

team also prepared lists of individuals who could serve as a species expert and participate in meetings, or serve as a peer reviewer. Between late March and the end of April 2004, the Task Force held a one- to two-day meeting with each of twelve different taxonomic expert groups; conservation needs of two additional taxonomic groups are being handled separately. Experts identified the most relevant plans, made recommendations on featured species and species assemblages, described key habitats, developed objectives with performance measures, and crafted conservation actions that should be taken to conserve these species or species groups and their habitats. The planning team coordinated a peer review of various products from the experts' meetings and used products from the expert and peer review processes as the basis to refine a draft of the CWCS that team members worked steadily on from June through September. Under contract to ADF&G (grant T-1-6), the Alaska Natural Heritage Program made substantial progress on Objectives 1-4 in preparing detailed information, including on distribution and abundance, threats, level of protection, conservation status, and conservation and management needs, for more than 35 species.

Job/activity b):

Coordinate activities of groups and agencies working to accomplish objectives 1-4 The department coordinated the above activities with numerous universities, groups and agencies. These included the US Fish and Wildlife Service, which provided facilitators for some meetings and also offered travel cost assistance for experts from USFWS that participated. The planning team worked closely with the diverse membership of our species expert groups, and with Chairs of those groups, to resolve issues that arose through the peer review process. In addition, the planning team met periodically with our CWCS planning partners (The Nature Conservancy, Alaska Audubon, and the Alaska Natural Heritage Program) to discuss our approach and evolving products.

- 5 **Job/activity:** With cooperators, review results of objectives 1-4 and determine the best procedures to use to accomplish objective 5. See above; because of the format of our expert meetings and their products, Objective 5 has become linked closely with objectives 1-4 and we will report on all five objectives together in future progress reports.
- 6 **Job/activity:** With cooperators, review results of objectives 1-4 and determine the best procedures to use to accomplish objective 6. Experts who participated in our expert meetings process repeatedly noted how little is known about many Alaska species. The first level of “prioritization” for implementing conservation actions was achieved in the experts’ selecting which species should be featured in this iteration of the Strategy. At the One Year Out meeting in August, we were advised that, given Alaska’s good fortune in having so few threatened and endangered species, we should seek to identify relative rather than absolute priorities for implementing conservation actions and we began drafting CWCS text that would explain this.
- 7 **Job/activity a):** Determine through consultation, surveys, etc. the most effective ways to engage the general public in the process. Staff continued to make general

progress in promoting public involvement in developing Alaska's CWCP. We periodically updated the project website. We also contacted key Alaska Native leaders and organizations by letter and phone requesting participation in a subsistence-focused review of the experts' products, which we termed our concurrent "technical review." Staff also participated in an IAFWA-sponsored list-serve for CWCS coordinators in other states and discussed public involvement activities and methods with others attending IAFWA's "One Year Out" conference. As part of a presentation we made at that conference, we invited other states (especially those with migratory species) to review our draft Strategy once it is available. The project schedule we've developed targets the months of January through early April 2005 as a time for intensive outreach and public involvement/review; at that time we'll be contacting or re-contacting experts, peer reviewers, and numerous potential partners for future CWCS implementation.

Job/activity b); coordinate the public involvement activities. Early in the next reporting period, the department's public involvement experts will prepare and begin implementing a detailed public involvement plan.

- 8 **Job/activity:** Coordinate to the extent feasible with federal, state, and local agencies, Native organizations, and NGOs with an interest in wildlife conservation. See above under Objective #7 regarding involvement of the Native community and organizations, and a coming push to involve a broad segment of the public in reviewing and commenting on the Strategy. Our outreach effort will target such segments of the public as resource development organizations, tourism businesses, NGOs, and the legislature.

Project Costs (includes indirect costs):

Federal share (61%) \$ 61,889 + state share (39%) \$ 39,569 = total cost \$ 101,458

Prepared By: Ellen Fritts, Habitat Biologist IV

Date: December 3, 2004

**FEDERAL AID
FINAL PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: U-1-1

PROJECT NR.: 1

WORK LOCATION: Statewide

PROJECT DURATION: 15 October 2002 – 30 September 2005

PROJECT REPORTING PERIOD: 15 October 2004 – 30 April 2005 (funds exhausted)

PROJECT TITLE: Statewide Comprehensive Wildlife Conservation Plan

Project Objectives: *(as submitted or amended in the Federal Aid Grant Agreement to the Regional Federal Aid Office):*

Initiate development of Alaska's statewide comprehensive wildlife conservation planning effort, which is required to include the following components:

- 1) Identify species with the greatest conservation need.
- 2) Identify the extent and condition of wildlife habitats and community types essential to the conservation of these species.
- 3) Identify the problems that may adversely affect these species and their habitats.
- 4) Identify survey and research projects to delineate factors that may assist in restoration and/or conservation of these species and their habitats.

Job/activity a) With cooperators, determine the best procedures to use to accomplish objectives 1-4

Job/activity b) Coordinate activities of groups and agencies working to accomplish objectives 1-4

- 5) Identify actions that should be taken to conserve these species and their habitats.
- 6) Establish priorities for implementing conservation actions.
Job/activity a) With cooperators, review results of objectives 1-4 and determine the best procedures to use to accomplish objectives 5-6

- 7) Provide for meaningful public involvement in these activities.

Job/activity a) Determine through consultation, surveys, etc. the most effective ways to engage the general public in the process

Job/activity b) Coordinate the public involvement activities

- 8) Coordinate to the extent feasible with federal, state, and local agencies, Native organizations, and nongovernmental organizations with an interest in wildlife conservation.

Summary of Project Accomplishments:

This grant funded Alaska Department of Fish & Game Division of Wildlife Conservation's initial activities as well as a significant portion of continued development of the state's Comprehensive Wildlife Conservation Strategy (CWCS). Additional staff and operations devoted to CWCS development were funded by grant T-1-8 project 1 which continued funding CWCS development when funds from this grant were exhausted.

1– 5) The activities of “determining the best procedures” (**Job/activity a**) and “coordinating activities of groups and agencies working to accomplish [identification of species, habitats, threats, factors, and conservation actions] (**Job/activity b**)” were substantially completed during the preceding reporting period; in effect, staff identified and then conducted the best procedures (expert meetings and peer review) by which Alaska could gather and present these required elements. For Objectives 1-5, work in the current reporting period concentrated on preparing, editing, and providing CWCS text describing our procedures and their results (see below, under Objective #7). Additional information about the CWCS planning effort can be found in the T-1-6, Project 3 interim report.

- 6) Establish priorities for implementing conservation actions: Department leaders continued to support having the CWCS identify relative rather than absolute priorities for implementing conservation actions, and the five-member interdivisional CWCS Task Force began drafting and refining text to present this. Part of the effort involved scouring over 400 pages of conservation action plans (the “templates”) that our species experts had prepared and extracting common themes and multi-species needs/priorities from them.

Meanwhile, efforts were made to begin setting more specific priorities within the Department for implementing SWG-funded conservation actions. Ultimately, senior managers decided to separate the CWCS drafting process from the more immediate need of determining SWG spending priorities for the current and coming fiscal year. U-1-1 staff did not participate in the latter, focusing instead on coordinating efforts of the Task Force and other cooperators to complete the Strategy on time. Efforts to set internal ADF&G SWG funding priorities were conducted under the T-1-8 project's objective #2.

- 7) Provide for meaningful public involvement in these activities: ADF&G public involvement experts worked with the Task Force to prepare a detailed public involvement plan. The Task Force began implementation of this plan while at the same time preparing and refining countless drafts of the CWCS. The team routed drafts to the Oversight Committee in October and December, and to all ADF&G Senior Managers for policy-level review in November and January. ADF&G employees were offered an opportunity to provide comments on the version that was subsequently released for an extensive public and experts' review from February 18 to April 18 2005. The Department announced the public's review opportunity via email or letter to a mailing list of nearly 2,000 organizations and individuals and through a press release, selected newsletters, the state's CWCS website, letters to state/federal agency heads, a national CWCS ListServe, and a notice published in major in-state newspapers. Task Force staff also held two formally noticed public meetings about the CWCS in Anchorage in March 2005; a handful of people attended the government agencies' meeting but no one attended an evening meeting held for the public's benefit.

- 8) **Job/activity:** Coordinate to the extent feasible with federal, state, and local agencies, Native organizations, and NGOs with an interest in wildlife conservation. As shown above, we attempted to involve a broad segment of the public in reviewing and commenting on the Strategy. A wide variety of organizations, including sportsmen's and other conservation groups, state and federal agencies, NGOs, and private citizens provided detailed comments. We developed procedures by which to evaluate and, in the vast majority of cases, incorporate all comments received.

Stewardship Investment Cost: None

Project Costs: Federal share (61%) \$32,288 + state share (39%) \$ 20,643 = total cost \$52,931

Prepared By: Ellen Fritts, Habitat Biologist IV

Date: September 30, 2005

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: T-1-6

PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2002 – 30 September 2005

PROJECT REPORTING PERIOD: 1 July 2003 – 30 June 2004

PROJECT TITLE: Partnerships for Conservation of Nongame Species

Project Objectives:

Objective 1: Partner with Discovery Southeast (selected through a spring 2002 RFP process) for their research on habitat use of amphibians in northern Southeast Alaska. Well-documented worldwide and Pacific Northwest declines in populations of amphibians make them a “species” of greatest conservation need for Alaska Department of Fish and Game (ADF&G).

Objective 2. Award partnership funds to projects that best meet established criteria. Administer contracts.

Objective 3. Incorporate results of research projects on nongame species conducted by contracted partners in development of Alaska’s Comprehensive Wildlife Conservation Strategy (CWCS).

Summary of Project Accomplishments:

1. The Discovery Southeast research project, which focused primarily on amphibian breeding pond habitat, collected occurrence data and anecdotal evidence of population changes to document distribution and begin evaluating population trends. The study documented occurrence of 5 amphibian species in the Juneau area: western toad, rough-skinned newt, and wood, spotted, and tree frog. The last 3 species are represented by localized populations and likely resulted from human introductions. Historical information from one public meeting in Juneau, a feature article in “Discoveries – New and Views from Discovery Southeast,” and several news articles have generated data that has been compiled into an Atlas of 250 observations throughout Southeast Alaska. These will supplement the recent U.S. Fish and Wildlife Service Atlas, which was based on verified specimens and museum collections. An electronic copy of this report will be sent on CD under separate cover.
2. Additional work was completed toward a streamlined project selection and partner contracting process in 2003. Consequently, a second contract under this grant, focusing on high priority bird species of Alaska’s Interior, was developed with the Alaska Bird

Observatory (ABO). The ABO contract continues a long-standing (13-year) spring and fall migration monitoring station at Creamer's Field Migratory Waterfowl Refuge in Fairbanks. During both fall and spring capture sessions high water levels and heavy rains and fewer volunteers resulted in fewer net hours (9,340 hours in fall, 5,022 hours in spring) and fewer overall captures (1,827 in fall, 197 in spring) than the long-term average. Capture rates for many species were markedly lower as well. Statistical analyses have yet to be done to assess trends or significance of capture rate data. Copies of the ABO fall 2003 and spring 2004 reports are available from ADF&G on request.

A third contract, focusing on the development of a nongame species database for Alaska, was developed with the Alaska Natural Heritage Program (ANHP). The ANHP is gathering information on distribution, abundance, habitat use, threats, and conservation needs (both management and research) for approximately 40 species and using the information and specific criteria to produce an up-to-date state ranking on abundance and vulnerability of each species. Draft products were received from this grant at end of August 2004 and will be described during the next reporting period.

A second round of partner project identification and call for proposals was initiated in December 2003. Projects were evaluated by both internal and external reviewers for appropriateness, merit, and potential for significant contribution to the Alaska Department of Fish and Game's Comprehensive Wildlife Conservation Strategy. Over 135 ideas were submitted requesting nearly \$12 million over a three-year period. Of these, 14 were selected for funding. A description of each of the new projects follows. Because the administrative agreements and contracts were completed after June 30, 2004 for most of these projects, invoices for project work for all but one of these projects have not yet been submitted and paid. The exception is project 13 "Cooperative Acoustic Monitoring of the Pacific Right Whale" which is the only one to report accomplishments for the period.

Project 1. GIS Mapping of Terrestrial Ecosystems in Southeast Alaska

Historically, the most detailed information on terrestrial ecosystems in southeast Alaska has been collected for the purpose of timber inventory and planning. The structure and composition of non-forest ecosystem types have been largely unavailable. An ecological classification provides a framework to synthesize complex patterns in biological communities based on the underlying processes of climate, geomorphology, geology, and hydrology. This project will result in a region-wide inventory and GAP analysis of terrestrial communities in southeast Alaska.

Project 2. Developing an International All-bird Conservation Plan for the Northwestern Interior Forest Bird Conservation Region

Regional conservation planning has become an instrumental component in prioritizing the inventory, monitoring, research, habitat restoration, and conservation needs for North America's diverse avifauna. Such planning is essential to help determine where limited resources should be directed to meet the most pressing regional conservation needs for birds. To date, plans have been developed for many Bird Conservation Regions in North America by the various Bird Initiatives (e.g., Partners in Flight, Shorebirds, Waterbirds, and Waterfowl). However, no conservation plan has been developed by any of the bird initiatives for the entire Northwestern Interior Forest Bird Conservation Region (BCR 4). As such, the conservation status of almost all

of the avian taxa in BCR 4 has not been assessed. For this reason the development of such a plan was identified as a high priority at the continental scale in the Partners in Flight North American Landbird Conservation Plan. This information will provide significant input to Alaska's planning process and development of the CWCS.

Project 3. Breeding Ecology and Habitat Quality for the Arctic Warbler in Interior Alaska

The Arctic Warbler (*Phylloscopus borealis kennicotti*) is a Palearctic migratory songbird that breeds in western and central Alaska, and winters throughout Southeast Asia and the Philippines. This subspecies is endemic to Alaska and the species does not breed anywhere else in North America. To effectively conserve and protect this species, information on its natural history and basic ecology is needed. To date, what little is known of Arctic Warblers has come mainly from the study of Eurasian populations breeding in the Old World. In North America, little is known about most aspects of this species' breeding biology, habitat requirements, geographic distribution, and population size and trend. Information gathered from this project will help to ensure that this species is better managed to prevent it being included as a federally listed species in the future.

Project 4. Distribution and Habitat Ecology of Bats in Southeast Alaska, with Emphasis on Keen's Long-eared Myotis

Information on geographic range, population abundance and trend, and important habitat is needed to develop a conservation strategy. Such information is extremely limited or currently not available for bats in Southeast Alaska. This project will expand current knowledge and better document species composition and distribution, habitat ecology, behavior, and natural history of bats in Southeast Alaska. Intensive survey efforts will be focused on Prince of Wales Island and Chichagof Island in areas where bats, especially Keen's long-eared bat (*Myotis keenii*), have been previously documented. Systematic sampling of different regions of Southeast Alaska across a broad range of habitats will document the distribution of bat species in the region, and provide an assessment of their habitat associations. This information will establish a foundation for the development of monitoring protocols, and will be particularly useful in identifying key areas for conservation efforts for the species and potential ramifications of different land management practices. In addition, this work will provide a useful foundation for development of future survey efforts for bats and development of a science-based conservation plan for bats in Alaska.

Project 5. Acoustic monitoring of Southeast Alaska Bats

Southeast Alaska is considered the northern extent of the range of several bat species (*Myotis lucifugus*, *M. keenii*, *M. californicus*, *M. volans*, *Eptesicus fuscus*, *Lasionycteris noctivagans*). The true distribution of these species is poorly known, and little information regarding population trends or annual variations in activity exists. Developing a plan for species conservation first requires the documentation of the present distribution of the species and the relationship between the species and its habitat. Previous studies have been limited by brief observation periods and sensor limitations. This project will test a new sensor and data analysis methodology to alleviate the problems previously experienced and allow specific documentation of the current status of bats in Southeast Alaska.

Project 6. Distribution, Abundance and Ecology of Forest Owls in Southeast Alaska

Little is known about the distribution and abundance of nocturnal owls continent-wide, and most owl populations are not adequately monitored. In the United States, owl research and monitoring has focused on a few species of conservation concern (e.g., Northern Spotted Owl). Recently, biologists in Canada and Montana developed guidelines for monitoring nocturnal owl species in North America by standardizing survey efforts across the region. These guidelines were implemented in Canada in 2000, and the volunteer-based program has been extremely successful. Boreal Partners in Flight ranked forest owls as the highest priority raptor species group for conservation effort. This study will evaluate survey methods typically used to estimate owl abundance to ensure that surveys are producing biologically meaningful results. It will develop a survey protocol appropriate for Southeast Alaska to meet regional objectives and to contribute to ongoing continent-wide efforts for monitoring nocturnal owls. Distribution and abundance of forest owls in Southeast Alaska subsequently can be documented.

Project 7. Current Population and Decadal Trends of Kittlitz's and Marbled Murrelets in Kachemak Bay, Alaska

Kittlitz's murrelet (*Brachyramphus brevirostris*) is one of the rarest seabirds in North America, and 95% of the world population breeds in Alaska. Recent surveys indicate severe population declines over the last 20 years of 75–90% in Prince William Sound, Kenai Fjords, Yakutat/Malaspina, and Glacier Bay. In 2004, this bird was declared a candidate species under the Endangered Species Act. Similar, though less dramatic, declines have occurred for marbled murrelets (*B. marmoratus*), which is listed as threatened south of Alaska. The Kachemak Bay population of Kittlitz's murrelet is probably the most accessible in the world, yet current knowledge of the abundance or trends of this species is less known at this bay than at more remote sites. If Kittlitz's have declined in Kachemak Bay, as they have in other areas, the bay's location would be the most convenient for future research into causal factors, or to refine monitoring methods. Alternatively, it is possible that this population has not declined. Several species of seabirds in Kachemak Bay have fared better than in other areas, and if Kittlitz's are also doing well in this bay, this population could serve as a contrast to declining populations. For marbled murrelets, there is the unique opportunity to track population size and indices of productivity following large-scale loss of breeding habitat due to spruce bark beetle infestation. This project will obtain population estimates for Kittlitz's and marbled murrelets in Kachemak Bay. Using that information, the FWS will determine decadal trends, track annual and seasonal patterns of abundance, and identify critical habitat for both species within this area.

Project 8. Decadal Trends, Population Size, and Seasonal Distribution of Marbled Murrelets in Southeast Alaska

The Marbled murrelet is a diving seabird that occurs in coastal waters from northern California to Alaska, with small populations in the northwestern Pacific. An estimated 85 % of the world population is in Alaska, where the USFWS considers it a species of management concern. In British Columbia, California, Oregon, and Washington it is listed under Canadian and U.S. Endangered Species Acts. In Alaska, declines of 60 – 75 % have been documented in Prince William Sound and Glacier Bay. An exception has been the Kenai Fjords, where the species may have rebounded since 1990, following a decline between 1976 and 1989. Southeast Alaska has the highest density of marbled murrelets on the water, and the region supports approximately 60-70 % of the world population. Southeast is thus both the geographic center of this species range

as well as its center of abundance. With the exception of work in Glacier Bay, there has been no comprehensive survey of Southeast Alaska since 1994. Because other populations have shown declines, it is important to document the trends occurring in Southeast. The proposed project will determine a population estimate and decadal trends in marbled murrelets in Southeast Alaska; identify critical habitats; develop protocols, methodologies and study designs for long-term monitoring of murrelets in Southeast Alaska; and monitor seasonal trends in murrelets in select sites in Southeast Alaska.

Project 9. Factors Affecting the Past, Current, and Future Production and Distribution of Trumpeter Swans in Alaska

The Alaska population of trumpeter swans represents about 70% of their continental population. Preliminary analysis of long-term aerial survey data indicate trumpeter swans are expanding their range and increasing in abundance in Alaska. However, habitat needs for this species have not been described in detail. Analysis of past survey data and intensive studies of populations of trumpeter swans in areas with development activities will provide critical information on the species' range, habitat needs, population trends, and changes in population dynamics of the species. This information can be used to develop conservation objectives and actions for ADF&G's CWCS.

Project 10. Evaluating the Effects of Forest Management on Bird and Vegetation Communities.

