compare behavior, sex/age class composition, and nutritional condition of bears on salmon runs during years with no recreational activities to years with recreational activity on 2 consecutive salmon runs.

Job/Activity a.: *Introduction of pseudo bear viewing and sportfishing*

Years 1 and 2 of the study will serve as control years in which data outlined from Objective 1 will be collected. This data will be used as background data to compare with treatments in subsequent years. Treatments will include a pseudo-bear-viewing alone and bear-viewing and pseudo sport fishing simultaneously on both streams.

Previous studies have indicated that consistent and predictable patterns of human behavior aid in habituation of bears to human activity and may minimize the effects on bears (Aumiller and Matt 1994, Wilker and Barnes 1997). Pseudo observers used for the test will be biologists from the refuge, ADFG, and possibly Forest Service. The number of observers will range from 5-8 individuals. Both bear-viewers and sport-fishers will be guided in as a group, will come and go from a restricted area at the same time each day, and will be given a set of guidelines to follow (MacHutchon 1993, Aumiller and Matt 1994, Brady 2000). Activity on both creeks will be limited to between 8am and 6 pm. The same trail will be used to bring in observers each day (Aumiller and Matt 1994, Fagen and Fagen 1994) and recreational activities will occur every day for the length of the run which is typical of most all federal, state, and private bear-viewing operations.

During pseudo bear fishing, one half of the people brought to the stream each day will be dispersed in pairs along the length of the run for 3 hour intervals to act as anglers.

Job/Activity b.: *Behavioral observations*

Bear behavior will be monitored in years with bear-viewing and sport-fishing as outlined in Objective 1. Sex and age class use of salmon runs will be monitored via behavioral observations in Objective 1 and via GPS locations and TDL records from collared bears.

Job/Activity c.: *Bear nutritional condition*

Following initial captures, bears will be caught twice a year; once prior to and once following the salmon run. During these captures, bears will be weighed and body composition will be determined via bioelectrical impedance analysis (BIA) and isotopic water equilibration (Farley and Robbins 1994, Hilderbrand et al. 1999b). Diet and total salmon consumption will be determined based on stable isotopes as described in Objective 1.

Job/Activity d.: *Comparison of relative energy balance*

Because nutritional condition is linked both to energy intake and expenditure, total salmon consumption, daily travel time and distance, and home range size will be examined as a relative index of energy balance. These measures will be compared between control years and years with bear-viewing and sportfishing. Total salmon consumption will be quantified as described in Objective 1. Daily travel time, distance, and home range size will be determined from GPS locations. The energetic costs of recreational activities to bears will be estimated based on annual energy intake from

salmon and energetic expenditure of travel. Travel energy expenditure will be based on activity coefficients multiplied by basal metabolic rate (BMR) (Mattson 1997).

Statistical analyses A one-way ANOVA will be used to compare capture rates, daily fishing time, total salmon consumption, % salmon in the diet, daily travel time and distance, home range area, body weight, body fat deposition, bear density, frequency of bear-bear interactions, relative energy balance, and frequency of selective consumption between control years and each treatment. The percent of each age class using salmon runs will be compared across treatments using a Chi-square goodness of fit test. Expected values will be based on sex-age class use during control years.

Objective 3: Determine if bears displaced from a run by recreation can compensate for lost nutrient resources by spatially or temporally altering resource use or switching to alternative foods.

Job/Activity a.: *Behavioral observations*

Observations of bear fishing behavior will be monitored diurnally and nocturnally to determine temporal patterns of stream use.

Job/Activity b.: *Bear use of alternative resources*

GPS collars will be used to determine the locations of bears as described in Objective 1. Locations and TDL's will be used to determine if bears move and fish at other nearby salmon runs if they leave the study streams. Stable isotopes will be used to determine if the percent of salmon in the diet changes between control and treatment years.

Statistical analyses Graphical relationships of fishing activity versus time will be compared between control and treatment years. GPS locations and use of salmon streams will be examined by plotting locations on a map and comparing daily range and seasonal home range between control and treatment years.

Objective 4: Determine if selective foraging on salmon by bears is necessary to meet their nutritional requirements.

Job/Activity a.: *Behavioral observations*

Behavioral observations from Objective 1 will be used to determine the frequency and timing of selective feeding by bears.

Job/Activity b.: *Salmon nutritional analysis*

Salmon will be collected weekly for nutritional analysis. Male and females will be collected and roe will be removed and analyzed separately from the rest of the female carcass. Once bears begin scavenging, carcasses will also be collected weekly for nutritional analysis. Crude protein will be measured via macroKjeldahl analysis and gross energy will be determined from bomb calorimetry.

Job/Activity c.: *Captive feeding trials*

Captive bears at the Washington State University Bear Research, Education, and Conservation center will be used to determine the relationship between energy intake of roe and rate of mass gain in bears. This relationship will be compared to a similar relationship derived by Hilderbrand et al. (1999b) with whole salmon.

Two adult females, two 2-year olds, and two-yearlings will be fed a diet solely of roe at various intake levels to develop a regression between intake and mass gain. Feces and orts will be collected and weighed to determine total intake and digestibility of roe. Roe will be analyzed for energy content via bomb calorimetry and crude protein via macroKjeldahl procedure.

Statistical analyses Pearson's or Spearman's correlational analysis will be used to identify whether a significant relationship exists between the frequency of selective feeding and either salmon availability or roe nutritional value. An ANCOVA (Analysis of Covariance) will be used to determine if the regression between energy intake and rate of gain differs between diets of roe versus diets of whole salmon**.**

Objective 5: Develop a qualitative and/or quantitative model of the interaction between recreational activities, bear nutritional condition, and resource availability.

Job/Activity a.: *Salmon availability*

Salmon availability will be quantified during all 4 years of this study as described in Objective 1.

Job/Activity b.: *Bear nutritional condition*

Bear nutritional condition will be quantified as described in Objective 2.

Statistical analyses

An ANOVA will be conducted to determine the effects of treatments, salmon availability, and alternative food sources on each indice of bear nutritional condition (body weight, % fat deposition, total salmon consumption, % salmon in the diet, and relative energy balance). This ANOVA will also examine the interactive effect of these variables in determining bear nutritional condition.

LITERATURE CITED

Aumiller, L. D., and C. A. Matt. 1994. Management of McNeil River state game sanctuary for viewing of brown bears. Int. Conf. of Bear Res. and Manage. **9**:51-61.

Brady, S. J. 2000. Memo: Anan management standards, changed condition analysis. Wrangell ranger district, Tongass National Forest.

Bunnell, F. L., and D. E. N. Tait. 1981. Population dynamics of bears-implications. Pgs. 75-98. In. Dynamics of large mammal populations. C. W. Fowler, and T. D. Smith (eds.). John Wiley and Sons. New York, NY.

Chi, D. K., D. Chester, and B. K. Gilbert. 1998. Effects of capture procedures on black bear activity at an Alaskan salmon stream. Ursus **10**:563-569.

Craighead, J. J., J. R. Varney, and F. C. Craighead, Jr. 1974. A population analysis of the Yellowstone grizzly bears. Mont. For. Conserv. Exp. STn. Bull. 40. 20 pp.

Elowe, K. D., and W. E. Dodge. 1989. Factors affecting black bear reproductive success and cub survival. J. Wildl. Manage. **53**:962-968.

Fagen, J. M., and R. Fagen. 1994. Interactions between wildlife viewers and habituated brown bears, 1987-1992. Nat. Areas J. **14**:159-164.

Farley, S. D., and C. T. Robbins. 1994. Development of two mehtods to estimate body composition in bears. Can. J. Zool. **72**:220-226.

Hanks, J. 1981. Characterization of population condition. Pgs. 47-73. In: Dynamics of large mammal populations. C. W. Fowler, and T. D. Smith (eds.). John Wiley and Sons. New York.

Hatch, D. R., M. Schwartzberg, and P. R. Mundy. 1994. Estimation of Pacific salmon escapement with a time-lapse video recording technique. N. Amer. J. Fish. Manage. **14**:626-635.

Hilderbrand, G. V., S. D. Farley, C. T. Robbins, T. A. Hanley, E. K. Titus, and C. Servheen. 1996. Use of stable isotopes to determine diets of living and extinct bears. Can. J. Zool. **74**:2080-2088.

Hilderbrand, G. V., T. A. Hanley, C. T. Robbins, and C. C. Schwartz. 1999a. Role of brown bears (*Ursus arctos*) in the flow of marine nitrogen into a terrestrial ecosystem. Oecologia **121**:546-550.

Hilderbrand, G. V., S. G. Jenkins, C. C. Schwartz, T. A. Hanley, and C. T. Robbins. 1999b. Effect of seasonal differences in dietary meat intake on changes in body mass and composition in wild and captive brown bears. Can. J. Zool. **77**:1623-1630.

Hilderbrand, G. V., C. C. Schwartz, C. T. Robbins, M. E. Jacoby, T. A. Hanley, S. M. Arthur, and C. Servheen. 1999c. The importance of meat, particularly salmon, to body size, population productivity, and conservation of North American brown bears. Can. J. Zool. **77**:132-138.

Hobson, K. A., B. N. McLellan, and J. G. Woods. 2000. Using stable carbon and nitrogen isotopes to infer trophic relationships among black and grizzly bears in the upper Columbia basin, British Columbia. Can. J. Zool. **78**:1332- 1339.

Holling, C. S. 1959. The componenents of predation as revealed by a study of small mammal predation of the European pine sawfly. Can. Entomol. **91**:293-320.

MacHutchon, A. G. 1993. Khutzeymateen valley wildlife viewing plan. Fish and Wildlife, BC Environment, Smithers, British Columbia.

Mattson, D. J. 1997. Use of ungulates by Yellowstone grizzly bears. Biol. Conserv. **81**:161-177.

Rogers, L. 1976. The effects of mast and berry crop failures on survival, growth, and reproductive success of black bears. Trans. N. Amer. Wildl. and NR Conf. **41**:431-438.

Schwartz, C. C., and A. W. Franzmann 1991. Dispersal and survival of subadult black bears from the Kenai Peninsula. J. Wildl. Manage. **56**:426-431.

Schwartz, C. C., and S. M. Arthur. 1997. Cumulative effects model verification, sustained yield estimation, and population viability management of the Kenai Peninsula, Alaska brown bear. Federal Aid in Wildlife Restoration. Research Progress Report. Alaska Dept. of Fish and Game. Div. of Wildl. Cons.

Stringham, S. F. 1989. Grizzly bear reproduction rate relative to body size. Int. Conf. Bear Res. and Manage. **8**:433-443.

Wilker, G. A., and V. G. Barnes. 1998. Responses of brown bears to human activities of O'Malley River, Kodiak Island, Alaska. Ursus **10**:557-561.
Woody, C. A. 1998. Ecological, morphological, genetic, and life history comparison of two sockeye salmon populations, Tustumena Lake, Alaska. Ph.D. dissertation. University of Washington. Seattle, WA.
Young, B. F., and R. L. Ruff. 1982. Population dynamics and movements of black bears in east central Alberta. J. Wildl. Manage. 46:845-860

APPENDIX B: Field Test

for Ecological relationships between recreationists and wildlife: The nutritional effects of wildlife viewing and sportfishing on brown bears

Methods:

Observations were conducted at Nikolai creek from Tues, July 23 through Friday, Aug 2, 2002 and on Glacier creek from Wed, August 14 through Friday, August 23, 2002. Six 24 hour observations were made during these 10 days at each site by observers in 2 different tree stands for a total of 288 observation hours. Solar panel and battery powered cameras with time lapse VCRs were deployed upstream and downstream from observation areas to record salmon passage. Approximately 20 hair snares were set between the salmon cameras to gather hairs from bears using this area on both streams. Fecal collections were also made during weekly servicing of hair snares. Helicopter captures were conducted on Glacier Creek over 4 days from August 9-12.