Little information is available on the effects of timber harvest or subsequent management of harvested stands on bird communities in Southeast Alaska. Only two studies in the region have published results on the topic; both were conducted on Prince of Wales Island (Kessler and Kogut 1988, DellaSala et al. 1994, 1996). These studies found that bird communities shifted from primarily tree-nesting birds in old-growth forests to primarily shrub- and ground-nesting birds in young-growth stands of different ages and post-harvest prescriptions. Thus management strategies that hasten the recruitment of old-growth bird communities to harvested stands are highly desirable for the conservation of bird communities in the region. DellaSala et al. (1996) found that thinning and gapping of the canopy in young growth did not help enhance the recruitment of old-growth bird or vegetation communities in the short-term (< 5 years following treatment). However, studies in Oregon (Muir et al. 2002) showed that over longer periods of time following treatment (10-20 years) bird and vegetation communities in thinned stands began to more closely resemble those in old-growth. Therefore, the replication of the DellaSala study would be valuable to evaluate the longer-term benefits of second-growth management to birds in Southeast Alaska, and develop effective conservation strategies.

Project 11. Distribution and Phylogeography of Collared Pika and Alaskan Marmot in Alaska

Knowledge of where a species naturally occurs is the foundation of that species' management and conservation. Neither pikas nor marmots are easily collected using standard methods for small mammal surveys (e.g., snap traps, pitfalls). As a result, and despite an increase in inventory work on small mammals in Alaska in the past decade, our knowledge of the distribution and habitat requirements of these two species has not grown. Research on small mammals in the lower 48 is demonstrating both latitudinal and elevational range shifts in North American mammals over the past century (P. Myers, U. Michigan, pers. comm.; J. Patton, U.C. Berkeley, pers. comm.). In Alaska, particularly in the Interior and Brooks Range, we lack the

baseline data necessary to test this for most species. This information can be used to develop conservation objectives and actions for ADF&G's CWCS.

Project 12. Important Bird Areas of Alaska

Although there is much information on Alaska's birdlife, there is no site-based inventory that integrates information on all birds and their habitats, across all types of landownership and status. Important Bird Areas (IBAs) are sites that are essential for breeding, resting, or feeding birds at any time of the year and during any phase of their annual cycles or life histories. Their identification is based on objective criteria emphasizing sites of global or continental significance used by threatened or endangered species, endemic or range-restricted species, species of special concern, and concentrations of breeding, migrating, molting, or wintering birds. In the US, the National Audubon Society has taken the lead in identifying IBAs on a state-by-state basis, and there are IBA projects completed or underway in about 40 states. Since 2000, Audubon has undertaken two regional IBA projects in Alaska, including the identification of 92 IBAs in the Bering Sea region and 23 in the Cook Inlet watershed. Important Bird Area designation is a way to highlight a site's significance to birds and is a valuable management tool for setting site-based conservation priorities, monitoring birds and their habitats, and fostering cooperative relationships among stakeholders to enhance bird conservation. This program is an effective means of integrating information on all birds and their habitats into a single inventory and database system. Screening candidate IBAs reveals gaps in knowledge about the distribution and abundance of birds across a state, and periodic review of the status of IBAs and the birds that use them provides a framework for monitoring changing habitat conditions and bird populations over time.

Project 13. Cooperative Acoustic Monitoring of Pacific Right Whales

Information on geographic range, population abundance and trend, and important habitats is needed to develop a conservation strategy. Such information is extremely limited or currently not available for the critically endangered North Pacific Right Whale. The objective of this project is to acquire that information. Specifically, we will increase the spatial extent of an acoustic monitoring program that will result in more of this important information from across the right whale's historic summer range than would be possible using visual ship-based and aerial surveys. Further, data we collect can be subsequently combined with biological and physical oceanography databases to construct right whale habitat models. The monitoring program will also provide similar demographic information on other endangered large cetaceans, including humpback and fin whales. Information on these other whale species will further increase our understanding of their distribution and abundance, and can also be used to develop habitat models. Thus, this acoustic monitoring project and subsequent analysis holds promise to gain a greater understanding of how large whales utilize the marine ecosystem, and will increase our ability to develop effective conservation strategies. Accomplishments within the report period were the construction and deployment of two acoustic recording packages in the Bering Sea.

Project 14. Distribution and Seasonal Habitat Use of American Dippers in the Juneau Area

The American Dipper (*Cinclus mexicanus*) is one of only five species in the family Cinclidae, all of which are dependent on clear, fast, relatively productive streams. American Dippers have been studied in several regions far south of Alaska. However, none of these studies has quantified the relationship between local distribution and stream characteristics. Dippers are excellent indicator

species for stream conditions. However, dipper populations are not adequately monitored by standard terrestrial bird census techniques, including Breeding Bird Survey routes, Christmas Bird counts, and MAPS programs because of their specialized habitat use. Therefore, specific focus on dippers and their habitats is required to assess their population. Good baseline information is essential for the future detection and evaluation of possible declines. This project will determine distribution of American dippers in the Juneau area with respect to watershed and stream characteristics in nesting and wintering seasons, and evaluate the limits to local dipper population size.

3. Amphibian surveys funded in partnership with Discovery Southeast provided needed information on the distribution and abundance for the state's Comprehensive Wildlife Conservation Strategy. Further, the project documented threats and greatly improved our understanding of amphibian habitat selection and use in Alaska. This information was available at the First Statewide Conference on Alaska's Amphibians, and used by groups of species experts who developed conservation objectives and strategies for Alaska's CWCS.

Information from the ANHP partnership was available in draft form for use by various groups of species experts who developed conservation objectives and strategies for Alaska's CWCS. Likewise, the long-term information collected by the ABO partnership is expected to inform CWCS planning for migrating passerines.

Project Costs (includes indirect costs):

Federal share \$ 100,170 + state share \$ 0.00 + third party in-kind match \$ 33,390 = total cost \$ 133,560.

Prepared By: Mary L. Rabe, Nongame Program Coordinator

Date: September 27, 2004

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: T-1-6

PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2002 – 30 September 2008

PROJECT REPORTING PERIOD: 1 July 2004 – 30 June 2005

PROJECT TITLE: Partnerships for Conservation of Nongame Species

Project Objectives

Objective 1. Partner with Discovery Southeast (selected through a spring 2002 RFP process) for their research on habitat use of amphibians in northern Southeast Alaska. Well-documented worldwide and Pacific Northwest declines in populations of amphibians make them a “species” of greatest conservation need for Alaska Department of Fish and Game (ADF&G).

Objective 2. Award partnership funds to projects that best meet established criteria. Administer contracts.

Objective 3. Incorporate results of research projects on nongame species conducted by contracted partners in development of Alaska’s Comprehensive Wildlife Conservation Strategy (CWCS).

Summary of Project Accomplishments:

Objective 1 was completed during the last report period.

Objective 2. A third round of partner projects was initiated in October 2004. Ideas from this round were combined with previous unfunded submissions to the Alaska Department of Fish and Game’s (ADF&G) Partner Program so that over 200 ideas requesting more than \$20 million over a four-year period were reviewed. Projects were again evaluated by both internal and external reviewers for appropriateness, merit, level of partnering and match, and potential for significant contribution to the Alaska Department of Fish and Game’s Comprehensive Wildlife Conservation Strategy. Detailed instructions for submitting proposals and match guidelines were developed, as well as standardized evaluation worksheets for reviewers. Funded projects are described in our new federal grant agreement, T-1-16.

We continue to administer and monitor progress of the 16 projects covered by this grant agreement. Their annual performance reports are included as attachments to this report.

T-1-6 Partnerships for nongame conservation
Interim performance report

Objective 3. The information generated from these projects contributes directly to the development and updating of Alaska's CWCS, and will help to set future funding priorities.

Project Costs (includes indirect costs)

Stewardship Investment items: None

Total costs: Federal share \$ 411,441 + state share \$ 0.00
+ 3rd party in-kind match \$ 137,147 = total cost \$548,588.

Prepared By: Mary L. Rabe, Nongame Program Coordinator

Date: September 13, 2005

for face to face work sessions and information exchanges that link work efforts with ongoing planning processes.

- c. Communicate with and solicit input from a geographically, culturally, and socially diverse cross section of Alaskans and visitors to Alaska regarding planning for the conservation of Alaska's biodiversity. Use a variety of tools and forums to attract and encourage thoughtful participation. These may include popular lectures on research findings or problems, workshops on biodiversity, field trips to critical habitats, staffed or unstaffed informational exhibits at venues where diverse or targeted concentrations of people occur (conferences, fairs, etc.), species-specific workshops, and/or newsletters (electronic or print). At these venues have appropriate feedback/input mechanisms (surveys, recordings, comment forms) available and strongly encourage responses.
- d. Gather information about and develop monitoring strategies for addressing problems (pre-existing, emergencies such as spills, or planned such as developments) that may adversely affect species of greatest conservation concern, either directly or through habitat changes. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

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

The initial period of this 2-year project has been devoted to building staff and programs to work to conserve Alaska's biodiversity. Hiring schedules have varied and in some cases been delayed with the result that some aspects of the project have progressed quicker than others. During the second year of this project, we anticipate even greater emphasis on collecting biological information for the plan, after all staff members are in place.

1. Information on research activities was gathered from partners in a variety of ways.
 - a. Literature reviews were initiated for species of greatest conservation need (SGCN) that are expected to be targets for the Comprehensive Wildlife Conservation Plan (CWCP). The Nongame Program will be working cooperatively via a contract with the Alaska Natural Heritage Program to complete this over the next year. Literature reviews were completed for inventory and research projects on high priority species listed in Objectives 3 and 4 below.
 - b. Presentations about the NGP and CWCP were made at many meetings (see Attachment 1), and information about ongoing research was gathered in that context. Additional meetings were held with staff from 3 of our 4 regions (Region I, III, and V), and one statewide program (Marine Mammals) to identify their interests and needs relative to nongame wildlife. Additional information on Alaska activities for SGCN was shared at informal partner meetings for the CWCP (see Objective 6, especially Job b).
2. ADF&G has actively participated in partnerships and related activities (see Attachment 1). Mary Rabe currently serves on the executive committee of the Alaska Shorebird Working Group. A number of ADF&G staff attended meetings of the Alaska Shorebird Working Group, Boreal Partner's in Flight, and U.S. Forest Service Regional meeting. Mary Rabe initiated several discussions with U.S. Forest Service staff about cooperative efforts to survey for bats in southeast Alaska. Jack Whitman networked extensively with Dr. Gordon Jerrell,

UAF Museum; and Dr. Joe Cook and Dr. Stephen McDonald, University of New Mexico; to develop projects for small mammals in interior Alaska. Several ADF&G staff participated in discussions with the U.S. Forest Service and American Bird Conservancy to organize surveys for the Black Swift in southeast Alaska in 2003. Several ADF&G staff worked cooperatively with Rick Lanctot, Alaska Shorebird Coordinator for U.S. Fish and Wildlife Service, to develop a proposal (Regional Assessment of Migration Stopover Sites for Shorebirds in Southcentral and Southeastern Alaska) to the Alaska's Coastal Conservation Grant Program.

3. The following inventory, survey, and monitoring projects have been initiated:
 - a. Wood frog (*Rana sylvatica*) baseline investigations in Interior Alaska
 - b. Verifying status of the Eskimo Curlew (*Numenius borealis*) in Alaska
 - c. Nesting inventory of selected raptors in Interior Alaska
 - d. Distribution, densities, and nesting success of raptors in NW Alaska
 - e. Heavy metal concentrations of small mammals living proximate to the Red Dog mine in NW Alaska
 - f. Identifying and monitoring diseases and parasites of nongame species in Interior Alaska.
 - i. West Nile virus screening
 - ii. Chytrid evaluations of wood frogs
 - iii. Ectoparasites (mites, fleas, ticks) of small mammals
 - iv. Hanta virus screening
4. The following directed studies have been initiated:
 - a. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska
 - b. Ecology of boreal owls (*Aegolius funereus*) in relation to habitat alteration
 - i. Establish nest boxes along accessible transects to evaluate feasibility of spring listening surveys for determining owl nesting abundance
 - ii. Annually determine nesting densities of owls in relation to food diversity and abundance
 - iii. Assess annual productivity of nesting boreal owls throughout an array of habitat types
 - c. Multi-species predator/prey relationships among golden eagles, Dall sheep lambs, and snowshoe hares (effects of varying levels of hare densities on lamb predation)
 - d. Tundra hare densities and fluctuations in western and northwestern Alaska
5. No activity has been directed toward this Objective.
6. A number of department efforts are underway in support of developing Alaska's Comprehensive Wildlife Conservation Plan (CWCP). Within ADF&G, three divisions which received State Wildlife Grant funding participated in the process initially: the Division of Wildlife Conservation, Division of Sport Fish and the Division of Habitat and Restoration. A Charter was developed to outline the expectations and responsibilities for all divisions, in addition to describing the role of Directors and the Commissioner. An Oversight Committee with three members was designated, and charged with the responsibility for policy and guidance relative to development of the plan and the planning process, as well as identifying needed resources and adequate staff. Doug Larsen, Assistant Director, represents the

Division of Wildlife Conservation on this committee. A Task Force of four members has been designated, and charged with the responsibility for developing the CWCP for the State of Alaska. Mary Rabe, Nongame Program Coordinator, represents the Division of Wildlife conservation on this team. Task Force members have been involved in several activities developed specifically to assist states with their Plans. Three of the four Task Force members, including Mary Rabe, attended the Comprehensive Wildlife Conservation Plan Workshop for the Northwest sponsored by the U.S. Fish and Wildlife Service, along with several other potential partners from the State of Alaska. Mary also attended the winter meeting of IAFWA's Wildlife Diversity Program Managers along with a Task Force member from the Division of Sport Fish. (Note: as of May 1, 2003, the Division of Habitat and Restoration was dissolved; committee assignments and Charter were adjusted accordingly.)

- a. A continuously monitored and up-to-date process and timeline for developing the CWCP is available at <http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm> Although the short time frame for completing this plan requires concurrent activities, the process chart attempts to identify major developmental steps and input phases for four key groups: the Oversight Committee, the Task Force, partners, and the broader public. Key products, tasks, and responsibilities are drafted on a quarterly basis by the Task Force.
- b. Task Force members made initial contacts with a number of possible partners to discuss their conservation planning efforts, the potential for sharing data, and ways that we might work together. These include the Alaska Natural Heritage Program, Bureau of Land Management, The Nature Conservancy of Alaska, U.S. Fish and Wildlife Service Ecological Services Unit, U.S. Fish and Wildlife Service National Wildlife Refuge System, Audubon Alaska, U.S. Geological Services, and National Park Service. The Task Force is working closely with a subset of this group who are independently interested and moving forward with statewide conservation planning efforts for their organizations. Additional potential partners will be contacted over the next few months. The Task Force also worked with others to develop viable strategies for approaching Native Corporations and rural communities. It is our intent to provide all partners, in addition to ADF&G staff and members of the public, multiple review opportunities including our target species criteria, a preliminary list of target species, and conservation goals and strategies for the CWCP.
- c. Participation in the CWCP planning effort to date has been accomplished through informal meetings with potential partners, and development of a web link that includes options for sending feedback to the Task Force. In addition, the Division initiated a substantial effort to better inform the public about nongame species, Alaskan ecosystems, and issues pertaining to the conservation of Alaska's biodiversity to help them participate more meaningfully in the development of the CWCP. This effort has included publication of news articles, radio reports, lectures, field trips, and a variety of other informational tools. We are hopeful this effort will generate greater interest and participation in the CWCP planning process. In-reach efforts include a letter from the directors to their respective division staff emphasizing the importance of the CWCP to the department and the importance of staff involvement; regular updates to Division of Wildlife Conservation staff have been made through monthly activity reports.

d. No activity has been directed toward this Job.

Project Costs: Federal share \$ 626,459 + State share \$208,820 = Total cost \$ 835,279

Prepared By: Michelle Sydeman, Assistant Director; and Doug Larsen, Assistant Director

Date: September 18, 2003

ATTACHMENT 1

**Meeting Summary
For
Division of Wildlife Conservation's Nongame Program
July 1, 2002 – June 30 2003**

U.S. Fish and Wildlife Service Ecological Services

22 August 2002

Met with various staff (including Steve Brockman, Deb Rudis, Michelle Kissling, and Kim Hastings) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

U.S. Forest Service

22 August 2002

Met with various staff (including Wini Kessler, Ellen Campbell, and Ron Dunlap) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

ADF&G Region II

26 August 2002

Introduced new Nongame Program Coordinator to Regional Supervisor and available staff (Jeff Hughes, Colleen Matt, Joe Meehan, Mike McDonald, Rick Sinnott, and Jessie Coltrane); talked about early attempts to establish a Nongame Program for the division; discussed hiring and program activities for the upcoming year, and conservation needs of nongame in southcentral AK.

Elmendorf AFB: Herman Griese

26 August 2002

Discussed natural resources issues for the Base, establishment of a Nongame Program for DWC, and conservation needs of nongame in southcentral AK.

U.S. Fish and Wildlife Service Federal Aid

26 August 2002

Introductions to staff (Al Havens, Doug Alcorn) and brief discussion about State Wildlife Grant Program, Landowner Incentive Program, and Nongame Program development.

U.S. Fish and Wildlife Service Ecological Services

26 August 2002

Met with Sue Detwiler, Endangered Species Coordinator; discussed Section 6, ESA, State Cooperative Agreement, and Nongame Program development.

Audubon Alaska

27 August 2002

Met with Stan Senner, executive director, to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

U.S. Fish and Wildlife Service Ecological Services

27 August 2002

Met with various staff (including Tamara Mills, Steve Matsuoka, Bob Leedy, Anne Rappoport, and Rick Lanctot) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

U.S. Geological Survey

27 August 2002

Met with various staff (including Bob Gill, Colleen Handel, Dirk Derksen, Scott Hatch, Joel Schmutz, and Joy Geiselman) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

Alaska Natural Heritage Program

28 August 2002

Met with various staff (including Keith Boggs, Director, Julie Michaelson, Gerry Tande, and Rob Lipkin) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

U.S. Forest Service

28 August 2002

Met with various staff (including Jerry Mastel, Aaron Poe, and Michael Goldstein) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

The Nature Conservancy of Alaska

28 August 2002

Met with various staff (including David Banks, State Director, Amalie Couvillion, and Sandra Day) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

ADF&G Region III

29 August 2002

Introduced new Nongame Program Coordinator to Regional Supervisor and available staff (including David James, Pat Valkenburg, Roy Nowlin, John Wright, Doreen Parker, Lori Quakenbush, Dale Haggstrom, Jim Marcotte, Margo Matthews, Harry Reynolds, Gay Sheffield); talked about development of a Nongame Program for the division, hiring needs, and program activities for the upcoming year.

Alaska Bird Observatory

29 August 2002

Met with Nancy DeWitt, Executive Director, to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

U.S. Fish and Wildlife Service Ecological Services

29 August 2002

Met with various staff (including Ted Swem and David Payer) to talk about their projects and programs, Nongame Program development and possible partnering opportunities.

National Park Service

30 August 2002

Met with Carol MacIntyre to talk about ongoing work at Denali NP, NPS monitoring programs, Nongame Program development and possible partnering opportunities.

Alaska Cooperative Fish and Wildlife Research Unit

30 August 2002

Met with Dr. Abby Powell to discuss her research interests, ongoing projects, Nongame Program development and possible partnering opportunities.

University of Fairbanks, Museum

30 August 2002

Met with Dr. Kevin Winker to discuss his research interests, ongoing ornithological projects at the Museum, Nongame Program development and possible partnering opportunities.

ADF&G Region II

2 December 2002

A PowerPoint introduction to the Nongame Program was given by Doug Larsen.

ADF&G Region III

9 – 11 December 2002

Attended annual meeting to meet regional staff and learn about their programs; gave PowerPoint introduction to Nongame Program; discussed conservation needs of wildlife in north and northwest AK and potential projects for SWG funding.

U.S. Geological Survey: Refining the Alaska Off-road Point Count Program

13 December 2002

Gave PowerPoint introduction to Nongame Program and ADF&G manager's perspective on monitoring.

U.S. Fish and Wildlife Service Ecological Services

13 December 2002

Met with Kent Wohl, Regional Nongame Migratory Bird Coordinator, to talk about his program interests, Nongame Program development and possible partnering opportunities.

Private Consultant: Dr. Mary Willson

17 December 2002

Talked about ongoing nongame research in SEAK; discussed conservation needs of wildlife in the Southeast and potential projects for SWG funding including joint student projects with UA where Dr. Willson holds an adjunct professorship.

ADF&G Region V

13 – 16 January 2003

Attended annual meeting to meet regional staff and learn about their programs; gave PowerPoint introduction to Nongame Program; discussed conservation needs of wildlife in north and northwest AK and potential projects for SWG funding.

ADF&G Region I

21 – 23 January 2003

Attended researcher's meeting to discuss conservation needs of wildlife in SEAK and potential projects for SWG funding; attended annual meeting to meet regional staff and learn about their programs; gave PowerPoint introduction to Nongame Program.

Wildlife Diversity Program Managers

28 January – 2 February 2003

Attended winter meeting, which provided an excellent opportunity for interaction with program coordinators from other states, and to join discussions about a process and strategy for developing our statewide comprehensive wildlife conservation plan.

U. S. Forest Service

5 February 2003

Attended joint meeting of RHWTR and WFEW for district showcase presentations and break-out sessions; gave PowerPoint introduction to Nongame Program.

ADF&G Marine Mammal Staff

27 February 2003

Attended annual staff meeting; gave PowerPoint introduction to Nongame Program; discussed conservation needs of marine mammals and potential projects for funding.

Alaska Cooperative Fish and Wildlife Research Unit

5 March 2003

Attended annual research meeting to meet staff and students and learn about ongoing projects; gave input on research interests of NGP; described funding and matching requirements for NGP; involved with informal discussions about NGP. (Attended by Mary Rabe and Jack Whitman.)

The Wildlife Society, Alaska Chapter

9-10 April 2003

Attended annual meeting to learn about wildlife research and management activities in state.

U.S. Fish and Wildlife Service Ecological Services

1 May 2003

Attended Service's Candidate Species Workshop to help identify species of greatest conservation need in the state; also met with program staff to talk about a Section 6 project selection process. (Attended by Mary Rabe, Jack Whitman, and John Wright.)

Federal Aid

27 May 2003

Attended meeting with ADF&G and Federal Aid staff to learn about new federal programs, recent program changes, coordinating grant administration, and upcoming FA audit.

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: T-1-8

PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2002 – 30 September 2005

PROJECT REPORTING PERIOD: 1 July 2003 – 30 June 2004

PROJECT TITLE: Conserving Alaska's Biodiversity

Project Objectives:

1. Establish what research is/has been conducted or is planned for.
 - a. Conduct literature searches.
 - b. Hold/attend internal and/or interagency workgroup meetings as appropriate.
2. Participate in partnerships.
 - a. Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame birds and other nongame species, and coordinate participation by ADF&G staff in those partnerships.
3. Coordinate and participate in monitoring, survey and inventory programs.
4. Coordinate and participate in directed studies on high priority species.
5. Research and plan conservation actions proposed to conserve identified species and habitats.
6. Gather staff, public, and agency/organization information and input, and develop strategies for drafting Alaska's Comprehensive Wildlife Conservation Strategy (CWCS).
 - a. Develop a timeline, strategies, measurable objectives, and key responsibilities relating to the jobs in this project for the coming year. Monitor progress throughout the year and update as required.
 - b. Coordinate and communicate with representatives from Federal, State, local agencies, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats regarding management and research priorities, plans, progress, and findings. Provide opportunities for face to face work sessions and information exchanges that link work efforts with ongoing planning processes.
 - c. Communicate with and solicit input from a geographically, culturally, and socially diverse cross section of Alaskans regarding planning for the conservation of Alaska's biodiversity. Use a variety of tools and forums to attract and encourage thoughtful participation. These may include popular lectures on research findings or problems,

workshops on biodiversity, field trips to critical habitats, staffed or unstaffed informational exhibits at venues where diverse or targeted concentrations of people occur (conferences, fairs, etc.), species-specific workshops, and/or newsletters (electronic or print). At these venues have appropriate feedback/input mechanisms (surveys, recordings, comment forms) available and strongly encourage responses.

- d. Gather information about and develop monitoring strategies for addressing problems (pre-existing, emergencies such as spills, or planned such as developments) that may adversely affect species of greatest conservation concern, either directly or through habitat changes. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

7. Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in this comprehensive planning effort.

- a. Develop publications, news articles, presentations, web pages, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and other conservation challenges.

8. Oversee and administer the establishment of a nongame program and associated education and outreach efforts, and the development of a Comprehensive Wildlife Conservation Strategy (CWCS), including participating in national and regional conservation strategy coordination efforts.

Summary of Project Accomplishments:

1. Information on research activities was gathered from partners in a variety of ways. See 12 project reports in Appendix for details. Regional nongame staff interacts regularly with other agency biologists at both formal and informal meetings to discuss research needs and objectives.

2. ADF&G actively participated in partnerships in a variety of ways. See 12 project reports in Appendix for details. In addition, Mary Rabe currently serves on the executive committee of the Alaska Shorebird Working Group. A number of ADF&G staff attended meetings of the Raptor Research Foundation, Alaska Shorebird Working Group, the First Statewide Conference on Alaska's Amphibians, Alaska Bird Conference, and Boreal Partner's in Flight. Nongame Program staff were active in planning and organizing several of these meetings. Jack Whitman represented the Nongame Program at the annual meeting of the Alaska Cooperative Fish and Wildlife Research Unit, University of Alaska, Fairbanks. Mary Rabe discussed multi-state issues, concerns, and partnerships at the Wildlife Diversity Program managers meetings in August 2003 and January 2004. Nongame Program staff, as well as other staff biologists, worked cooperatively to establish a Partner Program, which resulted in the selection and funding of 15 projects associated with universities, conservation organizations, and other agencies.

3. The following inventory, survey, and monitoring projects have been initiated. See reports in the accompanying Appendix. Project a is completed; projects b through f have additional years of work before completion.

- a. Verifying status of the Eskimo Curlew (*Numenius borealis*) in Alaska
- b. Nesting inventory of selected raptors in Interior Alaska
- c. Distribution, densities, and nesting success of raptors in Northwest Alaska
- d. Monitoring Marbled Murrelet (*Brachyramphus marmoratus*) populations in northern Southeast Alaska
- e. An integrated regional ecological assessment of the Black Oystercatcher (*Haematopus bachmani*) in Alaska
- f. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)
- g. Worked with Cornell Lab of Ornithology, Audubon Alaska and others to increase awareness of and data entry into eBird, including wide distribution of publications promoting, 3 workshops, and community outreach. Facilitated salvaged rare bird specimens being deposited with the University of Alaska Ornithology collection.

4. The following directed studies have been initiated. See reports in the accompanying Appendix. Project a is completed; projects b through f have additional years of work before completion.

- a. Tundra hare (*Lepus othus*) densities and fluctuations in western and northwestern Alaska
- b. Wood Frog (*Rana sylvatica*) baseline investigations in Interior Alaska
- c. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska
- d. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska
- e. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine in northwest Alaska
- f. Multi-species predator/prey relationships among golden eagles, Dall sheep lambs, and snowshoe hares (effects of varying levels of hare densities on lamb predation)

5. Participated in planning and developing strategies to minimize impacts of domestic dogs on wildlife, with special consideration to wetlands areas and migrating shorebirds. Provided expertise on nongame species and their habitat for project and permit reviews.

6. A number of department efforts are underway in support of Alaska's CWCS. The department continues to support a five member interdivisional CWCS Task Force charged with primary responsibility for completing the Strategy with assistance from a two member Oversight Committee. Members of both groups provide regular updates to directors, commissioners, and ADF&G staff. One member of the Task Force attended the August 2003 meeting of IAFWA's Wildlife Diversity Program Managers, and two members attended the group's January 2004 meeting where the CWCS was discussed extensively. Agency staff helped develop a list of species experts that provided input and review for the Strategy; some staff biologists also participated in expert group meetings to develop conservation actions for species featured in the Strategy. (Additional activities and accomplishments are reported in the U-1-1 interim report.)

- a. A continuously monitored and up-to-date process and timeline for developing the CWCS is available at <http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm> Although the short time frame for completing this plan requires concurrent activities, the process chart attempts to identify major developmental steps and input phases for four key

groups: the Oversight Committee, the Task Force, partners, and the broader public. Groups of species experts met to draft conservation strategies.

- b. Task Force members continue to work closely with key partners to develop the Strategy. These include the Alaska Natural Heritage Program, The Nature Conservancy of Alaska, U.S. Fish and Wildlife Service, and Audubon Alaska. The Task Force also worked with others to develop viable strategies for interactions with Native Corporations and rural communities. A preliminary external review of target species and selection criteria was completed in 2003. It is our intent to provide all partners, in addition to ADF&G staff and members of the public, additional review opportunities in the final phase of this effort including conservation goals and strategies for the CWCS.
- c. Participation in the CWCS planning effort to date has been accomplished through informal meetings with potential partners, and development of a web link that includes options for sending feedback to the Task Force. In addition, the Division continued efforts to better inform the public about nongame species, Alaskan ecosystems, and issues pertaining to the conservation of Alaska's biodiversity to help them participate more meaningfully in the development of the CWCS.
- d. Information and strategies for addressing problems that may adversely affect nongame species was obtained through expert group meetings.

7. Developed, updated, distributed, published, and presented a breadth of ecosystem and species education information through newspaper, web, electronic newsletters, radio and television, brochures, teaching kits, and booklets, as well as lecture series, presentations, and workshops. Audiences included: youth; professional educators; tourism industry staff; and general public, both Alaskans and visitors. Examples include:

- a. rainforest ecology education materials
- b. boreal forest ecosystem teaching materials
- c. public outreach brochures, displays and lectures addressing fires and wildlife habitat
- d. Alaska Wildlife News e-magazine (distribution list of 410 and web posted)
- e. rainforest nature trail ecosystem interpretive brochure
- f. Wings Over Alaska birding e-newsletter (distribution list 200+ and web posted)
- g. partnered in community lecture series in Juneau, Anchorage, and Fairbanks
- h. static displays on nongame species, habitat conservation, and research
- i. in-depth Alaska ecosystem descriptions developed for web posting (pending in late 2004)
- j. partnered to update Alaska Birds guide for youth – to be web posted in late 2004

8. Administration and oversight was provided for all program components.

Project Costs (includes indirect costs):

Federal share \$ 853,861.80 + state share \$284,620.60 = total cost \$ 1,138,482.40

Prepared By: Mary L Rabe, Nongame Program Coordinator
Karla Hart, Watchable Wildlife Program Coordinator

Date: September 27, 2004

Reports of Nongame research activities associated with Objective 3

a. Verifying status of the Eskimo curlew (*Numenius borealis*) in Alaska

Project Objective

Attempt to confirm or refute the existence of the critically endangered Eskimo curlew at a reported nesting site in western Interior Alaska.

Summary of Project Accomplishments

1. During the period 7-10 July, 2003, an 18.5 mi² segment of the northwest quadrant of the Sunshine Mountains was surveyed on foot for presence of Eskimo curlews. During the 4-day period, a total of 48.4 miles was traversed, through a variety of upland habitats, ranging from wet sedge meadows to dry alpine tundra and rocky, mountainous terrain. Elevational strata encountered were from 900-3500 feet (280-1100 meters). No Eskimo curlews were found.

Principal Investigator: Jackson S. Whitman

b. Nesting inventory of selected raptors in Interior Alaska

Project Objective

Inventory nest sites of selected species of raptors. Maintain archival data records of raptor nest sites throughout interior Alaska.

Summary of Project Accomplishments

1. Nest sites for 6 ospreys (*Pandion haliaetus*), 1 golden eagle (*Aquila chrysaetos*), 8 bald eagles (*Haliaeetus leucocephalus*), 1 northern hawk owl (*Surnia ulula*), and 1 great-gray owl (*Strix nebulosa*) were mapped and data forms finalized during this reporting period. Continuing attempts to survey different Interior Alaska areas will ensue to better document nesting sites.

Principal Investigator: Jackson S. Whitman

c. Distribution, densities, and nesting success of raptors in Northwest Alaska

Project Objective

Complete the planning stage for monitoring peregrine falcons in western Alaska. Conduct background searches for peregrine falcon work that has been completed in the past.

Summary of Project Accomplishments

1. During this reporting period, plans were finalized for conducting a survey of peregrine falcon nesting density along the Lower Yukon River in Western Alaska. Incidental to peregrine work, other raptor species (red-tailed hawks, rough-legged hawks, great horned owls, bald eagles, ospreys) will be monitored and incidental observations of nesting raptors will be collected and archived.

Principal Investigator: Jackson S. Whitman

d. Monitoring marbled murrelet (*Brachyramphus marmoratus*) populations in northern Southeast Alaska

Project Objectives

1. Establish what research is/has been conducted or is planned for
2. Participate in partnerships
3. Coordinate and participate in monitoring, survey and inventory programs
4. Coordinate and participate in directed studies on high priority species

Summary of Project Accomplishments

1. A thorough literature review was conducted with the assistance of Kathy Kuletz, a murrelet researcher based in Anchorage, and Jack Hodges, a biometrician with the USFWS based in Juneau. The Department now has a complete collection of all the published white literature on marbled murrelets from California through Alaska, as well as most of the grey literature from Alaska (e.g., unpublished agency reports).
2. The study is being conducted in cooperation with the USFWS, with three of their biologists serving as co-PIs on the project. The University of Alaska, Southeast, provided 2 student interns (10 weeks) to work on the project (funded through NSF). Others in the Division of Wildlife Conservation generously contributed field time and expertise. Participants in the data collection included the Regional Supervisor, the Assistant Area Biologist, the SE Education coordinator, and the Program Technician.
3. The main objective of the research was to design and implement a monitoring program for marbled murrelets. Marbled murrelets are an Alaskan “watch list” species, and which are threatened and declining in the lower 48 states and British Columbia. From May 15 to June 30, 2004 we conducted two 6-day boat-based surveys of northern Stephen’s passage and two aerial surveys of the same. (22 line transects per survey). This intensive survey work, using line-transect methods, should have more power to detect smaller changes in the population than was previously possible.
4. Most of the directed studies on marbled murrelets were initiated after June 30 and will be covered in the next report period. One of the studies we started during this period was an experiment to determine (a) whether the distance from bird to centerline (x) could be estimated directly, or whether it was more accurate to calculate this value from an estimate of radial distance (r) and angle (θ) to the bird. We concluded that line transects are more accurate than strip transects, and that calculated values of x are more reliable than direct estimates.

Principal Investigator: Matt Kirchhoff

e. **An Integrated Regional Ecological Assessment of the Black Oystercatcher (*Haematopus bachmani*) in Alaska**

Project Objectives

This project addresses several key aspects of Black oystercatcher (*Haematopus bachmani*) ecology critical to the conservation of this poorly understood species. This project aligns and coordinates oystercatcher research at four Alaskan sites in the heart of this species' range: Glacier Bay and Kenai Fjords National Parks, Prince William Sound, and Middleton Island. It also coordinates banding and genetic sample collection at several sites in British Columbia with the Canadian Wildlife Service. The principal objectives of this cooperatively funded and integrated project are to:

1. Collect basic life-history information on breeding birds including: Breeding density, nesting and re-nesting effort, breeding chronology, clutch size, hatching and fledging success.
2. Monitor productivity throughout the specie's range and identify factors that may be limiting productivity locally and range-wide.
3. Initiate a strategic, multiyear banding program to quantify breeding and wintering site fidelity, mate fidelity, and natal philopatry. This program will set the stage for determining the first information on adult survival, age of first breeding, age-related breeding effort and success, and other important demographic parameters that regulate population size.
4. Identify important wintering and staging areas using aerial and ground surveys, and document movement of individuals between breeding and wintering areas using band re-sightings.
5. Quantify levels of population structuring for the species within and among breeding and wintering locations using molecular markers.

Summary of Project Accomplishments

1. Developed a core set of common methodologies with cooperating partners for use at the four field sites in this project, and for any other current and future Black oystercatcher research.
2. Purchased all necessary field equipment, as well as capture, banding, handling, and genetic-sampling supplies for four field camps.
3. Hired two technicians for GLBA.
4. Arranged for volunteers to support work in PWS and MDO.
5. Arranged for transportation of equipment, technicians, and volunteers to their respective camps.
6. Conducted fieldwork: Nesting habitat characterizations; census of nesting pairs within each study area, nest searching and territory identification, bird capture and banding,

Glacier Bay National Park: Fully funded, equipped, and staffed this study site. Hired two full time technicians for three months to conduct fieldwork. Purchased all field equipment, food, and all supplies for the capture, banding, handling, and genetic-sampling of birds. Transported technicians and equipment from Anchorage to Gustavus, AK for the field season, and back to Anchorage at the close of fieldwork.

Harriman Fjord, Prince William Sound: Partially funded and equipped this study site. Purchased portable vinyl building and other camp equipment (chairs, stove, heaters, kitchen gear,

Appendix to State Wildlife Grant T-1-8 Project 1 Interim Report

bear barrels for storage, fuel containment supplies, etc.). Purchased all supplies for the capture, banding, handling, and genetic-sampling of birds. Purchased a portion of the food that was consumed in camp by U.S. Forest Service technician and volunteers.

Middleton Island, Gulf of Alaska: Partially funded and equipped this study site. Purchased all supplies for the capture, banding, handling, and genetic-sampling of birds. Arranged air transportation (air charters and seat fares) for all equipment, the graduate student running the study site, and several volunteers who assisted throughout the summer.

Kenai Fjords National Park: Partially equipped this site. Purchased some of the equipment for the capture and banding of birds.

British Columbia: Supplied materials for the collection of genetic samples.

Principal Investigator: David Tessler

f. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)

Project Objectives

Most breeding landbirds in Alaska are not adequately sampled by any of the monitoring programs currently used in North America. Conservation efforts for landbirds in Alaska are hindered by a lack of basic information on the distribution of species, their habitat associations, population sizes, and trends. This lack of information is especially critical for state managed lands, many of which have never been inventoried. The Alaska Landbird Monitoring System (ALMS) is a standardized methodology designed by the U.S. Geologic Survey and Boreal Partners in Flight to monitor long-term trends in breeding landbirds in all Alaskan ecoregions. The ALMS is a cooperatively funded and administered program, with each partner agency funding and executing the work within their own jurisdiction and pooling the data. The ALMS was recently adopted by all Federal land management agencies in Alaska. State lands were excluded for lack of a participating state partner. This project initiates a systematic inventory of Alaska State lands, subscribing to the cooperative ALMS protocols, with an initial focus on ADF&G managed special lands. This 3-year pilot project will:

1. Begin an initial inventory of landbirds on ADF&G special lands, collect the associated habitat information on these lands, and establish sites for long term monitoring.
2. Constitute the ADF&G as a full and contributing partner in the cooperative Alaska Landbird Monitoring Survey.
3. Contribute the collected data to the ALMS for inclusion in statewide analyses of population sizes, trends, and habitat associations.
4. Provide State land managers, planners, and biologists with baseline bird and habitat data for their specific areas, as well as access to the statewide ALMS data set, to support research and decision making on management, planning, and permitting issues.
5. Assess the efforts and annual costs for these inventory and monitoring efforts, and develop a strategic long-term plan for landbird inventory and monitoring on all State lands.

Summary of Project Accomplishments

1. Locations of interest in three ADF&G Special Areas on the west side of Cook Inlet (McNeil River State Game Refuge and Sanctuary, Redoubt Bay State Critical Habitat Area, Trading Bay State Game Refuge) were submitted to our USGS, Biological Sciences Office partner for random site selection in accordance with ALMS methodologies and statistical design. Seven random study locations in areas of interest were returned to ADF&G.

Training session tuition, travel, and accommodation were funded under this project. ADF&G employees completed ten days of training at the Alaska Bird Observatory in Fairbanks on the identification of Alaskan landbirds by both sight and sound, as well as on the use of point count and distance estimation survey methods.

All necessary field, survey, and backpacking equipment for the first phase of the project were acquired. This included items such as: binoculars, laser rangefinder, bird identification books and song C.D.s, portable music players (for birdsong C.D.s), GPS, surveying and data recording equipment, tent, backpacks, sleeping and cooking gear, and other associated equipment for remote camping and backpacking. Food for fieldwork was also purchased.

Appendix to State Wildlife Grant T-1-8 Project 1 Interim Report

The seven randomly selected survey sites were visited via fixed wing aircraft to determine: 1) if landing a fixed wing aircraft within ten kilometers of the random site was possible; 2) the plausibility of conducting surveys at a given random site. If any random site met the above two conditions, the reconnaissance plane was to land and drop off the survey team. None of the sites was accessible via fixed wing aircraft: Helicopters were the only viable option for access. One sight was dismissed as “impenetrable” after input from local land managers and biologists. Three sites were deemed impossible to survey as they consisted of floating mats of aquatic vegetation; One site was dismissed due to abundant late season snow cover; and at the two remaining sites it wasn’t possible to land a fixed wing aircraft within ten kilometers.