Results:

Nikolai Creek

Salmon began running on Nikolai Creek between July 19-21 and ran up until our departure from the area on August 4. Faulty connections on solar panels resulted in loss of several days of salmon monitoring during the observation period. To supplement data collection during this time, observers counted salmon migration at treestands for 10 minutes every hour. Based on this data, salmon migration peaked on July 24th, during the beginning of our study period. Additionally, migration appears to have daily patterns being highest during the evening hours.

Bears were observed in the study area on 3 occasions, although 2 were observed while setting up cameras on the stream and not during scheduled observation periods. Bears appeared to completely avoid the study area due to our presence. Evidence of fishing activity, such as carcasses, tracks, and feces typically occurred within the study area after periods when observers had been absent from the stream. At the end of the 10 day observation period prior to our leaving the stream, 2 observers walked ½ mile upstream and downstream from the study area. Up to 20 carcasses were found in each of these areas with clear sign of bear fishing activity from tracks, haul out sites, and carcass counts. Based on observations and examination of tracks, subadult, females with cubs, and at least one male used this area.

Glacier Creek

An early run of sockeye occurred on Glacier in mid-July which was discovered on July 21 during a reconnaissance of Glacier to determine treestand and camera locations. By August 4 a second run had began which appeared to peak between August 17-23. Once solar panel wiring was repaired, cameras ran successfully throughout our study period on Glacier. Escapement, salmon density, and daily patterns of migration activity will be determined from video tapes this fall and winter. Though previous data shows that Nikolai Creek and Glacier Creek have similar salmon escapement (Woody 1999), Glacier Creek appears to have a much higher density of salmon based on preliminary data. Counts of salmon within a similar sized study area at Nikolai and Glacier resulted in 610 sockeye and 3600 sockeye respectively. Nikolai sockeye disperse

over 15-20 miles of stream, whereas Glacier Creek runs approximately 2 miles, resulting in nearly 6 times the density of sockeye in Glacier Creek.

Five adult females were captured and fit with GPS collars at Glacier Creek, four of which had 2 cubs of the year, yearlings, or two year olds. All 5 females continued to fish Glacier Creek after captures and throughout our study period. Three of these females were observed fishing on the creek during observations. A total of 7 black bear observations and 9 brown bear observations were made over 10 days (not counting cubs). Of the 9 brown bear observations, 1 was a subadult seen on 1 occasion, 1 was an adult female collared bear with no cubs, 1 was an adult female collared bear with 2 year olds, and the other 5 observations were of an adult female collared bear with yearlings which frequented the area. None of these bears were habituated to people. All adults appeared alarmed, including huffing and running through the observation area. Though adult females never fished in front of observers, they allowed their cubs to fish within our view for extended periods of time. No adult males were seen in the study area at Glacier nor were any tracks of adult males found along the length of the stream. As at Nikolai, other forks of the stream and areas upstream and downstream were walked to determine bear activity and similar results were seen at Glacier with numerous carcasses and obvious fishing sites located just beyond our immediate observation area. Bears were recaptured and GPS collars retrieved in fall 2002. Approximately 25,000 GPS locations are in the database. When analyses are completed, the data will be useful in identifying avoidance behavior during our observations.

Future Research:

Brown bears on both Glacier and Nikolai creeks were much more sensitive to human disturbance than anticipated. Observations during this year were meant to be considered control years examining natural bear behavior on salmon streams. Because this was not possible, this year will be used as a treatment year, and camera systems will be employed next year, rather than human observers to examine natural behavior on salmon streams. A number of new methodologies were used successfully this season, including hair snares that obtain hairs from a single individual bear and remote battery and solar panel powered cameras to monitor salmon activity that will be useful in future years.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 3.0

WORK LOCATION: Haines

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Chilkoot River Corridor

Project Objectives:

1. Develop guidelines for fishing in bear country and for bear viewing in the Chilkoot River Corridor.
2. Delineate travel corridors for bears based on observations.
3. Facilitate the planning process by using bear study information to highlight areas of high concern.

Summary of Project Accomplishments:

The approach we used to achieve objectives was to help fund the work of a graduate student whose observations informed our input on guidelines, locations of bear corridors, and identification of other areas of high concern.

1. The Chilkoot River Corridor Work Group developed draft guidelines to address the most commonly observed and undesirable human behaviors around bears, such as approaching bears and leaving food or fish scraps available to them. The division is further refining these guidelines. Guidelines were posted in several places near the river as well as in commercial establishments in Haines. A copy of the guidelines is attached in Appendix.

2. Although two potential sites for bear corridors were discussed, the division has not established any dedicated corridors for wildlife at this time. The area of the road from Deer Rock upstream to the Fish and Game weir is likely the most heavily used by bears on the road side of the river. However, the weir proved an attractant to bears when spawned fish are caught by it as they drift downstream, making it a *de facto* travel corridor of sorts. One strategy that was tried in 2002 was to use two traffic cones to establish a 'moving corridor' which changed depending on location bear activity.

3. The division was able to use some of the information from bear research on the Chilkoot River to further inform the planning process. For example, actual observations of traffic and of bear-human interactions resulted in the Working Group's general agreement of the need for an on-site 'river monitor' to oversee the use of the guidelines, the concept and location for a bear corridor, and the importance of closing the park road to overnight camping. The latter is one of eight original recommendations made by the Working Group and was accomplished in 2001-2002 by a transfer of management authority from Department of Transportation to Department of Natural Resources/Division of Parks and Recreation and by posting signs along the road.

Interim Project costs: Federal share $0 , State share $0 = Total cost $0.00
(Although no funds were charged to this project by the end of the reporting period, funds are owed to Utah State University for the graduate student work and expenditures will occur in coming months.)

Prepared By: Polly Hessing, Wildlife Biologist II

Date: 11 Febuary 2003

Appendix: Chilkoot River Corridor Interim Report

Dear Chilkoot Visitor:

As you may be aware, the demand for sport fishing and bear viewing opportunities has increased statewide over the past 10-15 years and these activities have become an important component of many commercial operations. Likewise, the number of visitors to the Chilkoot River Corridor (CRC) has increased dramatically during this period and approximately 25,000 people visited the site in 2000. The Chilkoot River Corridor Working Group is a group of stakeholders that has formulated guidelines for use of this area that will hopefully address some of these developing problems.

The guidelines that we ask you to follow were developed to address, in part, these objectives for the area: 1) to allow sport fishing and bear watching activities to continue, 2) to allow bears access to their feeding sites, 3) to avoid conflicts between bears and people, and 4) to avoid conflicts between user groups (bear watchers and sport fishers). One of the problems at the Chilkoot River is that some of the bears have become "food conditioned" to humans and they may view people as a source of fish. Once a bear learns that humans are a source of food, it will repeat the behavior that "rewarded" it the first time around. Bears have been observed approaching humans, possibly attempting to obtain fish, and have been killed in defense-of-life-and-property cases. Food-conditioned bears have also resulted in problems for a local subdivision. Finally, it is against state regulation to feed bears.

The CRC Working Group feels that it is possible for anglers and bear watchers to use the Chilkoot River without "food-conditioning" bears. If the area is used responsibly, we can meet our objectives and avoid conflicts between user groups. However, this will require the cooperation of everyone. It takes only a few incidents to "train" a bear improperly. Starting this summer, we are suggesting guidelines for the use of the Chilkoot River Corridor. We are asking for your cooperation and compliance with the following regulations and guidelines.

STATUTES AND REGULATIONS

The following statutes and regulations must be followed throughout the state, including while within the Chilkoot River Corridor:

1. **Feeding bears is prohibited (5 AAC 92.230).**

   "FEEDING OF GAME. A person may not intentionally feed a moose (except under terms of a permit issued by the department), bear, wolf, coyote, fox, or wolverine, or negligently leave human food, pet food, or garbage in a manner that attracts these animals. However, this prohibition does not apply to use of bait for trapping fur bearers or hunting black bears under 5 AAC 84-5 AAC 92."

   The following actions, in our view, would constitute creating an "attractive nuisance" and intentional feeding of bears at the Chilkoot River Corridor:
   - Hooking, reeling, or netting a fish in the presence of a bear when the bear can perceive and pursue the hooked fish as it struggles;
   - Storing fish in a manner that might attract bears; or
   - Storing or disposing of food, fish parts or garbage in the immediate presence of a bear or in a manner or area where it is likely to be obtained by a bear.

2. **Harassment of wildlife.**

It is inconsistent with the purpose for which Chilkoot Lake State Recreation Area was established for users to drive bears from the area or to harass them in any way. There are two laws that apply:

a. **Alaska Statute 16.05.920 states that it is illegal to "take" wildlife.** The definition of "*take*" includes pursuing, "*or in any manner disturbing*" fish or game.

b. Under 5 AAC 92.410 "Taking game in defense of life or property" a person is allowed to take a bear *only if* the necessity for the taking is **not** brought about by the improper disposal of garbage or a similar attractive nuisance (i.e., fish or food); the bear has not been harassed or provoked; and if an unreasonable invasion of the animal's habitat has not occurred.

3. Summary.

Your actions should not create a situation where bears are attracted to your activities and they should not obtain fish or food from you. Attracting a bear for any purpose (including photography and viewing) will not be tolerated nor will a user be justified in driving off a bear that has been attracted by improperly stored food, fish or garbage. Bears should be allowed to use and feed at Chilkoot River without interference from you. Firearms shall only be used for self-defense and legal hunting; they shall not be discharged just to frighten bears from the area.

GUIDELINES FOR THE CHILKOOT RIVER CORRIDOR

These guidelines are established to create a cooperative atmosphere where people and bears can fish, and where people can safely watch bears. If you visit this area, we ask that you comply with the following:

1. **Feeding Bears** – The feeding of bears is prohibited; allowing bears to obtain improperly stored food, fish and garbage is prohibited; and intentionally leaving food, fish or garbage in a manner that attracts bears is prohibited.

2. **Harassment** –Harassment of bears is prohibited. Firearms shall only be used for legitimate self-defense and legal hunting; they shall not be discharged just to frighten bears from the area.

3. **Food and Fish Storage –**Store your food, fish and garbage in bear-resistant containers (or in your vehicle) at all times unless you are consuming them pursuant to guideline number 9. Never leave your food, fish or garbage unattended. We encourage you to clean your fish, to bag it immediately, and to store it in a cooler in your vehicle.

4. **"Bear Buffer" –** Cease all fishing activity when a bear approaches to within 100 yards or at a point where the bear could obtain your fish if you hooked one, whichever is ***greater***. Immediately release your hooked fish (by cutting or breaking the fishing line) when a bear approaches to within 100 yards or at the point when it is attracted by your struggling fish, whichever is ***greater***. If anglers are in a boat, you may move to deeper water to maintain separation between the angler and the bear. Do not cast towards a bear. Make every effort (including releasing hooked fish) to prevent a bear from obtaining an angler's fish. **Failure to adhere to this guideline may be construed as feeding or attracting a bear.**

5. **Gear** –Do not leave any gear or coolers or other belongings unattended on the shore of the river or lake.

6. **Shoreline Closure** –Under 5 AAC 75.050, sport fishing is closed within 300 feet (100 yards) on either side of the Chilkoot River weir. It is unlawful to cast, drift, or place by any means a hook, bait lure or fly into this area.

7. **Fish Cleaning** – Clean your fish in the river, and place fish remains in swiftly moving water.