A chartered helicopter placed the two-person survey crew at the one surveyable site in MacNeil River State Game Sanctuary. This site was surveyed according to ALMS protocols. Unfortunately, the random site was in an alpine locale of very low avian diversity and abundance. Efforts to survey surrounding areas were hindered by more than a week of extreme winds and fog. This adverse weather also delayed helicopter pick up of the survey crew until after the specified survey window had closed, precluding any attempt to survey a second random site. A list of species present at different elevations in the general area of the random survey site was compiled.

Species List By Elevation:

> 3000 feet Snow Bunting (*Plectrophenax nivalis*); Lapland Longspur (*Calcariuslapponicus*); Bald Eagle – flying overhead (*Haliaeetus leucocephalus*); Common Raven – flying overhead (*Corvus corax*)

>2400 feet < 3000 feet Rock Ptarmigan (*Lagopus mutus*); American Pippet (*Anthus rubescens*); Arctic Warbler (*Phylloscopus borealis*); Snow Bunting (*Plectrophenax nivalis*); Lapland Longspur (*Calcariuslapponicus*); Rock Sandpiper (*Calidris ptilocnemis*)

>1600 feet < 2400 feet Rock Ptarmigan (*Lagopus mutus*); Golden Crowned Sparrow (*Zonotrichia atricapilla*); Fox Sparrow (*Passerella iliaca*); Song Sparrow (*Melospiza melodia*); Rock Sandpiper (*Calidris ptilocnemis*); Arctic Warbler (*Phylloscopus borealis*); Northern Wheatear (*oenanthe oenanthe*); Common Raven (*Corvus corax*); Bald Eagle – flying overhead (*Haliaeetus leucocephalus*)

>800 feet < 1600 feet Elevation Semi-Palmated Plover (*Charadrius semipalmatus*); Savannah Sparrow (*Spizella passerine*); White Crowned Sparrow (*Zonotrichia leucophrys*); Orange Crowned Warbler (*Vermivora celata*); Alder Flycatcher (*Empidonax alnorum*)

2 - 5. No progress on these objectives is possible until field data is collected.

Principal Investigator: David Tessler

Reports of Nongame research activities associated with Objective 4

a. Tundra hare densities and population fluctuations in western and northwestern Alaska
Project Objective

1. Determine feasibility of conducting tundra hare (*Lepus othus*) research in Alaska. Conduct background literature search into existing information.

Summary of Project Accomplishments

1. Literature searches were conducted in an effort to determine what is currently known concerning tundra hares in Alaska. Discussions with other researchers was completed. Continued planning for feasibility of a tundra hare project was done.

Principal Investigator: Jackson S. Whitman

b. Wood frog (*Rana sylvatica*) baseline investigations in Interior Alaska
Project Objectives

1. Determine standard morphometrics of wood frogs
2. Determine rates of malformations in wood frogs
3. Submit wood frog samples for chytrid fungus evaluations
4. Describe annual phenology of wood frogs

Summary of Project Accomplishments

1. Thirty-eight wood frogs were examined for malformations and weights and snout-vent measurements were recorded. In 2004, 201 adult wood frogs were examined and morphometrics recorded. A standard growth curve (snout-vent length vs. mass) was constructed from those data.
2. A total of 239 adult form wood frogs were examined during 2003 and 2004 for incidence and type of malformation. Only 2 individuals were malformed. It is not clear whether these malformations were the result of congenital defects or were from predation during early morphological life stages. Observed rate of malformations for the two years combined was less than 1 percent.
3. Two frogs were submitted for chytrid fungus evaluation during 2003. Neither was positive.
4. During this reporting period, adult wood frogs were first observed 3 May. Breeding was fully underway in interior Alaska by 11 May, and egg masses were observed at that time. By 9 June, tadpoles were observed, and by 21 June, most had metamorphosed into adult stages. By September, no adults were observed, presumably because of cooling ambient temperatures and subsequent hibernation.

Principal Investigator: Jackson S. Whitman

c. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska

Project Objectives

1. Use standard small mammal trapping protocols for collecting specimens and precise capture locations. Conduct microhabitat evaluations at each capture site and attempt to characterize habitat preference for each species encountered.
2. Establish at least 8 small mammal snaptrapping transects in the Fairbanks area for documenting annual fluctuations and relative frequency of occurrence of species. These data will be used for assessing relative abundance of small mammals in relation to boreal owl nesting density and/or productivity.
3. Collect ectoparasites from captured small mammals, identify to species (where practical), and provide a list of parasites by host species.
4. From trapped animals, provide samples for monitoring viruses in Interior Alaska (Hanta virus from mammals, West Nile virus from incidentally-captured avians).

Summary of Project Accomplishments

1. Using a combination of museum special snap traps and pitfalls, a total of 195 vertebrates were captured in 2,942 trapnights in Interior Alaska. Ten species of small mammals were captured (*Clethrionomys rutilus*, 64; *Tamiasciurus hudsonicus*, 1; *Microtus oeconomus*, 1; *Microtus pennsylvanicus*, 10; *Synaptomys borealis*, 4; *Zapus hudsonius*, 4; *Sorex cinereus*, 80; *S. hoyi*, 1; *S. monticolus*, 6; *S. tundrensis*, 6). Microhabitat evaluations (1-meter radius of the trap site) were completed on most captured mammals, as well as a sample of vegetative plots conducted at randomly-selected non-capture sites. Statistical evaluations are continuing.
2. Nine standardized transects for monitoring annual fluctuations of small mammals were established. A total of 997 trapnights were completed with 62 small mammals captured. Based on the apparent low nesting activities of boreal owls in spring 2004, it was assumed that this small mammal capture incidence is extremely low and will increase in subsequent years.
3. 100 vials of various ectoparasites were collected from small mammals and submitted for species determination. Results are not yet available.
4. At least 4 gray jays (*Perisoreus canadensis*) were incidentally captured in small mammal traps and submitted for West Nile virus screening. Results were negative. Ten samples to be screened for Hanta Virus were collected from small mammals but have yet to be submitted for analysis.

Principal Investigator: Jackson S. Whitman

d. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska

Project Objectives

1. Establish protocol and conduct spring listening surveys for boreal owls, great horned owls, and great gray owls in Interior Alaska
2. Establish nest boxes along accessible transects to evaluate feasibility of spring listening surveys for determining owl nesting abundance.
3. Annually determine nesting densities of boreal owls in relation to food diversity and abundance.
4. Assess annual productivity of nesting boreal owls throughout an array of habitat types.

Summary of Project Accomplishments

1. A protocol was developed based on Canadian methodology for surveying boreal forest owls in Interior Alaska. Eight survey routes were conducted a total of 30 times between 23 February and 17 April 2004. A total of 565 stations were completed. Thirty-two boreal owls were recorded at 40 stations. For great-horned owls, a total of 55 individuals were noted at 73 stations. Three great gray owls were noted at 3 stations.
2. A total of 100 boreal owl nest boxes were constructed and deployed along 4 routes in Interior Alaska. Because of box attrition and private property constraints, 90 nest boxes were available for occupancy in spring 2004. Five boxes were used by boreal owls, 5 by kestrels, and 1 by a bufflehead. Of the 5 boxes used for nesting by boreal owls, only one was detected during the listening surveys.
3. Because of the low incidence of use by boreal owls during spring 2004, no attempt was made to compute nesting density. Work will continue in 2005 to obtain these parameters. Additional work on small mammal abundance is reported in the small mammal research segment of this report. Post-fledging samples of nesting material from active nest boxes were obtained for diet analyses which will be completed during the next reporting period.
4. Low initial use of nest boxes in 2004 negated the possibility of determining productivity by habitat type. A total of 17 fledgling boreal owls was produced at four of the five active nest sites. All fledglings, as well as adult female owls associated with those fledglings, were banded using standard USFWS metal leg bands.

Principal Investigator: Jackson S. Whitman

e. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine in Northwest Alaska

Project Objective

1. Determine the extent of heavy metal contamination in various small mammal species living in proximity to Red Dog Mine and haul road in northwest Alaska. Work in cooperation with ADEC and Cominco Tech in designing project.

Summary of Project Accomplishments

1. No progress was made during this reporting period to determine extent of heavy metals contamination in small mammals proximate to Red Dog Mine. Discussions were initiated with mine operators and the State of Alaska Department of Environmental Conservation in an effort to initiate sampling. As yet, no progress has been made.

Principal Investigator: Jackson S. Whitman

f. Effects of snowshoe hare population cycles on demography of golden eagles in the Alaska Range

Project Objectives

1. Assess changes in abundance of hares during a declining phase of the population cycle
2. Determine the size of the population of territorial golden eagles each year
3. Determine the number of successful eagle nests and number of eagles fledged each year
4. Document diets of nesting golden eagles
5. Data analysis and report writing

Summary of Project Accomplishments

1. Hare abundance was estimated at Dry Creek based on counts of fecal pellets from plots surveyed annually since 1999. Additional plots will be surveyed at Kansas Creek and O'Brian Creek during July and August 2004.

2 and 3. In cooperation with the National Park Service, helicopter surveys of eagle nests in part of the sheep study area were conducted during July 2003 and April and June 2004. During 2003, 7 pairs of eagles produced at least 8 young; and during 2004, 8 pairs of eagles produced at least 9 young that survived until mid July (near fledging). This was a substantial increase from 2002 when only one occupied nest was found, and that nest was abandoned by mid-June. However, during both 2003 and 2004, only 4 occupied nests were observed within a section of the study area first surveyed during July 2000, when 8 occupied nests were found.

4. During July 2003, National Park Service biologist Carol McIntyre visited nests of 2 pairs of eagles to collect prey remains for food habits analysis. One nest contained remains of several Dall sheep lambs, while the other contained mainly ptarmigan and magpie remains.

5. No progress during this period.

Principal Investigator: Steve Arthur

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: T-1-8

PROJECT NR.: 1.0

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2002 – 30 September 2005

PROJECT REPORTING PERIOD: 1 July 2004 – 30 June 2005

PROJECT TITLE: Conserving Alaska's Biodiversity

Project Objectives:

1. Establish what research is/has been conducted or is planned for.
 - a. Conduct literature searches.
 - b. Hold/attend internal and/or interagency workgroup meetings as appropriate.
2. Participate in partnerships.
 - a. Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame birds and other nongame species, and coordinate participation by ADF&G staff in those partnerships.
3. Coordinate and participate in monitoring, survey and inventory programs.
4. Coordinate and participate in directed studies on high priority species.
5. Research and plan conservation actions proposed to conserve identified species and habitats.
6. Gather staff, public, and agency/organization information and input, and develop strategies for drafting Alaska's Comprehensive Wildlife Conservation Strategy (CWCS).
 - a. Develop a timeline, strategies, measurable objectives, and key responsibilities relating to the jobs in this project for the coming year. Monitor progress throughout the year and update as required.
 - b. Coordinate and communicate with representatives from Federal, State, local agencies, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats regarding management and research priorities, plans, progress, and findings. Provide opportunities for face to face work sessions and information exchanges that link work efforts with ongoing planning processes.
 - c. Communicate with and solicit input from a geographically, culturally, and socially diverse cross section of Alaskans regarding planning for the conservation of Alaska's biodiversity. Use a variety of tools and forums to attract and encourage thoughtful participation. These may include popular lectures on research findings or problems,

workshops on biodiversity, field trips to critical habitats, staffed or unstaffed informational exhibits at venues where diverse or targeted concentrations of people occur (conferences, fairs, etc.), species-specific workshops, and/or newsletters (electronic or print). At these venues have appropriate feedback/input mechanisms (surveys, recordings, comment forms) available and strongly encourage responses.

- d. Gather information about and develop monitoring strategies for addressing problems (pre-existing, emergencies such as spills, or planned such as developments) that may adversely affect species of greatest conservation concern, either directly or through habitat changes. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

7. Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in this comprehensive planning effort.

- a. Develop publications, news articles, presentations, web pages, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and other conservation challenges.

8. Oversee and administer the establishment of a nongame program and associated education and outreach efforts, and the development of a Comprehensive Wildlife Conservation Strategy (CWCS), including participating in national and regional conservation strategy coordination efforts.

Summary of Project Accomplishments:

1. Extensive literature searches were conducted new and ongoing projects. See 17 project reports in Appendix for details. Additional information on research activities was gathered through literature searches, direct consultation, and participation in professional meetings. Regional nongame staff interacts regularly with other agency biologists at both formal and informal meetings to discuss research needs and objectives. They also review and edit manuscripts for professional research publications like the Journal of Wildlife Management. Lastly, the Nongame Program meets at least once each year to discuss program direction and priorities, and teleconference at regular intervals.

2. ADF&G actively participated in partnerships in a variety of ways. See 17 project reports in Appendix for details. Meetings attended included: Boreal Partners in Flight, Alaska Shorebird Working Group, Western Shorebird Working Group, Alaska Black Oystercatcher Working Group, International Black Oystercatcher Working Group, Alaska Amphibian Monitoring and Conservation Working Group, Pacific Seabird Working Group, Marbled Murrelet Modeling Workshop, Western Bat Working Group, and Glacier Bay Science Symposium. Nongame Program staff were active in planning and organizing several of these meetings. In addition, Mary Rabe served on the executive committee of the Alaska Shorebird Working Group; and discussed multi-state issues, concerns, and partnerships at the Wildlife Diversity Program Managers meeting in February 2005. Jack Whitman represented the Nongame Program at the annual meeting of the Alaska Cooperative Fish and Wildlife Research Unit, University of Alaska, Fairbanks. Nongame Program staff, as well as other staff biologists, worked

cooperatively on the Partner Program (see T-1-16 grant agreement for details), which resulted in the selection and funding of 3 new projects representing collaborative effort between ADF&G staff and partners (North Slope Borough, Prince William Sound Science Center, and Wildlife Trust). To facilitate the review and selection of partner projects, the following tools were developed: 2005 Call for Ideas to outline process and criteria, Match Guidelines, Proposal Submission Guidelines, and a sample budget. ADF&G staff provided expertise on nongame species and their habitat for project and permit reviews.

3. The following inventory, survey, and monitoring projects are ongoing. See reports in the accompanying Appendix.
 - c. Nesting inventory of selected raptors in Interior Alaska
 - d. Distribution, densities, and nesting success of raptors in Northwest Alaska
 - e. Baseline inventory of bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nests on Minto Flats State Game Refuge, Alaska
 - f. Monitoring Marbled Murrelet (*Brachyramphus marmoratus*) populations in northern Southeast Alaska
 - g. An integrated regional ecological assessment of the Black Oystercatcher (*Haematopus bachmani*) in Alaska
 - h. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)
 - i. An interagency citizen science program to coordinate the collection of important baseline biological data and build constituency: A pilot program focusing on wood frogs, bats, and grebes.
 - j. Baseline Survey of Small Mammal Species and their Distribution across the Kenai Peninsula
 - k. The population status and trend of peregrine falcons, gyrfalcons and other raptors in western and northwestern Alaska (Region V)
 - l. Inventory of Western Toads on Montague Island
 - m. Distribution, abundance, and ecology of forest owls in Southeast Alaska
4. The following directed studies are ongoing. See reports in the accompanying Appendix.
 - a. Wood Frog (*Rana sylvatica*) baseline investigations in Interior Alaska
 - b. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska
 - c. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska
 - d. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine in northwest Alaska
 - e. Effects of snowshoe hare population cycles on demography of golden eagles in the Alaska Range
 - f. Avian mortality at communication towers in Southeast Alaska
5. In addition to conservation actions identified by species experts for Alaska's CWCS, ADF&G staff worked with others both inside and outside the agency to share information and talk about priority species and habitats. Much of this effort is carried out through participation in species specific working groups like the Alaska Shorebird Working Group, Pacific Seabird Working Group, or Statewide Raptor Working Group.

6. The department continued to support a five member interdivisional CWCS Task Force charged with primary responsibility for completing the Strategy with assistance from a two member Oversight Committee. Members of both groups provided regular updates to directors, commissioners, ADF&G staff and partners. One member of the Task Force attended IAFWA's August 2004 One Year Out meeting where the CWCS was discussed extensively, and presented information on Alaska's process. Agency staff wrote sections of the Strategy, provided comprehensive reviews of the completed draft, and helped address comments submitted during the public review phase. (Additional activities and accomplishments are reported in the U-1-1 final report.)

- a. A continuously monitored and up-to-date process and timeline for developing the CWCS was maintained through the report period at <http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm>. Although the short time frame for completing this plan requires concurrent activities, the process chart attempts to identify major developmental steps and input phases for four key groups: the Oversight Committee, the Task Force, partners, and the broader public.
- b. Task Force members continued to work closely with key partners to develop the Strategy. These include the Alaska Natural Heritage Program, The Nature Conservancy of Alaska, U.S. Fish and Wildlife Service, and Audubon Alaska. Additional opportunities to coordinate and communicate were provided through the CWCS home page (<http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm>). During the planning process, various state and national organizations indicated their interest in assisting with preparation, review and/or implementation of Alaska's CWCS. These include NatureServe, the International Association of Fish and Wildlife Agencies (IAFWA), Partners in Amphibian and Reptile Conservation (PARC), Bat Conservation International (BCI), the Natural Areas Association, the Ornithological Council, and local or regional land trusts in Alaska, such as the Kachemak Heritage Land Trust. Relationships with these and other parties will continue to evolve as we learn more about mutual interests and opportunities for collaboration. The department conducted an extensive public and experts' review of the draft Strategy document from February to April 2005. This review opportunity was announced via email or letter to a mailing list of nearly 2,000 organizations and individuals and through a press release, selected newsletters, the state's CWCS website, letters to state/federal agency heads, a national CWCS ListServe, and a notice published in major in-state newspapers. Appendix 6 of the CWCS (http://www.sf.adfg.state.ak.us/statewide/ngplan/NG_outline.cfm) summarizes and presents results of Alaska's CWCS public scoping and review efforts. Staff participated in a variety of working groups and meetings (described in Objective #2 above) to discuss management and research priorities, plans, progress, and findings; and link work efforts with ongoing planning processes.
- c. The Division continued efforts to better inform the public about nongame species, Alaskan ecosystems, and issues pertaining to the conservation of Alaska's biodiversity; increase meaningful participation in the development of the CWCS; and build support for division programs.
 - Co-organized/hosted an International Migratory Bird Day event (youth activity on birds and food needs, adult lecture on Mendenhall Refuge bird/habitat connections) in Juneau,

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attended by approximately 120 people, plus a classroom event (26 students), plus distribution of IMBD materials and information.

- Provided handouts on landscaping for wildlife, collisions (IMBD 2005 theme), and cats indoors for distribution at various venues around the state.
 - Worked with about 15 private sector publishers and writers to encourage and support efforts to include accurate information on wildlife and habitat in their visitor publications, on web sites.
 - Helped connect about 30 clubs, teachers, youth program leaders, festival organizers, writers, visitor bureau staff, etc. with appropriate speakers and resources to learn more about Alaska's wildlife and habitats.
- d. Information and strategies for addressing problems that may adversely affect nongame species was obtained through literature review, research and expert group meetings. Species experts and peer reviewers finalized species conservation strategies for the CWCS. Research and surveys were established to identify factors that may assist in restoration and more effective conservation of species and their habitats (see accomplishments for Objectives 3 and 4).

7. Developed, updated, distributed, published, and presented a breadth of ecosystem and species education information through newspaper, web, electronic newsletters, radio and television, brochures, teaching kits, and booklets. Audiences included: youth; professional educators; tourism industry staff; and general public, both Alaskans and visitors. Examples include:

- Three issues of the Wings Over Alaska birding e-newsletter were distributed to more than 250 subscribers (some "subscribers" are other lists so the reach is much greater) and posted online.
- Used radio (talk show), newspaper, e-mail lists, and other venues to share wildlife conservation and species information such as: the importance of keeping bird feeders sanitized (following regional outbreaks of salmonella), and research information needs and the value of citizen science contributions (rare bird sightings, amphibian reports, salvaged bird specimens of interest, etc.) to researchers.
- Finalized and reproduced Rain Forest ecology PowerPoint presentations for use with school groups and the public
- Developed wood frog educational information for training citizen science participants in researching wood frogs.
- Provided educational presentations on the role of fire in boreal forest ecosystems
- Continued development of a natural history guide for the Seward Peninsula
- Continued participation on Kenai brown bear committee including outreach to anglers sharing bear habitat to decrease bears killed in defense of life and property
- Wrote articles about declining populations, habitat, population dynamics, conservation efforts for newspapers.
- Developed radio spots on wildlife research, rainforest ecology, wildlife management
- Provided ecosystem education as part of each Project WILD/Alaska Wildlife Curriculum workshops

8. Administration and oversight was provided for all program components.

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Project Costs (includes indirect costs):

Federal share \$ 853,861.80 + state share \$284,620.60 = total cost \$ 1,138,482.40

Stewardship Investment Costs: \$14,333 radar unit (See Appendix page 6)

Prepared By: Mary L Rabe, Nongame Program Coordinator

Michelle Sydeman, Assistant Director

Date: September 26, 2004

T-1-8 Proj. 1 interim performance report

Reports of Nongame research activities associated with Objective 3
(No Stewardship Investment cost unless otherwise indicated)

a. Nesting inventory of selected raptors in Interior Alaska

PROJECT OBJECTIVE

Inventory nest sites of selected species of raptors. Maintain archival data records of raptor nest sites throughout interior Alaska.