8. **Litter** – Remove all garbage, food scraps, and food remains from the area and dispose of properly. Do not place them in the waters of Chilkoot River or Lake.

9. **Camping/Picnicking** – Camp only in the campground at the lake or at one of the commercial campgrounds. Please do not eat your food near the river. If you must feed your pet, do it at your campsite, and clean up any dropped food.

10. **Latrine** – Please use the outhouses provided in the campground.

11. **Do** not use a motorized vehicle or boat to get close to a bear, and do not approach or follow any bears.

12. **P**rivate Property –Do not trespass on private property. In order to insure undisturbed access to fish by bears, the working group encourages people to use only the river on the road (west) side.

It is incumbent upon on every user of the Chilkoot River and Lake to cooperate in our efforts so that all users may continue to enjoy the rich cultural historical and natural resources at this site. While some of these guidelines may seem inconvenient, they are necessary to reduce dangerous bear/human encounters, to prevent the conditioning of bears to humans as a source of food, to reduce the incidents of bears being killed in defense-of-life-and-property, **and to allow bears to use the area in as undisturbed a manner as possible.** Please pass this information on to every guide, client, or friend that you will be taking to the Chilkoot River. We also ask that you encourage your fellow Chilkoot River users to also comply so that the actions of a few do not result in harsher restrictions in the future. Thank you very much. The CRC Working Group appreciates your cooperation in assuring a positive experience for all users of the area.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

WILDLIFE CONSERVATION AND RESTORATION PROGRAM (WCRP) GRANT
COTTONWOOD CREEK BRIDGE
INTERIM REPORT

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-6
PROJECT NR.: 1.0

PROJECT DURATION: 1 December 2001–30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Palmer Hay Flats/Susitna Flats Access

PROJECT LOCATION: Palmer

Project Objectives:
1. Repair abutments on both sides of the Cottonwood Creek bridge
2. Replace the rusting surface grating on the Cottonwood Creek bridge.
3. Clear and scrape the surveyed right-of-way to provide continued access to Horseshoe Lake on Susitna Flats State Game Refuge.

Summary of Project Accomplishments:
During this period the following major repairs to the Cottonwood Creek ORV bridge were completed (Objectives 1 & 2):
- Structural steel pipes driven into the ground and steel support crossbeams replaced the old creosote timber abutments.
- The bridge was raised and attached to the new abutments to reduce chances of ice damage.
- The approaches were rebuilt and Geoblock installed on the approaches to reduce erosion. The metal surface has not been replaced due to higher than anticipated costs of fixing the bridge structure, but weakened areas were covered with plywood until a new surface can be installed. (See attached photos Appendix A)

During this period the following improvements were made to the Horseshoe Lake Access to Susitna Flats State Game Refuge (Objective 3):
- A new access road was scraped along the surveyed right-of-way from the end of Holstein Avenue to the vicinity of Horseshoe Lake. The new access is at least 12 feet wide and approximately 1 mile long. (See attached photo Appendix B).

Interim Project Costs: Federal share $21,272 + state share $11,364 = total cost $ 32,636

Prepared By: Colleen Matt, Lands and Public Services Coordinator, Region II

Date: January 2, 2003

FEDERAL AID
FINAL PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 7.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Information and Education

Project Objectives:

1. Develop and post a substantial number of new web pages, increasing the volume and quality of wildlife-related information available to the public.
2. Develop and conduct new community education programs for the public using radio, TV, newspapers, and other media.
3. Continue and expand existing state-funded watchable wildlife and education projects and programs.

Summary of Project Accomplishments:

No funds were expended for this project during the report period. Other hiring priorities delayed recruitment for and hiring of a fulltime webmaster, information officer, and education associates necessary for accomplishing the objectives until the end of the report period. The new webmaster began fulltime work with the division in early December. The new information officer began in mid-January 2003. Education associates began work in late 2002 or early 2003. For administrative reasons we would like to close this project and deobligate the project funds from this grant with the intention of reobligating them to grant R-1-8 under which the objectives for this project would be continued and accomplished.

Project Costs: Federal share $0 + state share $0 = total cost $ 0.00

Prepared By: Michelle Sydeman, Assistant Director

Date: February 7, 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 9.0

WORK LOCATION: Southcentral Alaska

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–31 January 2002

PROJECT TITLE: Sanctuary Management

PROJECT LOCATION: Palmer

Project Objectives:

1. In conjunction with the Habitat and Restoration Division, administer the McNeil River and Walrus Island State Game sanctuaries to protect their exceptional wildlife resources, while providing safe and sustainable wildlife viewing experiences.
2. Provide updated and accurate information to the public via the Internet, newspaper, and other media on the McNeil River and Round Island viewing programs.
3. Respond to inquiries from scientists, filmmakers and educators interested in photographing and studying bears at McNeil River State Game Sanctuary.
4. Supervise one Fish and Wildlife Technician V and indirectly supervise a college intern and a Fish and Wildlife Technician III in the operation of the field facility and viewing program at McNeil River State Game Sanctuary.
5. Supervise one Fish and Wildlife Technician IV at Walrus Islands State Game Sanctuary.
6. Provide wildlife viewing guidance and field camp support for bear viewers through salaries of a seasonal Fish and Wildlife Technician V and a seasonal Fish and Wildlife Technician III.

Summary of Project Accomplishments:

Objectives 1, 4, 5 and 6: Joe Meehan (Lands Coordinator) administered both sanctuaries for two seasons of public viewing in 2002. All field staff were rehired from the previous summer and all completed their duties successfully. No resource damage occurred at McNeil River and 175 visitors were accommodated. There were 9 incidents of low-flying planes causing walrus disturbance on Round Island. Field staff reported each incident to USFWS Law Enforcement for violations of marine mammals protection laws. Fifty-six day visitors and 22 overnight campers were accommodated at Round Island during the summer.

Objective 2: Joe Meehan, with the help of programmers in Information Management, worked to revise the McNeil River application process with a target date of January 2003 for instituting an online application option.