Summary of Project Accomplishments

1. Nest sites for an additional 5 ospreys (*Pandion haliaetus*), 5 bald eagles (*Haliaeetus leucocephalus*), 1 merlin (*Falco columbarius*), 8 common ravens (*Corvus corax*), and 4 red-tailed hawks (*Buteo jamaicensis*) were added to the existing data files. Additionally, 25 active boreal owl (*Aegolius funereus*) nest boxes were monitored along with 6 active American kestrels (*Falco sparverius*) in association with the boreal owl project. One-hundred twenty-nine additional stick platforms of nine raptor species were located on Minto Flats State Game Refuge, and will be added to the existing database. Specifics for the Minto Flats raptor nest survey are presented in a progress report contained herein. Continuing attempts to survey different Interior Alaska areas will ensue to better document nest sites.

Project cost: Federal \$398 + State \$132 = Total \$530

Principal Investigator: Jackson S. Whitman

b. Distribution, densities, and nesting success of raptors in Northwest Alaska

Project Objectives

1. Complete the planning stage for monitoring peregrine falcons in western Alaska. Conduct background searches for peregrine falcon work that has been completed in the past.
2. Work with Region V biologists to complete peregrine falcon surveys along selected watercourses in Western or Northwestern Alaska.

Summary of Project Accomplishments

1. Background literature searches were completed for historical peregrine falcon surveys on the lower Yukon River.
2. During the period 6-13 July 2004, a peregrine falcon (*Falco peregrinus anatum*) nesting survey was completed on the Lower Yukon River from Great Paimiut Island to Mountain Village (approximately 190 river miles). A complete raptor sighting list was also generated. Participants in this effort were Roger and Lilly Seavoy and Jack Whitman.

One hundred nine adult and at least 36 nestling raptors of 7 species were recorded between 7-12 July 2004. Peregrine falcons (*Falco peregrinus anatum*) were the most common species noted. Sightings of rough-legged hawks (*Buteo lagopus sanctijohannis*) and red-tailed hawks (Harlan's hawks; *Buteo jamaicensis harlani*) constituted 20% of the adult sightings. Two active rough-legged hawk nests were also recorded. Bald eagles (*Haliaeetus leucocephalus alascanus*) were observed on 13 occasions, with at least 1 active nest. Ospreys (*Pandion haliaetus carolinensis*) were noted occasionally. Great-horned owls (*Bubo virginianus lagophonus*)(n=4) and a single northern goshawk (*Accipiter gentilis atricapillus*) were also noted. Although nest sites were documented for only 3 raptor species, I suspect all 7 species nest in the vicinity. Raven (*Corvus corax*) sightings were common throughout the trip, and stick nests formerly occupied by ravens were noted, although fledging had already occurred. A significant number of raptors (rough-legged hawks, great-horned owls, ravens) seen were on the ground in *Equisetum* along stream banks. I suspect that they were preying heavily on the seasonally abundant wood frogs.

We surveyed American peregrine falcons (*Falco peregrinus anatum*) along a 220-mile segment of the Yukon River between Great Paimiut Island and Mountain Village. Population monitoring has been

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conducted on the Lower Yukon River since 1979. Periodic surveys complement annual surveys on established “trend” areas elsewhere in the state. Prior work was completed on this segment of the Yukon River in 2001 (Seavoy, memo to Coady, 17 July 2001) when 30 young were documented at 17 nest sites.

During this effort, no attempt was made to document specific numbers of hatchlings occupying nests. Time allotted for the survey was insufficient to climb each nest site and enumerate chicks. We documented 28 nest locations, and observed a minimum of 36 young falcons at 19 of those sites. An attempt was made to document formerly-banded adults by close observation with binoculars or a spotting scope. None were observed. Neither nestlings nor adults were banded. GPS coordinates were recorded for each nest site observed. When no actual scrape was identified, I recorded locations where activities and/or vocalizations one or both adults were indicative of a nearby nest site.

Project Cost: Federal \$1,968 + State \$656 = Total \$2,624

Principal Investigator: Jackson S. Whitman

c. Baseline inventory of bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nests on Minto Flats State Game Refuge, Alaska.

PROJECT OBJECTIVES

1. Survey Minto Flats State Game Refuge (Refuge) and adjacent lands with fixed-wing aircraft to obtain baseline information on locations of nest sites of bald eagles and ospreys.
2. Collect information on locations, nest structure, and species for all other nest platforms encountered.
3. Re-visit all nest site locations with rotor-wing aircraft to accurately characterize vegetation at and in proximity to nest sites and determine species occupancy and productivity.

SUMMARY OF PROJECT ACCOMPLISHMENTS

- 1-1. A total of 2,640 km² was surveyed (including 2,023 km² encompassing the Refuge and an additional 617 km² of adjacent land) with fixed wing aircraft (PA-18-150/160) from 5 April – 15 April 2005. Transects were flown at ½ mile latitudinal intervals at 300-500’ above ground elevation. A total of 38 bald eagle nests were located (20 active, 18 inactive) and no osprey nests were found (Table 1). An additional 91 platforms were located of which at least 51 were occupied by 8 species (Table 1). Global Positioning System (GPS) locations were recorded for all located platforms and later mapped to topographic maps using Geographic Information System (GIS) software. At each site, nest structure (species of tree, approximate height, and location of the nest in the structure) and surrounding habitat was classified. The above-mentioned data were also collected for nests occupied by common ravens (*Corvus corax*) because these structures are often used by raptors in subsequent years.
1. All nest platforms were re-visited using a Robinson R44 Helicopter from 19 May –3 June 2005. Species occupancy, productivity, and accurate classification of habitat types were recorded at each site.

Table 1. Raptor (and common raven) nest platforms encountered on Minto Flats State Game Refuge, Alaska, spring 2005.

Species	Active	Inactive	Unknown ¹
bald eagle (<i>Haliaeetus leucocephalus</i>)	20	18	
osprey (<i>Pandion haliaetus</i>)	0	0	
great gray owl (<i>Strix nebulosa</i>)	11	2	
great horned owl (<i>Bubo virginianus</i>)	3	1	
northern goshawk (<i>Accipiter gentilis</i>)	2	0	
red-tailed hawk (<i>Buteo jamaicensis</i>)	7	1	
rough-legged hawk (<i>Buteo lagopus</i>)	3	1	
peregrine falcon (<i>Falco peregrinus</i>) (rock cliffs)	3	1	
common raven (<i>Corvus corax</i>)	20	8	
Unknown	2 ^a	23 ^b	3

¹Nest structures that were inactive when located during fixed-wing surveys and the species of builder could not be determined and the nest site could not be located using the helicopter to determine occupancy.

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^a Nest structure that showed evidence of being active but young had fledged prior to positive identification of a species.

^b Nest structures that were positively classified as inactive but the species of nest builder could not be determined.

Project Costs: Federal \$14,117 + State \$4,706 = Total \$18,823

Co-investigators: Jason Caikoski and Jackson S. Whitman

d. Monitoring marbled murrelet (*Brachyramphus marmoratus*) populations in Southeast Alaska

Project Objectives

2. Test and evaluate alternative methods for monitoring marbled murrelets, including boat-based counts, aerial counts, and radar counts.
3. Establish trends in relative abundance and distribution of marbled murrelets in marine waters near Juneau
4. Establish breeding chronology and productivity through counts of newly fledged juveniles
5. Determine how marbled murrelet activity patterns, as measured by radar and visual counts, vary throughout the summer.
6. Determine how marbled murrelet activity patterns, as measured by radar and visual counts, vary throughout the day.
7. Determine the statistical power of radar counts and visual counts to detect trends.
8. Determine how marbled murrelet activity patterns vary from place to place across the region.

Project Accomplishments

1. I tested alternative methods of monitoring marbled murrelets by comparing at-sea surveys using strip-census methodology and line distance sampling methodology. I conducted 12 days of at-sea surveys from a 32' chartered vessel in SE Alaska, between 1 July and 14 July 2004. At-sea surveys covered 23 transect routes, running east-west across Stephen's Passage along each minute of latitude, from Midway Island north to Point Bishop. I used a distance model to compute detection functions for each survey, and to calculate density estimates. I found bird detection varied as a function of sea state and observer. As sea state increases from 0-2, more birds are missed further from the line. Since distance sampling requires only that birds "on" the centerline are accurately counted, distance sampling yields a more accurate (and higher) estimate of bird population density.

On 17 August, an aerial survey of the same 23 transects was flown using a DeHavilland turbine beaver on amphibious floats. Unfortunately, the birds had largely departed Stephen's Passage by this date, presumably moving offshore for their post-breeding molt. Because of the high rate of approach speed, birds as small as marbled murrelets are easily missed from the air, especially when there is glare or wave action. Consequently, the precision and accuracy of aerial surveys is relatively low compared with at sea or land-based counts. However, aerial surveys provide the best information on the spatial distribution of birds at any point in time over a large geographic area— information which is important for the effective design and interpretation of population surveys.

When doing line-transect sampling, the perpendicular distance from the centerline to the bird must be estimated directly (direct method), or measured indirectly using the measured angle and distance to the bird (radial method). I conducted a number of trials on land using murrelet-sized buoys located known distances from the centerline and the observer. I found the radial method produced more accurate measures of perpendicular distance to the centerline.

An ornithological radar system (Furuno 25KW black box radar w/ 6.5' x-band antenna) was purchased to evaluate the monitoring protocols for marbled murrelets currently being used in much of coastal British Columbia, Canada. Typically these units are installed on a vessel or vehicle so they can be moved from one location to another, and positioned at

the heads of bays and fjords where birds are flying to upland habitat for nesting. The antennas are also tilted upward, or shielded, so that gain can be maximized without excessive sea clutter (from waves). Because I did not have access to a boat on which to mount this radar, I mounted it on a 3 m tower adjacent to the field camp. In this location, I had low success detecting birds. I will continue my search for a suitable vessel or platform on which to mount this radar, and revisit this objective next field season.

2. Because all at-sea bird sightings were geo-referenced with GPS, I was also able to map the spatial distribution of the birds in Stephen's Passage. Marbled murrelets were found a mean distance of 2.1 km off shore, and a median distance of 1.5 km offshore. Mean group size was 2.3 birds. The majority of birds (mode) were 0.6 km offshore. If accurate at-sea population or trend estimates are desired, transects should be oriented perpendicular to this gradient, or at right angles to the shore. A zig-zag pattern may provide an acceptable compromise between transects that bisect the density gradient, and the need to minimize travel time between transects. The average density of birds in Stephen's Passage was 45 birds per km squared, which is higher than any other reported density in the state, including Glacier Bay and Icy Strait. The Stephen's Passage density estimate, however, is based on line distance sampling, whereas the other estimates in Alaska are based on strip-transect sampling (which is biased low).
3. I made no progress this year on estimating breeding chronology and nesting success through counts of juveniles. It is impossible to differentiate age classes from flyway and radar counts. We saw relatively few juveniles in our mid July at-sea survey (perhaps too early) and very few birds of any age in our August Aerial survey (perhaps too late). A separate sampling design will be needed to address this objective, and I will work further on this next year.
4. Between May 10 and June 30, 2005, we counted all Marbled Murrelets (and other birds) flying to and out of Port Snettisham during 20 minute survey periods each hour, from sunrise to sunset. Counts were made using Leica Televid spotting scope (set at 40-50 power) from the shore at Pt. Anmer across 4 km of water to the opposite shore. Marbled murrelet numbers increased throughout this sample period, approximately doubling between May and June (flights in and out increasing from over 200 per hour to over 400 per hour.). Port Snettisham provides a dependable source of high quality forage fish and probably attracts murrelets from a wide surrounding area.
1. Daily patterns of murrelet abundance were also monitored by hourly flyway counts. We found a major influx of birds in the mid morning and late evening hours, and a major outflux of birds in the late evening hours. The peak influx occurred in the late evening, just before sunset (averaging > 500 birds per hour). The fewest number of birds (< 75/hr) tended to occur during the late afternoon hours. The peak exodus (> 600 birds/hr) tended to occur the hour before sunset. In contrast to studies elsewhere, the morning peak of activity occurred several hours after sunrise. The difference between outbound and inbound birds for any given day was about 65 birds per hour (or 16% of the total). Since inbound birds must equal outbound birds over the summer, 16% of the population leaves

Port Snettisham after dark.

2. No progress was made on the objective of determining the statistical power of various methods to detect trends in Marbled Murrelet populations. This will be a final analysis, conducted after all the survey data are collected.
3. No progress was made in determining how marbled murrelet activity patterns vary across the region. To date, I've only worked in one site. Next field season, flyway counts will be conducted in other areas of southeast to acquire a better sense of spatial variability. If I get access to a suitable vessel, I will assess spatial variability using radar counts as well.

Stewardship Investment items purchased: Radar unit \$14,333.00

Project Cost: Federal \$42,706.17 + State \$21,353.08 = Total \$64,059.25

Principal Investigator: Matthew D. Kirchhoff

e. **An Integrated Regional Ecological Assessment of the Black Oystercatcher (*Haematopus bachmani*) in Alaska.**

PROJECT OBJECTIVES

1. Determine the size and nesting density of several important local breeding populations throughout the range;
2. Assess adult survival, breeding site fidelity, and natal philopatry, and other demographic parameters important in regulating population size;
3. Assess regional differences in nesting effort, breeding success, and productivity;
4. Identify local threats or limitations to productivity;
5. Elucidate levels of population structuring and the degree of connectivity between regional breeding populations;
6. Identify locations of important wintering areas and the numbers of birds in those areas;
7. Identify movement patterns between various breeding and wintering areas.

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Summary of Project Accomplishments:

1-4. This project fielded research camps for the second of three seasons in four important breeding areas within Alaska in concert with cooperating agencies. Camps were located in Kenai Fjords National Park, Middleton Island, Prince William Sound, and Glacier Bay National Park.

In 2005, summer field season efforts resulted in:

- 189 territories monitored;
- 165 breeding pairs monitored;
- 52 adults and 104 chicks captured and banded for a total of 156 birds banded;
- 287 total samples collected for genetic research.

Note: these numbers do not include efforts by cooperators in British Columbia at the Gwaii Hanaas and Pacific Rim National Parks.

Efforts from the first two summers of this project have resulted in over 400 birds banded (approximately 4% of estimated population), and 580 genetic samples collected (5.8% of estimated global population). We have experienced no capture mortalities on this project. Summaries from individual study areas for the 2005 field season follow in Appendix A.

5. In January 2005, an ADF&G Fishery and Wildlife Technician was hired to extract genetic material from the 276 genetics samples collected during the first summer field season (2004), and to develop the diagnostic DNA microsatellite loci necessary for upcoming population genetics analyses (to begin December 2005).

6 –7. Extremely poor weather during the winter survey interval (January and February 2005) severely limited the region-wide aerial and boat based survey efforts described in the project proposal and study plan. Although we hope to accomplish the full region-wide winter survey (including aerial, boat, and ground based surveys) in January and February 2006, we did have some important successes in our 2005 winter efforts that yielded significant information.

- Aerial surveys were flown for four days in the Aleutian Islands within the Izembeck National Wildlife Refuge. A total of 124 BLOY were seen.
- Boat Based Surveys of the coastline of Kodiak Island were conducted over eight days between 10 January and 25 February 2005. A total of 1655 BLOY were seen, indicating that as much as 15% of the Global BLOY population winters on Kodiak Island.
- A ground-based survey of Middleton Island was conducted between 16 and 23 February 2005. Zero BLOY were observed. This confirmed that although Middleton is an extremely important breeding area, it is not an important wintering site. It is unknown where the nearly 1100 breeding birds go for the winter.
- No banded birds were sighted in any of these fractured winter efforts. We anticipate that the full survey in 2006, coupled with having a larger proportion of the population banded will yield information on inter-seasonal movements.

APPENDIX A

SUMMARIES FROM INDIVIDUAL BLACK OYSTERCATCHER STUDY AREAS FOR THE 2005 FIELD SEASON.

Kenai Fjords National Park:

1. 32 territories monitored
2. 27 breeding pairs
3. 7 adults captured and banded
4. 19 chicks captured and banded
5. 27 blood samples and 12 eggshell membrane (39 total) samples collected for genetic research.

Middleton Island:

1. 60 territories monitored
2. 60 breeding pairs
3. 20 adults captured and banded
4. 38 chicks captured and banded
5. 117 blood samples and 29 eggshell membrane (146 total) samples collected for genetic research.

Prince William Sound:

1. 31 territories monitored
2. 28 breeding pairs
3. 6 adults captured and banded
4. 24 chicks captured and banded
5. 28 blood samples and 25 eggshell membrane (53 total) samples collected for genetic research.

Glacier Bay National Park:

1. 66 territories monitored
2. 50 breeding pairs
3. 19 adults captured and banded
4. 23 chicks captured and banded
5. 49 blood samples and 13 eggshell membrane (52 total) samples collected for genetic research.

Project Cost: Federal \$39,073 + State \$13,024 = Total \$52,097

Principal Investigator: David Tessler

f. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)

Project Objectives

1. Begin an initial inventory of landbirds on ADF&G special lands, collect the associated habitat information on these lands, and establish sites for long term monitoring.
2. Constitute the ADF&G as a full and contributing partner in the cooperative Alaska Landbird Monitoring Survey.
3. Contribute the collected data to the ALMS for inclusion in statewide analyses of population sizes, trends, and habitat associations.
4. Provide State land managers, planners, and biologists with baseline bird and habitat data for their specific areas, as well as access to the statewide ALMS data set, to support research and decision making on management, planning, and permitting issues.
5. Assess the efforts and annual costs for these inventory and monitoring efforts, and develop a strategic long-term plan for landbird inventory and monitoring on all State lands.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. and 5. The first field season (2004) of this three-year pilot study demonstrated that the purely random sampling design of the ALMS may be prohibitively expensive for ADF&G participation in light of the limited amount of information that may be useful to state land managers. This season, 2005, we examined using the methodology of the North American Breeding Bird Survey (BBS): This method is based on a random selection of roads.
 - This season, two BBS routes were surveyed in June 2005: one along the Lake Louise Road, and the other along the McCarthy Road. These two long-term BBS routes were established previously, but have not been monitored for a number of years.
2. AND 3. CONTRIBUTING TO ALMS
 - Data from 2004 efforts were collated and submitted to USGS Alaska Science Center for inclusion in Alaska wide analyses. This information was also presented at the December 2004 Boreal Partners in Flight Meeting: Inventory and monitoring of avifauna in remote locations: A case study in cost vs. benefit.
 - Represented ADF&G on an interagency committee to establish and implement an interagency memorandum of understanding adopting the Alaska Landbird Monitoring System (ALMS). This MOU was formally adopted and executed June 2005.
 - Represented ADF&G on two committees to revise ALMS protocols: 1) improve habitat data collection parameters and procedures and 2) amend the random sampling design of ALMS by stratifying by accessibility in order to decrease costs and increase participation among partners.
4. 2004 DATA WAS SUBMITTED TO USGS ALASKA SCIENCE CENTER FOR INCLUSION IN STATEWIDE ALMS ANALYSES. 2005 DATA WAS COLLATED AND SUBMITTED FOR POOLED BBS ANALYSES BY THE USGS MANOMENT CENTER.

Project Cost: Federal \$2,865 + State \$955 = Total \$3,820

Principal Investigator: David Tessler

g. An interagency citizen science program to coordinate the collection of important baseline biological data and build constituency: A pilot program focusing on wood frogs, bats, and grebes.