Objective 3: Seventeen Sci/Ed and Commissioners' permits were awarded during the 2002 season.

Interim Project Costs: Federal share $23,941, state share $12,850 = total cost $36,791
(Actual state share exceeds the proposed match percentage.)

Prepared By: Colleen Matt, Lands and Public Services Coordinator, Region II

Date: February 3, 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
NONGAME MANAGEMENT AND RESEARCH (revised)

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-4
PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001 – 30 November 2002

PROJECT TITLE: Program Development and Administration

Project Objectives:

1. Identify and hire staff to identify, plan, and implement nongame projects and programs.
2. Identify and secure facilities and equipment needed to implement nongame projects and programs.
3. Develop operational plans for nongame projects and programs.

Summary of Project Accomplishments:

1. Identify and hire staff to identify, plan, and implement nongame projects and programs.
   - A Nongame Coordinator (Range 20) was hired to lead the division's nongame efforts, along with its efforts to develop a comprehensive conservation plan.
   - Three nongame biologist positions (Range 18s) have been created in Regions I, II, and III/V, and the Region III/V position has been filled. We expect to fill the other two positions early in 2003. Workloads, including hiring of other necessary positions, unavoidably delayed hiring of nongame biologists in those regions.
2. Identify and secure facilities and equipment needed to implement nongame projects and programs.
   - Some field equipment, including binoculars, cameras, and computers were purchased by the Nongame Coordinator. Office space and some office equipment was secured for the Region III/V nongame biologist, who will be stationed in Fairbanks. Additional facilities and equipment will be secured once the remaining two nongame positions have been filled.
3. Develop operational plans for nongame projects and programs.
   - The Nongame Coordinator, together with the Assistant Director for management and research, has scheduled meetings with staff in all Regions in December 2002 and early 2003, to identify possible nongame issues and projects. These issues and projects will be reviewed and prioritized by the Nongame Coordinator, the regional nongame biologists, and division staff identified by regional leadership.

The objectives of this project have largely been achieved. As the focus of this project is on non-game we believe a more appropriate funding source for developing the non-game program is State Wildlife Grants (SWG). Consequently, our intention is to close this project and deobligate the project's remaining funds from this grant in order to reobligate them to grant R-1-8 where they can be used for work that is not eligible to be funded by the SWG program. Further development and administration of the non-game program will be funded by grant T-1-8 and others in the SWG program.

Project Costs: Federal share $9,116 + state share $3,038 = total cost $ 12,154

Prepared By: Doug Larsen, Assistant Director

Date: February 1, 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
NONGAME MANAGEMENT AND RESEARCH

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-4
PROJECT NR.: 2.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2001–30 September, 2003

PROJECT REPORTING PERIOD: 1 July 2001 – November 30, 2002

PROJECT TITLE: Partnership Agreements

Project Objectives:

1. Develop and distribute a Request for Proposals, including criteria for awarding partnership funds.
2. Award partnership funds to nongame, education, and wildlife-related recreation projects that best meet the established criteria. Enter into at least two cooperative agreements.
3. Leverage funds beyond those provided through the WCRP program and other Department of Fish and Game sources.
4. Increase involvement and ownership of local governments, non-governmental entities, and others in the conservation of wildlife and their habitats.

Summary of Project Accomplishments:

1 A Request for Proposals and Project Proposal Form were developed and distributed statewide by way of the State of Alaska Public Notices web site. Notice of availability was announced via e-mail to targeted lists serving educational, biological, and wildlife viewing interests and through notice of the announcement in various print media. The RFP was released on March 7, 2002. Proposal deadline/opening date was April 17, 2002. Thirty-four proposals were submitted for projects, requesting a total of over $1.2 million and offering a total match of almost $900,000.

2-4. A review team consisting of one representative each from the nongame, watchable wildlife, and education programs plus an assistant director evaluated the proposals and awarded 4 partnerships under this grant. Contracts for the partnerships were prepared and entered into as follows:

Eagle River Nature Center – education project -- $25,633 WCRP, $10,830 match
Friends of Creamer's Field – viewing -- $33,708 WCRP, $24,399 match
City of Petersburg Parks and Recreation – viewing -- $26,974 WCRP, $16,852 match

Burchell High School – education -- $12,880 WCRP, $10,000 match

Total contract commitments to date:
Federal share $99,195 + match share $62,081 = total cost $161,276

Below are details on individual project objectives and accomplishments through November 30, 2003 for projects funded under this grant.

Prepared By: Karla Hart, Project Coordinator

Date: January 21, 2003

EAGLE RIVER NATURE CENTER, EAGLE RIVER (SOUTHCENTRAL)

Project Objectives:

1. To purchase and erect a 30 foot diameter yurt on a wooden platform (to be constructed) at Eagle River Nature Center, on Chugach State Parks land.
2. Furnish the yurt classroom with stacking chairs (35) and folding tables (2) and a stove for heating.
3. Provide wildlife conservation education to program participants.

Summary of Project Accomplishments

The yurt is completed, furnished and in use. $25,600 in WCRP funds were matched with $8420 in in-kind contributions and $9866 in volunteer labor.

FRIENDS OF CREAMER'S FIELD, FAIRBANKS (INTERIOR)

Project Objectives:

1. To add 3 short loop trails, along with 3 interpretive signs, 1 viewing station binocular, and 3 educational brochures. Includes upgrade of pond to attract more shorebirds.
2. To construct 3 new viewing and photography blinds.
3. Provide opportunities for wildlife viewing.

Summary of Project Accomplishments

1,2.3. Planning and design work for the observation and viewing blinds, trails, and viewing platform has begun. The pond liner has been installed and the pond is ready to be filled in the spring and used by arriving waterfowl.

CITY OF PETERSBURG, PARKS AND RECREATION, (SOUTHEAST)

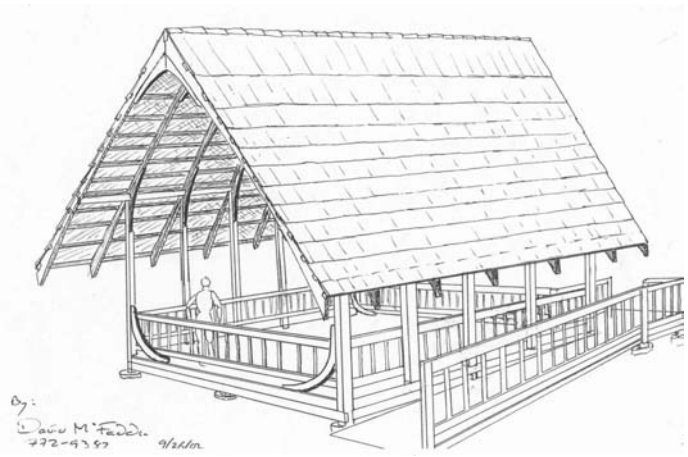
Project Objectives:

1. To build a 20-foot diameter, six-sided gazebo with three fixed binoculars (one wheel-chair accessible) and three benches on a former waterfront landfill site.
2. To provide information about local marine ecology with an emphasis on whales in at least 3 interpretive panels.
3. The project will be completed in time for a grand opening in May 2003.

Summary of Project Accomplishments

1. They have requested and are still awaiting a decision about the site's status in regard to the need for a permit for the US Army Corps of Engineers. Instead of the proposed six-sided gazebo, they have worked with a designer on an open structure of similar dimension that incorporates some traditional Norwegian construction designs and techniques (Petersburg is Alaska's "Little Norway"). The binoculars have been purchased.
3. A grand opening is still planned for May, during the Little Norway Festival.

Gazebo location in the 1950s.
Now a capped over landfill site.



Gazebo as planned except roof height will be lowered to stay in budget.

BURCHELL HIGH SCHOOL, WASILLA (SOUTHCENTRAL)

Project Objectives:

1. Construct six portable skeletons that can be put together and reassembled.
2. Design and construct six display cases of varying sizes that will house and protect skeletons [already in the Burchell collection].
3. Development of two manuals that will illustrate how wolf and bear skeletons are articulated together.
4. Creation of a power point presentation that can be shown by teach that would assist the students in the articulation of the bear, moose and wolf skeletons.
5. Produce a videotape that shows how to field dress, debone, bone and articulate bear, moose and wolf skeletons.
6. Development of a program that will allow students to become academically successful while improving their understanding and skills in science and technology in science and technology.

Summary of Project Accomplishments

1,6 Burchell High School science students have obtained two moose and two black bears, each of these animals were then processed, boiled and cleaned. They are currently being coated with epoxy, which will give them more durability when handled. We have yet to obtain two wolves, but have arranged to receive two wolves from ADF&G by early January, 2003.

2,6 The construction of the metal stands specifically designed for each animal has yet to begin. Students have constructed several wood and Plexiglas cases. These cases will house and protect articulated skeletons of a variety of animals that students have assembled over the years. Since these skeletons are now protected they can be loaned out to other schools within the Matanuska-Susitna Borough School District without the fear that they will come back broken.

3 Lee Post has completely articulated the moose and bear skeletons through his drawings and has compiled them into two manuals. These manuals are 90% finished, and Burchell High School just needs to add information and pictures on how to put the bones together using the newly design stands. Lee plans to start on the wolf manual as soon as he receives a wolf skeleton.

4-6 Students have been using video cameras, taking photographs and writing articles for the school newspaper to help document each step of the process and their experiences. Some of the photographs will be included within the Powerpoint produced at the end of the project.

FEDERAL AID
FINAL PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 5.0

WORK LOCATION: Juneau

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Pack Creek Administrative Cabin Planning

Project Objectives:

1. Assist Forest Service in completing the Seymour Canal Zoological Area plan by their deadline of May 2002.
2. Write the cabin alternative to be included as part of the new Seymour Canal Zoological Area Plan
3. Review alternatives/decisions for Seymour Canal Zoological Area Plan
4. Obtain public input on the decision to place a cabin in a wilderness area
5. Research cabin designs and evaluate cabin sites.

Summary of Project Accomplishments:

ADF&G staff provided recommendations relating to the Pack Creek Administrative Cabin. The final decision by Forest Service Admiralty Monument staff was to not pursue building an administrative cabin. No grant funds were expended and the project has been cancelled. We intend to deobligate this project's funds from this grant and reobligate them to grant R-1-8.

Final Project Costs: Federal share $0 + state share $0 = total cost $ 0.00

Prepared By: Anne Post, Wildlife Biologist II

Date: January 13, 2003

wildlife work. The division also contracted with *Dynamic Solutions Group* (DSG) to facilitate a public scoping session that was held at the International Airport Inn in Anchorage. Letters of invitation were sent to a wide range of interest groups prior to the session and resulted in a good turn out. Division staff, together with DSG personnel and staff from Sport Fish Division, facilitated small break-out groups that addressed issues, concerns, and possible solutions associated with public service, education, watchable wildlife, game and nongame management and research, habitat, planning, predator management, and subsistence. Information and insights collected during the public scoping session and the agency/NGO meeting was incorporated into the division's draft strategic plan. The information was also provided to the department's interdivisional task force for inclusion in our statewide comprehensive conservation plan. The task force consists of representatives from the Divisions of Sport Fish and Wildlife Conservation.

4-8. The division created five staff work groups: public service, education, watchable wildlife, nongame management and research, and game management and research. These groups spent up to six days each identifying strategic issues, concerns, and possible solutions associated with each of their respective topics. Chairs from the five work groups subsequently met with the Division of Wildlife Conservation's Division Management Team (DMT) to share and discuss input from the work groups, clarify details, and formalize reporting protocol. Work group input and recommendations were compiled into reports and distributed to division staff for review and feedback. Staff feedback was incorporated into the division's draft strategic plan and was also provided to the interdivisional task force for inclusion in our statewide comprehensive conservation plan.