PROJECT OBJECTIVES:

1. To create a cooperative, coordinated, inter-agency citizen science program to: Collect region-wide baseline biological data; Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game; Develop working alliances between ADF&G and local partners to focus efforts on nongame issues; Pool resources to widen the scope and relevance of selected citizen science research projects; Increase program visibility for all partners, and build a constituency to support nongame efforts.
2. Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species: Wood frog (*Rana sylvatica*); Little brown bat (*Myotis lucifugus*); Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).
3. Continue the collection of baseline distribution data for woodfrogs, initiated in 2002 in the Cook Inlet Watershed: Document the presence and approximate number of wood frogs in specific lakes; Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously; Characterize habitats important to wood frog reproduction.
4. Collect baseline data on the distribution of the little brown bat in Southcentral and interior Alaska: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats; Identify and investigate potential winter hibernacula; Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.
5. Collect baseline data on the distribution of Red-necked and Horned Grebes on lakes in Southcentral Alaska: Determine nesting densities and productivity on lakes supporting loons and grebes.

SUMMARY OF PROJECT ACCOMPLISHMENTS:

1. Developed the Partnership for Citizen Science with USFWS Migratory Bird Management, Chugach National Forest, Alaska Natural Heritage Program, Alaska Zoo. Together we developed the Program outline, the goals and objectives for the individual projects, and determined the roles and responsibilities of the individual agency participants, as well as the shared programmatic responsibilities. Developed and published the Citizen Science Program Web Page (<http://www.akcitizenscience.net>) which describes the various projects and links to their individual web pages. The initiation of the Program was announced to the public in Southcentral and Interior Alaska through multiple Public Service Announcements on radio and in local newspapers, and through direct contacts with school districts and home-schoolers.
2. Developed three central projects to kick off the Citizen Science Program: 1) The Alaska Wood Frog Monitoring Program; 2) Alaska Bat Watch; and 3) Alaska Loon and Grebe Watch. These common elements were developed for each of these three projects:
 - Coordinated curricula and core informational and background materials;
 - A repeatable, defensible survey design addressing individual project goals;
 - Survey instructions and data forms for public distribution and posting on the web;
 - A CD for distribution to participating agencies and groups. For each project, these CDs contained all the necessary background information to conduct public programs; three separate, age appropriate Power Point

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presentations (grammar school, middle and high school, and mixed adult and family); instructions for participating in the various survey efforts, and the associated data sheets for surveys;

- Educational Posters for Schools and participating groups highlighting the species, and the Alaskan issues facing them;
- A web site (www.akfrogs.net, www.akbats.net, and www.akloonwatch.net) containing information about the various species, the objectives for each of the projects, survey instructions, and data sheets.
- A coordinated outreach effort that included project specific PSAs in local newspapers and radio stations, direct contacts with southcentral and interior public school districts and home-schools, and direct contacts with additional participating entities (i.e. the Alaska Center for Coastal Studies, Prince William Sound Science Center, Campbell Creek Science Center).

3. WOODFROG SURVEYS

- Two student interns from Alaska Pacific University came on as volunteers from March to May to coordinate and give public presentations and encourage participation in the monitoring effort.
- A total of 15 public and school presentations were offered by various presenters throughout southcentral Alaska.
- Approximately 100 wetland sites were surveyed by volunteers, from Shageluk to Cordova, AK. (The total number of participants and sites surveyed will not be available until all the data forms are returned).
- There was a very high degree of public interest and response to this project, generated in part by a number of generous newspaper articles.
- Volunteer observers have reported apparent high rates of frog abnormalities in four distinct areas in the Matanuska-Susitna valley that are currently being investigated and will be examined more thoroughly Spring and Summer 2006.

4. Bat Surveys

- Three public programs on bats were offered in the Anchorage area prior to 30 June 2005.
- Public interest appears to be very high in this project, although it can't be quantified until all observation forms are returned, and the observation period will continue until the end of September 2005. To date 30 observation forms have been returned.

5. Loon and Grebe Watch

- One student intern from University of Alaska Anchorage came on as a volunteer from May to September to coordinate and give public presentations and encourage participation in the monitoring effort.
- Two public programs on Loons and Grebes were offered in the Anchorage and mat-Su areas prior to 30 June 2005.
- Like the bat project, the observational period will continue until September 2005, and assessing participation and number of lakes monitored won't be possible until all the data forms are returned this Autumn. However, we estimate 80 to 90 citizen volunteers will monitor just over 100 lakes this year.

Project Cost: Federal \$1,255 + State \$418 = Total \$1,673

Principal Investigator: David Tessler

h. Baseline Survey of Small Mammal Species and their Distribution across the Kenai Peninsula

Project Objectives

1. Compile a history of all documented small mammal studies done on the Kenai Peninsula and conduct additional inventories for small mammal species on the Kenai Peninsula.
2. Assemble the first comprehensive series of small mammal specimens from the Kenai Peninsula for the University of Alaska Museum (UAM).
3. Archive a specimen voucher and frozen tissue database.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. A thorough literature review was completed to determine the known species documented on the Kenai Peninsula in the past 100 years. We used this information to plan what areas on the Kenai Peninsula would be inventoried. The first inventory work started in June of 2005. Two locations were sampled and approximately 200 specimens were collected. Details about species composition and locations are still being summarized by the University of Alaska Museum staff.
2. The first steps toward completing a comprehensive series of Kenai Peninsula small mammals occurred in June of 2005. This objective will be met after additional field work and will be completed in the fall of 2006.
3. Progress for archiving a specimen voucher did not occur. Staff at the University of Alaska Museum is working on archiving the specimens taken during the June 2005 inventory.

Project Cost: Federal \$2,288 + State \$763 = Total \$3,051

Principal Investigator: Thomas McDonough

I. THE POPULATION STATUS AND TREND OF PEREGRINE FALCONS, GYRFALCONS AND OTHER RAPTORS IN WESTERN AND NORTHWESTERN ALASKA (REGION V)

Project Objectives

1. Conduct, or cooperate with other investigators to complete population and production surveys (monitoring) of cliff-nesting raptors in selected areas on a scheduled rotational basis. Primary study areas include:
 - o Lower Yukon River in GMU 18 (once each 5 years);
 - o Southern Seward Peninsula in the vicinity of Nome in GMU 22 (once each 3 years, beginning in June 2002),
 - o Norton Sound coastline in GMU 22 (once each ten years, beginning in June 2010),
 - o DeLong Mountains in GMU 23 (once each 3 years, beginning in June 2004),
 - o Northwest Alaska in GMU 26A (once each 3 years, beginning in July 2002)
 - o Sagavanirktok River in GMU 26B (once each 5 years, beginning in July-August 2004);
 - o Other areas of important raptor habitat may be added as they are identified.
2. Assess contaminant levels by analyzing opportunistic collections of addled eggs and other tissues located or found during production surveys. Note: laboratory analysis is coordinated by US Fish and Wildlife Service and often takes extended time and analysis will be completed when lab results are received.
3. Evaluate the long-term potential for monitoring raptors in the area by comparing current population statistics with historical records.

Summary of Project Accomplishments

1. Summary of survey areas:

Lower Yukon River – last surveyed in 2004; scheduled for survey in June 2009

Southern Seward Peninsula – surveyed in June 2005; annual survey recommended

Norton Sound Coastline – scheduled for survey in 2010

DeLong Mountains – not surveyed; not scheduled due to difficult logistics

Northwest Alaska – last surveyed in 2003; scheduled for survey in June/July 2006

Sagavanirktok River – last surveyed in 2002; scheduled for survey in July 2006.

Summary of Southern Seward Peninsula: Aerial surveys of the Southern Seward Peninsula study area were conducted using a R-44 helicopter during a total of 18.7 hours of flight completed on 15, 16, 17, 23, and 24 June 2005. The area surveyed was the same as 2004

and included areas extending approximately 75 km east, 65 km west, and 140 km north of Nome (approximately 16,000 km²). Previously mapped nest sites and areas of nesting habitat (N=483) were checked for occupancy by slow-speed fly-by survey techniques using GPS navigation to move from site to site. No landings or ground inspections were made during the survey. Remote fuel caches were established to allow extended surveys away from Nome. Raptors with eggs or young in nests were seen at the following total sites: Common Raven – 22; Rough-legged Hawk – 81; Golden Eagle – 21; Gyrfalcon – 43; Peregrine Falcon – 7; additionally Canada Goose occupied 10 nest cliffs. Total raptor abundance (including ravens) was 174 nest sites, yielding an approximate occurrence of 1 pair per 90 km². Compared to 2004, raptors were more numerous in the Southern Seward Peninsula survey area.

2. Tissue samples for contaminants were not collected during the reporting period. Feather samples from gyrfalcons were collected from the Seward Peninsula and Kotzebue area by staff from The Peregrine Fund in July 2004 to provide genetic samples for an analysis of North American and Greenland populations. Results of the genetic studies were not received or published during the reporting period.
3. Annual surveys are providing population trend information for the Seward Peninsula and Northwest Alaska study areas. Gyrfalcon and Golden Eagle numbers are quite stable in both survey areas. Rough-legged Hawks show considerable annual variation and this is attributed to variation in available prey. Peregrine Falcons have been slowly increasing in abundance, although their numbers still remain low due to limited availability of suitable nesting habitat.

Project Cost: Federal \$17,696 + State \$5,899 = Total \$23,595

Principal Investigator: Peter Bente

j. Inventory of Western Toads on Montague Island

Project Objectives

1. Determine the timing of breeding and development of tadpoles in PWS.
2. Determine the approximate range of toads on Montague Island.
3. Design a repeatable survey to determine relative abundance of toads.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. The earliest tadpole observations were on June 26th at San Juan Bay on southwestern Montague Island. Tadpole body size was approximately 1 cm, with no appendages other than the tail. This indicated that timing our tadpole search with deer pellet transects (May - early June) was too early in the season. However, in previous years we have observed adult toads and egg masses during deer pellet surveys. The breeding pond located at San Juan Bay had a higher pH (5.5) and warmer water temperature (24° C) than those tested at Rocky Bay (pH 4.5 – 5.0, 14-18° C). The breeding pond at San Juan Bay was on the coast while those tested at Rocky Bay were further inland.
2. We searched for western toads and tadpoles along lakes and ponds encountered while conducting deer pellet surveys in Rocky Bay on the northeastern end of Montague Island. Upon completion of transects, we walked different routes back to the shore so that we spread the search over a broader area. Of the three deer pellet transects in Rocky Bay, two along the north shore (650 and 530 meters in length) had limited potential habitat because of steep topography and few ponds. The third transect (2,000 m) runs inland from the south shore and transits through many small ponds and lakes. As in FY04, we found no toads or tadpoles present in the Rocky Bay area. We will continue to

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search the area because 1) I observed a dead toad during the late 1990's, and 2) it is convenient to do so while conducting deer pellet surveys.

3. Data collected from 1 toad breeding pond and 5 ponds searched unsuccessfully for toads were entered into an Excel database for analysis. I have only observed 1 batch of tadpoles over many hours searching for toads. The catch per unit effort (CPUE) technique that I intended to use is not a good fit when applied to a catch of such low density. Unless areas of high density are found, or the overall population increases, a more simple presence or absence approach is probably adequate.

Project Cost: \$0.00

Principal Investigator: Dave Crowley

k. Distribution, abundance and ecology of forest owls in Southeast Alaska

Project Objectives

This project is the same as that funded by the partnerships grant T-1-6 Project 13. T-1-8-1 funds participation in that project of ADF&G Wildlife Biologist Steve Lewis by paying his salary costs. Lewis' activities on the project are identical to those of other project staff. This project is divided into three phases, each scheduled to last approximately one year. During the current reporting period (July 1, 2004 – June 30, 2005), data collection associated with Phase 1 of the project was completed. Objectives of Phase 1 were: (1) to establish the Southeast Alaska Owl Network; and (2) to develop a survey protocol for forest owls in Southeast Alaska. Objectives for each component of Phase 1 were:

1. The objectives of the Southeast Alaska Owl Network are to (a) describe seasonal distribution of forest owls in Southeast Alaska, and (b) establish a network of trained volunteers to participate in region-wide owl monitoring efforts.
1. The objectives of the field component of Phase 1 are to (a) develop a standardized survey technique for estimating abundance of forest owls, and (b) determine the influence of temporal, weather, and lunar factors on vocalizations of forest owls in Southeast Alaska.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. The Southeast Alaska Owl Network was established, in cooperation with the U.S. Fish and Wildlife Service and the Juneau Raptor Center. To date, 52 volunteers have been recruited and trained in 14 communities in Southeast Alaska. Volunteers spent 228.5 hours surveying for forest owls and have detected 26 owls during surveys. Volunteers submitted anecdotal reports of 37 owls. I assisted in the establishment of this volunteer Network, designed and distributed training material for volunteers, and answered volunteer questions concerning owl sighting. (Objective 1a and 1b)
2. Owl surveys were conducted starting February 28, 2005 and ending June 17, 2005. Fifty-nine stations in Petersburg and 36 stations in Juneau were surveyed one time each 10 day period (assuming acceptable weather conditions). Weather measurements were recorded during each survey. Five species of owls were detected during the survey period. I designed, implemented, and conducted these surveys. (Objective 2a)
3. Two western screech-owls and 2 northern saw-whet owls were captured using mist nets and affixed with backpack-mounted radio transmitters. No mortalities occurred during capture activities. Owls were banded using standard U.S. Fish and Wildlife Service bands and morphometric measurements were recorded. The purpose of radio-marking owls was to learn more about the relationship between breeding status and singing behavior. We will be analyzing data gathered from marked owls to determine if this was a realistic goal. I captured and handled all owls for this project. (Objective 2b)
4. Additionally, we collected data on owl use-areas size and locations of day roosts using marked birds. We made quantitative measurements of owl roost trees. These data will be used to better understand owl habitat use and thus the most effective way to design surveys. I located owls during days between survey-nights and collected these data. (Objective 2a)

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Project Cost: Federal \$19,768 + State \$6,589 = Total \$26,357

Principal Investigator: Stephen Lewis

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Reports of Nongame research activities associated with Objective 4
(No Stewardship Investment cost unless otherwise indicated)

a. Wood Frog (*Rana sylvatica*) baseline investigations in Interior Alaska

Project Objectives

1. Describe standard morphometrics of wood frogs in Interior Alaska
2. Determine rates of malformations in wood frogs in Interior Alaska
3. Submit wood frog samples for chytrid fungus evaluations
4. Describe annual phenology of wood frogs from Interior Alaska

Summary of Project Accomplishments

1. During 2005, an additional 125 wood frogs were captured, weighed and measured (snout-vent length). To date a total of 364 frogs have been examined and growth curves constructed.
2. Of 364 frogs examined, only 2 have been malformed. It appears that those malformations resulted from predation attempts during early morphological life stages (tadpole stage). Observed rate of malformation over three years is at 0.5%.
3. No additional frogs have been screened for chytrid fungal infections. From earlier analyses, it does not appear to be a factor in wood frog malformations in Interior Alaska.
4. During this reporting period, adult wood frogs were first observed 12 May. Egg masses were observed simultaneously, indicating that adults had been active for at least a week prior to observation. Anecdotally, I heard reference to wood frog vocalizations on 22 April during 2005. During 2004, adult frogs were observed on 21 August, and I assume that hibernation occurred soon after that date.

Project Cost: \$0.00

Principal Investigator: Jackson S. Whitman

b. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska

Project Objectives

1. Use standard small mammal trapping protocols for collecting specimens and precise capture locations. Conduct microhabitat evaluations at each capture site and attempt to characterize habitat preference for each species encountered.
2. Establish at least 8 small mammal snaptrapping transects in the Fairbanks area for documenting annual fluctuations and relative frequency of occurrence of species. These data will be used for assessing relative abundance of small mammals in relation to boreal owl nesting density and/or productivity.
3. Collect ectoparasites from captured small mammals, identify to species (where practical), and provide a list of parasites by host species.
4. From trapped animals, provide samples for monitoring viruses in Interior Alaska (Hanta virus from mammals, West Nile virus from incidentally-captured avians).

Summary of Project Accomplishments

1. Using a combination of museum special snaptraps and pitfalls, a total of 455 vertebrates were captured in 1831 trapnights in Interior Alaska during 2004. Eleven species of small mammals were captured (*Clethrionomys rutilus*, 290; *Synaptomys borealis*, 13; *Microtus pennsylvanicus*, 30; *M. miurus*, 1; *M. oeconomus*, 33; *Lemmus trimucronatus*, 1; *Tamiasciurus hudsonicus*, 1; *Glaucomys sabrinus*, 1; *Sorex cinereus*, 64; *S. monticolus*, 1; *S. hoyi*, 5). All captured mammals were donated to the University of Alaska Museum for curation. Microhabitat vegetation sampling, consisting of counting or estimating all vegetative stems that were ≥ 1 cm tall within a 1-m radius of the trapsite, was conducted at most capture locations as well as at over 300 non-capture locations. Statistical analyses are continuing on those data to assess preference or avoidance by small mammal species.
2. The nine standardized transects for monitoring species composition and annual fluctuations of small mammals were completed in 2004. Captures of *Sorex* species were not significantly different from 2003. Captures of *Clethrionomys rutilus* were 4.1x greater in 2004 than in 2003, indicating a strong rebound in

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their populations. Likewise, other arvicoline populations showed significant increases. It appears that, with a 1-year lag period, nesting boreal owls (*Aegolius funereus*) are very responsive to small mammal density increases, with active boreal owl nesting increasing 5-fold from 2004 to 2005.

3. No additional collections of ectoparasites were conducted. Analyses of species composition of parasites collected during 2003 has yet to be completed.
4. A total of 15 avians were captured incidentally in small mammal snaptraps. Because none were likely candidate species for West Nile viral testing, no samples from 2004 were submitted for analyses. Earlier samples for Hanta virus testing from small mammals were negative, so no additional sampling was completed during 2004.

Project Cost: Federal \$453 + State \$151 = Total \$604

Principal Investigator: Jackson S. Whitman

c. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska

Project Objectives

1. Establish protocol and conduct spring listening surveys for boreal owls, great horned owls, and great gray owls in Interior Alaska.
2. Establish nest boxes along accessible transects to evaluate feasibility of spring listening surveys for determining annual owl nesting abundance.
3. Assess annual productivity of nesting boreal owls throughout an array of habitat types.

Summary of Project Accomplishments

1. A protocol was developed in 2004 based on Canadian methodology for surveying boreal forest owls in Interior Alaska. During spring 2005, 7 survey routes were conducted a total of 27 times between 15 February and 15 April by 14 biologists and volunteers. A total of 569 point counts was completed. Boreal owls were detected a total of 109 times, while great horned owls and great gray owls were detected 189 and 4 times, respectively. Forty-two additional monitoring hours of a singing male boreal owl were completed in an effort to quantify environmental parameters that affect singing rates.
2. A total of 118 boreal owl nest boxes were monitored during 2005. Because of overwinter box attrition, 112 boxes were available for occupancy. Twenty-nine boxes were used by boreal owls (26% occupancy rate) and 7 by American kestrels. A total of 125 boreal owls fledged from 25 successful boxes, as well as 30 kestrels from 6 successful boxes. Only 10 of 59 (17%) listening stations within 1 km of active boreal owl nest boxes resulted in detections. This detection rate compares favorably with results from 2004 (14%). Further analysis of the efficacy of monitoring owls through listening surveys and/or nest box monitoring will occur during 2006.
3. Because of the availability of natural nesting cavities and the concurrent inability to detect nesting activity using hooting surveys for boreal owls, actual nesting density over large areas may not be feasible. High use of nest boxes during 2005 was thought to be a result of high populations of arvicolines (microtines). Analyses of prey items in nest boxes along one of 4 routes (Steese Highway) revealed the presence of 271 prey items of at least 15 taxa. Northern red-backed voles (*Clethrionomys rutilus*) made up the bulk of the prey (68%). Further analyses of boreal owl diet will continue. Results from standardized small mammal traplines indicated that arvicoline abundance was extremely high during 2005.
4. High use of nest boxes by boreal owls in 2005 should allow analyses of productivity by major habitat type. One additional year of productivity data should reveal productivity differences and habitat preferences. Analyses will continue in an effort to describe differences between productivity in four major overstory types (white spruce, black spruce, paper birch and aspen). Ninety-three 0.01-acre timber stand exams have been conducted at boreal owl nest boxes to assess preference or avoidance of any particular stand type. Analyses will continue.

Project Cost: Federal \$4,147 + State \$1,382 = Total \$5,529

Principal investigator: Jackson S. Whitman

d. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine, Northwest Alaska

Project Objective

1. Determine the extent of heavy metal contamination in various small mammal species living in proximity to Red Dog Mine and haul road in Northwest Alaska. Work in cooperation with ADEC and Cominco Tech in designing project.

Summary of Project Accomplishments

1. No progress was made during this reporting period to determine extent of heavy metals contamination in small mammals proximate to Red Dog Mine. Discussions during 2003 with mine operators and the State of Alaska Department of Environmental Conservation have not resulted in actual field efforts at this time.

Project Cost: \$0.00

Principal Investigator: Jackson S. Whitman

E. EFFECTS OF SNOWSHOE HARE POPULATION CYCLES ON DEMOGRAPHY OF GOLDEN EAGLES IN THE ALASKA RANGE

Project Objectives

1. Assess changes in abundance of hares during a declining phase of the population cycle
2. Determine the size of the population of territorial golden eagles each year
3. Determine the number of successful eagle nests and number of eagles fledged each year
4. Document diets of nesting golden eagles
5. Data analysis and report writing

Summary of Project Accomplishments

1. Hare abundance was estimated at at O'Brian Creek and Kansas Creek during July and August 2004 and at Dry Creek during June 2005, using counts of fecal pellets on plots surveyed annually since 1999. Additional plots were surveyed at O'Brian Creek and Kansas Creek during July and August 2005. These data suggest that snowshoe hares have begun to increase following the cyclic low that occurred during 2001–2003, but the hare population is still considerably less than during the peak years of 1999–2000.
- 2 and 3. In cooperation with the National Park Service, helicopter surveys of eagle nests were conducted during July 2004 and June 2005. During 2004, 10 occupied nests were found that produced at least 9 young birds that survived until mid July (near fledging). During 2005, 9 occupied nests produced at least 10 young birds that survived until late June. These results were similar to results from 2003 and a substantial increase from 2002, when only one occupied nest was found, and that nest failed. However, of the 29 nests first surveyed during July 2000, only 4 were occupied during 2004, producing 2 young birds that survived to fledging, and only 4 were occupied during 2005, producing a total of 3 young birds. In contrast, 7 of these nests were occupied during 2000, each producing 1 young bird.
4. Due to scheduling conflicts and difficulty in accessing nests, no eagle nests were visited during this period. Predation of Dall sheep lambs by eagles was documented during a concurrent study (Federal Aid project 6.14) examining rates and causes of mortality of radiocollared lambs. Eagles were the most important predator of lambs born in 2004, accounting for 38% of deaths for which the cause could be determined ($n = 17$). Most of these deaths occurred during May and June, while eagles were nesting and young lambs were most vulnerable.
5. No progress during this period.

Project Cost: Federal \$8,439 + State \$2,813 = Total \$11, 252

Principal Investigator: Steve Arthur

f. Avian mortality at communication towers in Southeast Alaska

Project Objectives

1. Assess bird mortality from tower collisions
2. Identify and count carcasses at the sites
3. Mark carcasses to determine the rate of scavenging and removal from the sites

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. From March to June 2005, six field surveys were conducted at the Sitka Airport and three at the Biorka Island sites. The first surveys assessed tower and guy wire orientation (height, length, and connection configurations), distances between tower arrays, lighting, and ground conditions. Initial surveys at each site collected and removed all bird remains within a defined survey area and established a specific survey pattern that was duplicated for each additional survey. Subsequent surveys noted the location of bird remains, their general condition, identification of species, and then were placed in plastic bags and removed from the site. Any carcasses deemed of interest to scavengers had their location plotted on the survey map, marked with a small pin flag and left on-site.
2. Site photos at each tower location were collected and an aerial photo survey was done to update our files.
3. All feathers and carcass parts collected (approximately 400 pieces) have been identified when possible. Digital photos were collected of carcasses and feather concentrations on-site. Owl pellets found at the Sitka Airport site were collected for analysis. The presence and activities of avian scavengers was documented during approximately 27 hours of observations at the sites. The presence of terrestrial scavengers (mink, river otter, and Norway rats) was documented from scat and tracks.
4. Surveys conducted to date have involved the Area Biologist and resulted in refinements of the survey methods from the initial work. Intensive surveys during migration periods will be initiated in the fall of 2005 and spring of 2006 and will be covered in the next report period. In addition to a greater assessment of bird mortality at the sites, the surveys will attempt to identify all classifications of scavengers; refining the rate of scavenging and removal of carcasses from the sites.

Project Cost: Federal \$2,016 + State \$672 = Total \$2,688

Principal Investigator: Phil Mooney

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

STATE WILDLIFE GRANT (SWG)

STATE: Alaska

GRANT AND SEGMENT NR.: T-1-8

PROJECT NR.: 1

WORK LOCATION: Statewide

PROJECT DURATION: 1 July 2002 – 30 June 2006

PROJECT REPORTING PERIOD: 1 July 2005 – 30 June 2006

PROJECT TITLE: Conserving Alaska's Biodiversity

Project Objectives and Summary of Accomplishments:

1. Establish what research is/has been conducted or is planned for.
 - a. Conduct literature searches.
 - b. Hold/attend internal and/or interagency workgroup meetings as appropriate.

Accomplishments

1 a. and b. Extensive literature searches were conducted for new and ongoing projects. See project reports in Appendix for details. Additional information on research activities was gathered through literature searches, direct consultation, and participation in professional meetings. Regional nongame staff interact regularly with other agency biologists at both formal and informal meetings to discuss research needs, objectives, and implementation of Alaska's Wildlife Action Plan. They also review and edit manuscripts for professional research publications like the Journal of Wildlife Management. Lastly, the Nongame Program meets at least once each year to discuss program direction, priorities, coordination, and implementation; teleconferences occur at regular intervals.

2. Participate in partnerships.
 - a. Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame birds and other nongame species, and coordinate participation by ADF&G staff in those partnerships.

Accomplishments

ADF&G actively participated in partnerships in a variety of ways.

- Meetings attended included: Southeast Alaska GIS Data Library, University of Alaska Foundation Gavin Memorial Migratory Bird Research Committee, University of Alaska Southeast Genetics Lab, Alaska Bird Communications Team, Boreal Partners in Flight, Alaska Shorebird Working Group, Loon and Grebe Working Group, Alaska Bird Conference, Alaska Black Oystercatcher Working Group, Pacific Seabird Working Group, Marbled Murrelet Working Group, Alaska Amphibian Monitoring and Conservation Working Group, and Second Statewide Amphibian Meeting. Nongame Program staff were active in planning and organizing several of these meetings. In addition, Dave Tessler served as co-chair of Boreal Partners in Flight.

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- Michelle Sydeman and Mary Rabe actively participated in discussions at the Wildlife Diversity Program Managers meeting in January 2006 focusing on multi-state issues, concerns, and partnerships.
- Mary Rabe attended the Nongame Technical Committee meeting of the Pacific Flyway Council, representing the State of Alaska on nongame bird conservation policy issues.
- ADF&G staff provided expertise on nongame species and their habitat for project and permit reviews.
- Nongame Program staff initiated discussions with the University of Alaska museum to organize a statewide small mammal working group to focus on mammal conservation issues and implementation of Alaska's Wildlife Action Plan. It was decided to organize a half-day symposium as part of the 2007 spring meeting of the Alaska Chapter of The Wildlife society.
- Mary Rabe also attended the Western Association of Fish and Wildlife Agencies meeting to design regional and multi-state projects for implementation of state Wildlife Action Plans.
- We oversaw 19 partner projects in the State Wildlife Grants T-1-6 and T-1-16 program with a total SWG/Partner matching budget of approximately \$1.1 million involving research, survey and inventory, and monitoring activities. Nongame Program staff, as well as other staff biologists, participated in coordination meetings with partners. Several staff worked cooperatively on the Partner Program, which resulted in the selection and funding of 2 new projects under the T-1-16 grant agreement representing collaborative efforts between ADF&G staff and partners: Project 4 "Ranking of nongame species and conservation priorities," Alaska Natural Heritage Program; and Project 5 "Detecting trends in marbled murrelet populations in Southeast Alaska," University of Washington. Two existing partner projects under the T-1-6 grant agreement were expanded to incorporate additional high priority conservation work: Project 9 "Distribution and phylogeography of collared pika and Alaska marmot in Alaska," University of Alaska Museum; and Project 14 "Current Population and Decadal Trends of Kittlitz's and Marbled Murrelets in Kachemak Bay," US Fish and Wildlife Service. Two existing partner projects under the T-1-16 grant agreement were expanded to incorporate additional high priority conservation work: Project 1 "Marbled Murrelet Activity Patterns and Health at Port Snettisham, Alaska," Wildlife Trust; and Project 2 "Monitoring Shorebirds on Barrier Island Beaches: Copper River Delta," Prince William Sound Science Center.

3. Coordinate and participate in monitoring, survey and inventory programs.

Accomplishments

The following inventory, survey, and monitoring projects were active under this grant. See reports in the accompanying Appendix.

- a. Nesting inventory of selected raptors in Interior Alaska
- b. Distribution, densities, and nesting success of raptors in Northwest Alaska
- c. Baseline inventory of bald eagle (*Haliaeetus leucocephalus*) and osprey (*Pandion haliaetus*) nests on Minto Flats State Game Refuge, Alaska
- d. Monitoring Marbled Murrelet (*Brachyramphus marmoratus*) populations in northern Southeast Alaska
- e. An integrated regional ecological assessment of the Black Oystercatcher (*Haematopus*

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bachmani) in Alaska

- f. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)
- g. An interagency citizen science program to coordinate the collection of important baseline biological data and build constituency: a pilot program focusing on wood frogs, bats, and grebes
- h. Baseline Survey of Small Mammal Species and their Distribution across the Kenai Peninsula
- i. The population status and trend of peregrine falcons, gyrfalcons and other raptors in western and northwestern Alaska (Region V)
- j. Inventory of Western Toads on Montague Island
- k. Distribution, abundance, and ecology of forest owls in Southeast Alaska
- l. Walrus Tagging Aboard the Russian Icebreaker MAGADAN, Bering Sea, March-April 2006 — Support for Personnel

As additional coordination activities for inventory, surveying, and monitoring projects, we purchased a boat for use on marbled murrelet monitoring and other anticipated projects in Southeast Alaska, and we shipped equipment and supplies to the Bristol Bay area in preparation for a survey of seabirds to be done under grant T-3 (Project 2.11).

4. Coordinate and participate in directed studies on high priority species.

Accomplishments

The following directed studies were active under this grant. See reports in the accompanying Appendix.

- a. Wood Frog (*Rana sylvatica*) baseline investigations in Interior Alaska
- b. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska
- c. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska
- d. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine in northwest Alaska
- e. Effects of snowshoe hare population cycles on demography of golden eagles in the Alaska Range
- f. Avian mortality at communication towers in Southeast Alaska

5. Research and plan conservation actions proposed to conserve identified species and habitats.

Accomplishments

In addition to conservation actions identified by species experts for Alaska's CWCS, ADF&G staff worked with others both inside and outside the agency to share information and talk about priority species and habitats. Much of this effort is carried out through participation in species specific working groups like the Alaska Shorebird Working Group, Pacific Seabird Working Group, Statewide Landbird Working Group, and others described under the partnership section.

6. Gather staff, public, and agency/organization information and input, and develop strategies for drafting Alaska's Comprehensive Wildlife Conservation Strategy (CWCS).

- a. Develop a timeline, strategies, measurable objectives, and key responsibilities relating to the jobs in this project for the coming year. Monitor progress throughout the year and update as required.
- b. Coordinate and communicate with representatives from Federal, State, local agencies, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats regarding management and research priorities, plans, progress, and findings. Provide opportunities for face to face work sessions and information exchanges that link work efforts with ongoing planning processes.
- c. Communicate with and solicit input from a geographically, culturally, and socially diverse cross section of Alaskans regarding planning for the conservation of Alaska's biodiversity. Use a variety of tools and forums to attract and encourage thoughtful participation. These may include popular lectures on research findings or problems, workshops on biodiversity, field trips to critical habitats, staffed or unstaffed informational exhibits at venues where diverse or targeted concentrations of people occur (conferences, fairs, etc.), species-specific workshops, and/or newsletters (electronic or print). At these venues have appropriate feedback/input mechanisms (surveys, recordings, comment forms) available and strongly encourage responses.
- d. Gather information about and develop monitoring strategies for addressing problems (pre-existing, emergencies such as spills, or planned such as developments) that may adversely affect species of greatest conservation concern, either directly or through habitat changes. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

Accomplishments

The department continued to support a five member interdivisional CWCS Task Force charged with primary responsibility for completing the Strategy with assistance from a two member Oversight Committee. Members of both groups provided regular updates to directors, commissioners, ADF&G staff and partners. Agency staff wrote sections of the Strategy, provided comprehensive reviews of the completed draft, and helped address comments submitted during the public review phase. The completed CWCS was submitted to the National Acceptance Advisory Team (NAAT) in September 2005. Final plan approval was announced by the FWS in December 2005. (Additional activities and accomplishments are reported in the U-1-1 final report.)

- a. A continuously monitored and up-to-date process and timeline for developing the CWCS was maintained through the report period at <http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm>.
- b. Task Force members continued to work closely with key partners to finalize the Strategy. These include the Alaska Natural Heritage Program, The Nature Conservancy of Alaska, U.S. Fish and Wildlife Service, and Audubon Alaska. Additional opportunities to coordinate and communicate were provided through the CWCS home page (<http://www.sf.adfg.state.ak.us/statewide/NGPlan/NGhome.cfm>). Appendix 6 of the CWCS (http://www.sf.adfg.state.ak.us/statewide/ngplan/NG_outline.cfm) summarizes and presents results of Alaska's CWCS public scoping and review efforts. Staff participated in a variety of working groups and meetings (described in Objective #2 above) to discuss management and

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research priorities, plans, progress, and findings; and link work efforts with ongoing planning processes. Following FWS approval, the CWCS was made available to a variety of partners and interested parties as bound hard copy or as electronic files on CD.

- c. This activity was accomplished in a previous reporting period.
- d. Information and strategies for addressing problems that may adversely affect nongame species was obtained through literature review, research and expert group meetings. Species experts and peer reviewers finalized species conservation strategies for the CWCS. Research and surveys were established to identify factors that may assist in restoration and more effective conservation of species and their habitats (see accomplishments for Objectives 3 and 4).

7. Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in this comprehensive planning effort.

- a. Develop publications, news articles, presentations, web pages, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and other conservation challenges.

Accomplishments

The division continued efforts to better inform the public about nongame species, Alaskan ecosystems, and issues pertaining to the conservation of Alaska's biodiversity. Projects included the following:

- Produced "Sounds Wild," a 90-second weekly radio program on Alaska's wildlife, which airs in about 35 communities throughout Alaska. Last year 25 episodes featured nongame species and issues related to their conservation. Other episodes related to Alaska's ecosystems.
- Published *Alaska Wildlife News*, an online magazine, including 15 articles on nongame species. Article topics included SWG-funded owl research, songbirds of Alaska, the status of toads and frogs, and citizen science. Ten of these articles also ran in Alaska newspapers.
- Published an 82-page book on the wildlife of Alaska's Inside Passage. The book featured many nongame species and described the varied ecosystems of Southeast Alaska. 28,000 copies were printed for distribution. The U.S. Forest Service paid for 23,000 of these.
- Created an owl website and developed presentations about forest owls to recruit community volunteers for a citizen science monitoring program. Gave owl presentations in several communities.
- Wrote newspaper articles and created a radio program about marbled murrelet biology and their population decline.
- Created a seasonal brochure series for the Mendenhall Wetlands State Game Refuge addressing the importance of habitat for migrating shorebirds and waterfowl.
- Provided ecosystem education as part of each Project WILD/Alaska Wildlife Curriculum teacher training workshop.
- Continued to moderate Beringia Birders list serve to share information on birds in Western Alaska. Added 30 members this year, plus the list contents are republished for online viewing at several sites.

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- Continued to serve as a point of contact to direct citizen observations of issues of non-game research interest to appropriate researchers, including beak deformities, salvage of bird specimens, amphibian and bat sightings, etc.
- Reprinted Wings Over Alaska birding checklist and distributed approximately 20,000 copies. The checklist brochure includes birding ethics, information on reporting rarities, and on sharing birding data through eBird. (Note funding of the brochure reprint is from a private partner. SWG funds pay for related outreach efforts and distribution).
- Co-hosted International Migratory Bird Day event in Juneau, attended by approximately 80 members of the public (+ related media).

8. Oversee and administer the establishment of a nongame program and associated education and outreach efforts, and the development of a Comprehensive Wildlife Conservation Strategy (CWCS), including participating in national and regional conservation strategy coordination efforts.

Accomplishments

Administration and oversight was provided for all program components.

- We supervised 17 staff members supported all or in part by State Wildlife Grant funding.
- We hired staff for 2 positions supported all or in part by State Wildlife Grant funding.
- We managed 18 division projects in the State Wildlife Grant program with a total SWG/State matching budget of approximately \$388,500 involving research, survey and inventory, and monitoring activities.
- We worked with USFWS Federal Aid staff closely to improve project statements and reporting.
- We reviewed goals, objectives, and procedures for 17 new projects in the T-3 grant, 2 new and 2 revised projects in the T-1-16 grant and 3 revised projects in the T-1-6 grant.
- We wrote, reviewed, and/or edited 19 new project statements, and revised 5 project statements for State Wildlife Grant submittals.
- We submitted 1 new AFA, 3 AFA amendments, 1 grant agreement, 6 grant amendments, and 22 new or revised project statements.
- We produced 22 interim performance reports and 10 final reports and submitted them to the Federal Aid office in a timely manner.

Project Costs: Federal share \$980,6543 + state share \$326,884.14 = total cost \$ 1,307,536.60

Prepared By: Mary L. Rabe, Nongame Program Coordinator
Michelle Sydeman, Assistant Director
Tom Paul, Federal Aid Coordinator

Date: September 26, 2006

Reports of Nongame research activities associated with Objective 3

**A. NESTING INVENTORY OF SELECTED RAPTORS IN INTERIOR ALASKA –
FINAL REPORT**

DURATION: JULY 2004 – JUNE 2006 (3 YRS.)

PROJECT OBJECTIVE

Inventory nest sites of selected species of raptors. Maintain archival data records of raptor nest sites throughout interior Alaska.

Summary of Project Accomplishments

1. Nest sites for an additional 5 bald eagles (*Haliaeetus leucocephalus*), 5 northern goshawks (*Accipiter gentilis*), 3 great gray owls (*Strix nebulosa*), 3 great horned owls (*Bubo virginianus*), 4 common ravens (*Corvus corax*), and 8 red-tailed hawks (*Buteo jamaicensis*) were added to the existing data files. Additionally, 44 active boreal owl (*Aegolius funereus*) nest boxes were monitored along with 7 active American kestrels (*Falco sparverius*) in association with the boreal owl project (see below). Over 100 additional stick platforms of seven raptor species were located on Minto Flats State Game Refuge, and will be added to the existing database. Specifics for the Minto Flats raptor nest survey are presented in a progress report below. Continuing attempts to survey different Interior Alaska areas will ensue to better document nest sites.

Project cost: Federal \$398 + State \$132 = Total \$530

Summary of Accomplishments Since Project Inception

Discounting the raptor nests inventoried in the boreal owl and Minto Flats projects, during FY04-FY06 this project mapped nest sites for 11 ospreys (*Pandion haliaetus*), 1 golden eagle (*Aquila chrysaetos*), 18 bald eagles (*Haliaeetus leucocephalus*), 1 northern hawk owl (*Surnia ulula*), 4 great-gray owls (*Strix nebulosa*), 3 great horned owls (*Bubo virginianus*), 5 northern goshawks (*Accipiter gentilis*), 1 merlin (*Falco columbarius*), 12 common ravens (*Corvus corax*), and 12 red-tailed hawks (*Buteo jamaicensis*) and added them to the existing data files.

This project will be discontinued as a formal project. These activities will continue on an opportunistic basis.

Principal Investigator: Jackson S. Whitman

**B. DISTRIBUTION, DENSITIES, AND NESTING SUCCESS OF RAPTORS IN
NORTHWEST ALASKA
FINAL REPORT**

Duration: July 2004 – June 2006 (3 yrs.)

Project Objectives

1. Complete the planning stage for monitoring peregrine falcons in western Alaska. Conduct background searches for peregrine falcon work that has been completed in the past.