9-10. The division provided letters to nearly 2,000 individuals and organizations with information about its planning process, how to access the public scoping meeting and division work group reports on its web site, and how to provide comments to the division on issues of concern. One hundred six comments were received from the public, electronically, by mail, and by fax. These comments were incorporated into the division's draft strategic plan and then circulated back to the public for additional review and feedback.

11. The division's 5-year strategic plan was completed and distributed to staff and the public (copy attached). Comments received from staff and the public were reviewed by the Division Management Team and incorporated into the plan. Work on the division's 5-year statewide comprehensive conservation strategy has begun but is funded chiefly by State Wildlife Grants T-1-8 and U-1-1.

Project Costs: Federal share $142,321.58 + state share 47,368.18 = total cost $189,689.76

Prepared By: Doug Larsen, Assistant Director

Date: 9 December 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

WILDLIFE CONSERVATION AND RESTORATION PROGRAM (WCRP) GRANT
POTTER MARSH BOARDWALK

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-7
PROJECT NR.: 1.0

PROJECT DURATION: December 1, 2001 – September 30, 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Potter Marsh Boardwalk Maintenance & Repairs

PROJECT LOCATION: Anchorage

Project Objectives:

1. Repair the asphalt approach, foundation piling, decking, and side rails (UBC standard) of the Potter Marsh boardwalk.
2. Improve public safety and wildlife viewing opportunities at Potter Marsh boardwalk facility.

Summary of Project Accomplishments:

Objectives 1 and 2: In March 2002, a Reimbursable Services Agreement (RSA) was signed between ADF&G and Alaska State Parks (ASP) Design and Construction division for $31,234 (project management, and design by ASP with $27,980 for construction by a contractor). ASP performed a site survey and prepared a bid package, including improvements designs for public safety and wildlife viewing opportunities. In April, the package was withdrawn after bids exceeded funding. ADF&G recently added $14,000 to the RSA to cover realistic construction costs. In December 2002, ASP re-scoped the concept using a standard piling system more commonly available. The new bid package will be out for bid at the end of January 2003.

Interim Project Costs: Federal share $ 0 + state share $3, 766 = total cost $3,766
(All federal funds though not spent during the reporting period have been committed through RSA. See above.)

Prepared By: Colleen Matt, Lands and Public Services Coordinator, Region II

Date: January 3, 2003

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 8.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Project Wild/Alaska Wildlife Curriculum

Project Objectives:

1. Increase the availability of Project WILD/Alaska Wildlife Curriculum facilitators in the Fairbanks area from 1 to 10 active facilitators.
2. Coordinate 5 workshops using volunteer or contracted Project WILD/Alaska Wildlife Curriculum facilitators.
3. Plan, promote and facilitate three graduate courses through UAA including course oversight and grading as part of the above mentioned workshops.
4. Represent Project WILD and the Alaska Department of Fish and Game on the Project Learning Tree Steering Committee, at the International Project WILD Coordinator's Conference, the Alaska Natural Resource and Outdoor Education Association annual meeting, and the Oil Spill Recovery Institute's Educators meeting.
5. Promote use of ADFG wildlife conservation education materials through displays at statewide educational conferences, partnering opportunities with other resource education programs, public contacts (phone, e-mail/mail/face-to-face), and web page development and maintenance.
6. Expand the use of the Alaska Wildlife Curriculum through workshop integration with Project WILD (from 50% to 100%), course offerings (up to 3 for this time period), networking with other resource education professionals, integration into materials generated by other organizations (through requests by other organizations for copyright permission), and increase sales of materials.

Summary of Project Accomplishments:

No funds from this grant were expended on this project. For administrative reasons we would like to close this project and deobligate the project funds from this grant with the intention of reobligating them to grant R-1-8 under which the objectives for Project Wild work as well as other wildlife education projects would be continued and accomplished.

Final Project Costs: Federal share $0 + state share $0 = total cost $0.00

Prepared By: Robin Dublin, Project Wild Coordinator

Date: 2/18/03

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 25526
Juneau, AK 99802-5526

Wildlife Conservation and Restoration Program (WCRP) Grant
WATCHABLE WILDLIFE AND EDUCATION

STATE: Alaska **GRANT AND SEGMENT NR.:** R-1-5
PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 December 2001 – 30 September 2003

PROJECT REPORTING PERIOD: 1 December 2001–30 November 2002

PROJECT TITLE: Program Development and Administration

Project Objectives:

1. Identify and hire staff to identify, plan, and implement watchable wildlife and education projects and programs.
2. Identify and secure facilities and equipment needed to implement watchable wildlife and education projects and programs.
3. Develop a watchable wildlife operational plan and education operational plan that addresses high priority conservation and public use needs for the next 3-5 years, compatible with the Division's strategic planning effort.

Summary of Project Accomplishments:

1. Several staff were hired during this reporting period: an Assistant Director for Education and Outreach; a non-perm Administrative Assistant; a Statewide Education Coordinator; two Project Coordinators to implement watchable wildlife projects; and two Education Associates IIIs to implement education programs.
2. Computer equipment and office furniture were purchased to support the work of these new staff.
3. An operational plan for the watchable wildlife program was developed and a plan for the education program was initiated and will be completed in the coming months.

The objectives of this project have largely been achieved. After an internal review of our funding sources and program organization we have determined that both for administrative and organizational reasons it is desirable to concentrate watchable wildlife and education project funding in a single grant, R-1-8. Consequently, our intention is to close this project and deobligate the project's remaining funds from this grant in order to reobligate them to grant R-1-8. Further development and administration of the watchable wildlife and education program will be accomplished under that grant.

Project Costs: Federal share $163,821 + state share $ 54, 607 = total cost $218,428

Prepared By: Michelle Sydeman, Assistant Director for Education and Outreach

Date: February 7, 2003