2. Work with Region V biologists to complete peregrine falcon surveys along selected watercourses in Western or Northwestern Alaska.

Summary of Project Accomplishments

1. Background literature searches were completed for historical peregrine falcon surveys on the lower Yukon River.
2. No peregrine falcon surveys were completed in Region V during this reporting period. Personnel were not available for field investigations.

Summary of Accomplishments Since Project Inception

Only 1 year of field work was accomplished on this project – FY05. Results of that work which appeared in the FY05 report are presented again here.

During the period 6-13 July 2004, a peregrine falcon (*Falco peregrinus anatum*) nesting survey was completed on the Lower Yukon River from Great Paimiut Island to Mountain Village (approximately 190 river miles). A complete raptor sighting list was also generated. Participants in this effort were Roger and Lilly Seavoy and Jack Whitman.

One hundred nine adult and at least 36 nestling raptors of 7 species were recorded between 7-12 July 2004. Peregrine falcons (*Falco peregrinus anatum*) were the most common species noted. Sightings of rough-legged hawks (*Buteo lagopus sanctijohannis*) and red-tailed hawks (Harlan's hawks; *Buteo jamaicensis harlani*) constituted 20% of the adult sightings. Two active rough-legged hawk nests were also recorded. Bald eagles (*Haliaeetus leucocephalus alascanus*) were observed on 13 occasions, with at least 1 active nest. Ospreys (*Pandion haliaetus carolinensis*) were noted occasionally. Great-horned owls (*Bubo virginianus lagophonus*)(n=4) and a single northern goshawk (*Accipiter gentilis atricapillus*) were also noted. Although nest sites were documented for only 3 raptor species, I suspect all 7 species nest in the vicinity. Raven (*Corvus corax*) sightings were common throughout the trip, and stick nests formerly occupied by ravens were noted, although fledging had already occurred. A significant number of raptors (rough-legged hawks, great-horned owls, ravens) seen were on the ground in *Equisetum* along stream banks. I suspect that they were preying heavily on the seasonally abundant wood frogs.

We surveyed American peregrine falcons (*Falco peregrinus anatum*) along a 220-mile segment of the Yukon River between Great Paimiut Island and Mountain Village. Population monitoring has been conducted on the Lower Yukon River since 1979. Periodic surveys complement annual surveys on established "trend" areas elsewhere in the state. Prior work was completed on this segment of the Yukon River in 2001 (Seavoy, memo to Coady, 17 July 2001) when 30 young were documented at 17 nest sites.

During this effort, no attempt was made to document specific numbers of hatchlings occupying nests. Time allotted for the survey was insufficient to climb each nest site and enumerate chicks. We documented 28 nest locations, and observed a minimum of 36 young falcons at 19 of those sites. An attempt was made to document formerly-banded adults by close observation with binoculars or a spotting scope. None were observed. Neither nestlings nor adults were banded. GPS coordinates were recorded for each nest site observed. When no actual scrape was identified, I recorded locations where activities and/or vocalizations one or both adults were indicative of a nearby nest site.

This project has been discontinued until a Region V nongame biologist is hired.

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Project Cost: Federal \$0 + State \$0 = Total \$0

Principal Investigator: Jackson S. Whitman

c. Baseline inventory of raptors and common ravens (*Corvus corax*) nests on Minto Flats State Game Refuge, Alaska.

Duration: July 2004 – June 2008 (4 yrs.) (Continued under grant T-3)

PROJECT OBJECTIVES

1. Survey Minto Flats State Game Refuge (Refuge) and adjacent lands with fixed-wing aircraft to obtain baseline information on locations of raptor and common raven nest sites.
2. Collect information on locations, nest structure, and species for all raptor and common raven nest platforms encountered. Re-visit all nest site locations with rotor-wing aircraft to accurately characterize vegetation at and in proximity to nest sites and determine species occupancy and productivity.
3. Using previously identified nests (2005 sample) as a “marked” sample, estimate nest structure sightability in the study area, and estimate a minimum density of nests for the most common species, corrected for sightability.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. A grid of 2 minutes latitude and 5 minutes longitude was used to subdivide Minto Flats State Game Refuge and adjacent lands into 188 survey units (SU). Each SU was approximately 5.5 mi² resulting in a total study area of 1,034 mi². One hundred SU were randomly selected and surveyed in 86.4 hours with fixed-wing aircraft at 200-400' above ground elevation. Using only time on SU and excluding transport, a total of 61.22 hours was spent for an average survey intensity of 6.12 min/mi². When adjusted for available nesting habitat, actual survey intensity increased to 6.73 min/mi².

A total of 155 stick nests were observed in selected SU (Table 1) and an additional 25 nests were observed during transit between units (Table 2). Since 2005 (Table 3), a total of 270 unique nests have been located and classified.

1. All nests located in 2005 (Table 3) and 2006 were visited in May with rotor-wing aircraft (Robinson R44) to determine occupancy, productivity, and to classify nest structure and surrounding habitat. All nests, except those that were classified as poor structures, were re-visited in June. A total of 33.6 hours of rotor-wing aircraft time was used to visit located nests from prior fixed wing surveys.
3. In 2005, 129 stick nests were located during a low intensity fixed-wing survey. We used nests found in 2005 that were within selected SU as a “marked sample” to estimate a sightability correction factor in 2006. GPS coordinates collected from fixed-wing aircraft at nest sites in 2005 and 2006 allowed us to verify whether a “marked” nest was resighted and whether “marked” nests that went unsighted were a product of the observers or not available for re-sight (fallen down, etc.). Fifty-eight nests located in 2005 fell within selected SU in 2006. Thirty-four of those nests were located in 2006 and 10 fell down yielding a sightability of 70.8 percent and a correction factor of 1.292.

Table 1. Raptor and common raven nest platforms observed during fixed wing and rotor-wing surveys on selected sample units on Minto Flats State Game Refuge, Alaska, spring 2006.

Species	Active	Inactive
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	10	4
Great Grey Owl (<i>Strix nebulosa</i>)	2	
Great Horned Owl (<i>Bubo virginianus</i>)	6	
Northern Goshawk (<i>Accipiter gentilis</i>)	10	
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	6	
Peregrine Falcon (<i>Falco peregrinus</i>) (rock cliffs)	2	
Common Raven (<i>Corvus corax</i>)	10	
Unknown	2 ^a	103 ^b

^a Nest structure that indicated evidence of being used but young had fledged prior to positive identification of species.

^b Nest structures that were positively classified as inactive but the species of nest builder could not be determined.

Table 2. Raptor and common raven nest platforms observed incidentally and during transit when performing fixed wing and rotor-wing surveys on Minto Flats State Game Refuge, Alaska, spring 2006.

Species	Active	Inactive
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	3	6
Northern Goshawk (<i>Accipiter gentiles</i>)	3	
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	2	
Common Raven (<i>Corvus corax</i>)	1	1
Unknown		20 ^a

^a Nest structures that were positively classified as inactive but the species of nest builder could not be determined.

Table 3. Raptor and common raven nest platforms observed during fixed wing surveys in 2005 and re-visited with rotor-wing in 2006.

Species	Active	Inactive
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	8	
Northern Goshawk (<i>Accipiter gentiles</i>)	2	
Red-tailed Hawk (<i>Buteo jamaicensis</i>)	7	
Peregrine Falcon (<i>Falco peregrinus</i>) (rock cliffs)	2	
Common Raven (<i>Corvus corax</i>)	8	
Unknown		43 ^a

^aNest structures that were positively classified as inactive but the species of nest builder could not be determined.

Project Costs: Federal \$39,276.85 + State \$13,092.28 = Total \$52,369.13

Co-investigators: Jason Caikoski and Jackson S. Whitman

d. Monitoring marbled murrelet (*Brachyramphus marmoratus*) populations in northern Southeast Alaska

Duration: July 2004 – June 2009 (6 yrs) (Continued under grant T-3)

Project Objectives

1. Test and evaluate alternative methods for monitoring marbled murrelets, including boat-based counts, aerial counts, and radar counts.
2. Establish trends in relative abundance and distribution of marbled murrelets in marine waters near Juneau
3. Establish breeding chronology and productivity through counts of newly fledged juveniles
4. Determine how marbled murrelet activity patterns, as measured by radar and visual counts, vary throughout the summer.
5. Determine how marbled murrelet activity patterns, as measured by radar and visual counts, vary throughout the day.
6. Determine the statistical power of radar counts and visual counts to detect trends.
7. Determine how marbled murrelet activity patterns vary from place to place across the region.

Summary of Project Accomplishments

1. Comparisons of boat-based and aerial surveys were completed last year. In this current year, we were again unable to successfully complete radar surveys because we didn't have a vessel on which to mount the radar. We did, however, make arrangements for the purchase of a suitable vessel, with delivery scheduled for November 5, 2006. Once it arrives, we will use this vessel to conduct radar surveys and compare results with other survey techniques.
2. Trends in relative abundance and distribution of birds in Stephen's Passage, near Juneau, was completed last year. We did not expand the work to survey other areas because we did not have access to a vessel that could economically transport us more widely in southeast Alaska. With the delivery of the new nongame vessel, more extensive marine surveys will be possible next year.
3. No progress was made on this objective. It is not possible to identify juveniles in flyway counts (owing to the distance), and we did not conduct any at-sea surveys in late July and August (when we might expect to see Juveniles on the water). We will revisit this objective next year when we have a suitable vessel for at-sea survey work.
4. During this report period, crews conducted a total of 1364 flyway surveys in the primary study area, Port Snettisham (50 km south of Juneau). Surveys were conducted on 97 days, between 1 July - 24 August 2005, and 27 April - 30 June 2006. Surveys were conducted by trained volunteers, students, and ADF&G staff (17 people in all) over the fiscal year. In 2005, 20 minute flyway surveys were conducted for 20 minutes of every hour, between sunrise and sunset, 7 days a week. In 2006, other experiments were conducted on selected days of the week, including: comparing differences between observers and spotting scopes on simultaneous surveys (94 surveys over 17 days), comparing differences between counts from opposing sides of the inlet (16 surveys over 2 days), comparing simultaneous counts made from different vantage points within the inlet (84 surveys over 8 days), assessing the accuracy of distance estimates (vessel to bird or decoy) when doing at-sea surveys (558 trials over 5 days), and conducting focal area scans from Sentinel Point (65 scans over 5 days)

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5. Patterns of activity throughout the day were monitored during the surveys noted above, especially during once-per-week dawn to dusk surveys.
6. No progress was made on the objective of determining the statistical power of various methods to detect trends in Marbled Murrelet populations. This will be a final analysis, conducted after all the survey data are collected.
7. Between 29 May and 2 June 2006, surveys were conducted in Tebenkof Bay and Bay of Pillars on the west side of Kuiu Island. Very few birds were found compared to murrelet numbers in Stephen's Passage and Port Snettisham. In addition to noting birds on the water, I conducted flyway counts across the mouth of Elena Bay. With a suitable vessel, the survey work (at sea, flyway, and radar) will be expanded to other areas in southeast Alaska.

Project Cost: Federal \$34,492.82 + State \$11,497.61 = Total \$45,990.43

Principal Investigator: Matt Kirchhoff

**e. An Integrated Regional Ecological Assessment of the Black Oystercatcher
(Haematopus bachmani) in Alaska.**

Duration: July 2004 – June 2008 (5 yrs.) (Continued under grant T-3)

PROJECT OBJECTIVES

1. Determine the size and nesting density of several important local breeding populations throughout the range;
2. Assess adult survival, breeding site fidelity, and natal philopatry, and other demographic parameters important in regulating population size;
3. Assess regional differences in nesting effort, breeding success, and productivity;
4. Identify local threats or limitations to productivity;
5. Elucidate levels of population structuring and the degree of connectivity between regional breeding populations;
6. Identify locations of important wintering areas and the numbers of birds in those areas;
7. Identify movement patterns between various breeding and wintering areas.

Summary of Project Accomplishments:

1-4. This project fielded research camps for the third of three seasons in two important breeding areas within Alaska in concert with cooperating agencies. Camps were located in Prince William Sound, and Glacier Bay National Park. Observers were stationed out at Middleton Island for a total of four weeks to determine the size of the local breeding population, and to collect demographic information from banded individuals. Kenai Fjords National Park staff monitored oystercatcher territories at less intensive intervals than during the previous three years, again to determine local breeding population size and follow the fate of banded individuals. No captures were attempted in these latter two locations.

In 2006, summer field season efforts resulted in:

- 108 territories intensively monitored;
- 108 breeding pairs intensively monitored;
- 26 adults and 37 chicks captured and banded for a total of 63 birds banded;
- 71 total samples collected for genetic research.

Note: these numbers do not include efforts by cooperators in British Columbia at the Gwaii Hanaas and Pacific Rim National Parks.

Efforts from the three breeding seasons covered in this project have resulted in nearly 470 birds banded (4.2 to 5.2% of estimated population), and over 600 genetic samples collected (5.5 to 6.5% of estimated global population). We have experienced no capture mortalities on this project.

5. An ADF&G Wildlife Technician has extracted DNA from all genetic material collected prior to this field season. New primers for segmenting DNA for analyses were developed, and many primers developed for use on other species were tested. We now have sufficient DNA microsatellite loci for analysis of population structuring. Preliminary results indicate that there is too little genetic variability to analyze paternal relationships, but that differences in localized populations will be evident.

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We developed a new technique for sexing birds in the field by eye. We were able to verify the technique and confirm that it is 99% accurate by using DNA analyses.

A graduate student working on this project is on target to complete the population analyses of both DNA microsatellites and mitochondrial DNA during the winter of 2006-2007. However, the recent State of Alaska hiring freeze prevents us from retaining this student, and greatly complicates this effort. We will be searching for creative ways of continuing our substantial progress in this arena.

- 6 –7. Two juveniles banded in Alaska were resighted in British Columbia, Canada over 1000 kilometers from the original banding sites: A chick banded at Glacier Bay National Park in June 2005 was observed 5 January 2006 with a flock of 12 unbanded birds near Port McNeil, Vancouver Island. Another chick banded in 2005, this one at Kenai Fjords National Park, was seen 11 June 2006 in the Queen Charlotte Islands in Masset Inlet, Graham Island, among a flock of six apparently non-breeding birds. These reports are the first ever of long distance migration for this species.

Aerial winter surveys in Alaska were postponed until February 2007. The rationale for the delay was that cooperators were planning on fitting oystercatchers in Prince William Sound with VHF transmitters during summer 2006; delaying aerial surveys until the following winter would allow us to take full advantage of any transmittered birds in our examination of interseasonal movements.

Project Cost: Federal \$82,795.02 + State \$27,598.34 = Total \$110,393.36

Principal Investigator: David Tessler

f. A systematic inventory of landbirds in Alaska State Special Lands through partnership in the Alaska Landbird Monitoring Survey (ALMS)

Duration: July 2004 – June 2008 (4 yrs.) (Continued under grant T-3)

Project Objectives

1. Begin an initial inventory of landbirds on ADF&G special lands, collect the associated habitat information on these lands, and establish sites for long term monitoring.
2. Constitute the ADF&G as a full and contributing partner in the cooperative Alaska Landbird Monitoring Survey.
3. Contribute the collected data to the ALMS for inclusion in statewide analyses of population sizes, trends, and habitat associations.
4. Provide State land managers, planners, and biologists with baseline bird and habitat data for their specific areas, as well as access to the statewide ALMS data set, to support research and decision making on management, planning, and permitting issues.
5. Assess the efforts and annual costs for these inventory and monitoring efforts, and develop a strategic long-term plan for landbird inventory and monitoring on all State lands.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1,2,&5: 2006 was the third and final field season for this pilot study. In 2004 we found that a purely randomized design would be prohibitively expensive and was likely to produce only a limited amount of useful information to land managers. In 2005 and 2006, we represented ADF&G on a committee to revise the sampling design of the statewide ALMS protocols in order to decrease costs and increase participation among partners. In 2006, the purely random sampling design initially employed by ALMS was replaced with a design based on random surveys only of areas deemed “accessible.” “Accessible” was defined as all locations (in the land unit(s) of interest) within one kilometer of areas reachable by foot, boat, or floatplane. Helicopter use was excluded. Although this change effectively diminished the scope of inference of ALMS statewide, it will insure the broad and continued participation necessary to detect population trends in land bird species in all Alaskan ecoregions.

We selected Denali State Park as the state land unit for this trial. GIS coverages of all “accessible” areas in DSP were given to USGS for determination of the random plot locations. The two randomized locations both turned out to be on the Kesugi Ridge, and could be approached on foot via the Kesugi Ridge Trail. In June of 2006, we conducted two ALMS plots in Denali State Park. In addition to collecting the first data on breeding bird densities along this popular alpine trail, this final year demonstrated that the change in sampling design substantially decreases the costs and should enable ADF&G to continue to participate in this valuable program in select state lands. These two Denali State Park ALMS sites will now be surveyed every other year in rotation with other sites on state lands to be selected in the future.

4 & 5. In 2005, we examined using the methodology of the North American Breeding Bird Survey (BBS) to inventory and monitor birds on state lands. This method is based on a random selection of roads. The lack of roads throughout most state lands in Alaska limits the utility of this method. However, in state lands with roads, valuable information on breeding bird data can be gathered and shared at the continental level.

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This season, 2006, we continued to survey the two BBS we surveyed in June 2005: one along the Lake Louise Road, and the other along the McCarthy Road. We anticipate surveying these routes on an annual basis for the foreseeable future.

3 & 4. CONTRIBUTING TO ALMS

Data from 2006 ALMS efforts were collated and submitted to USGS Alaska Science Center for inclusion in Alaska wide analyses. Localized analyses of populations and densities in Denali State Park is forthcoming.

2006 BBS DATA WERE COLLATED AND SUBMITTED FOR POOLED BBS ANALYSES BY THE USGS MANOMENT CENTER FOR CONSERVATION SCIENCE

Project Cost: Federal \$4,208.46 + State \$1,402.82 = Total \$5,611.28

Principal Investigator: David Tessler

g. An interagency citizen science program to coordinate the collection of important baseline biological data and build constituency: A pilot program focusing on wood frogs, bats, and grebes.

Duration: July 2004 – June 2008 (4 yrs.) (Continued under grant T-3)

PROJECT OBJECTIVES:

1. To create a cooperative, coordinated, inter-agency citizen science program to: Collect region-wide baseline biological data; Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game; Develop working alliances between ADF&G and local partners to focus efforts on nongame issues; Pool resources to widen the scope and relevance of selected citizen science research projects; Increase program visibility for all partners, and build a constituency to support nongame efforts.
2. Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species: Wood frog (*Rana sylvatica*); Little brown bat (*Myotis lucifugus*); Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).
3. Continue the collection of baseline distribution data for woodfrogs, initiated in 2002 in the Cook Inlet Watershed: Document the presence and approximate number of wood frogs in specific lakes; Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously; Characterize habitats important to wood frog reproduction.
4. Collect baseline data on the distribution of the little brown bat in Southcentral and interior Alaska: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats; Identify and investigate potential winter hibernacula; Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.
5. Collect baseline data on the distribution of Red-necked and Horned Grebes on lakes in Southcentral Alaska: Determine nesting densities and productivity on lakes supporting loons and grebes.

SUMMARY OF PROJECT ACCOMPLISHMENTS:

1. Continued the Partnership for Citizen Science with USFWS Migratory Bird Management, Chugach National Forest, Alaska Natural Heritage Program, Alaska Zoo.

The Citizen Science Program in general was highlighted at six large public events: International Migratory Bird Day, the Wildlife Wednesday series, the Women in Science series, the Homer Shorebird Festival, the Belle's Nursery Garden Festival, and the Margot Frey Garden Festival at the Palmer Fairgrounds. We were also present at a number of special theme days at the Alaska Zoo.

The Citizen Science Program and its constituent projects were featured in no less than six newspaper articles, including Anchorage Daily News, Peninsula Clarion, the Fairbanks Newsminer, and the Wasilla Frontiersman.

We continued the distribution of programmatic CD-ROMs to participating agencies and groups. These CD-ROMs contain all the necessary background information for partners to

conduct public programs; Power Point presentations instructions for participating in the various survey efforts, and the associated data sheets for surveys.

We updated the four programmatic websites (www.akcitizenscience.net, www.akfrogs.net, www.akbats.net, and www.akloonwatch.net). They each contain information about the various species, the objectives for each of the projects, survey instructions, data sheets, and results from the previous years' efforts.

A coordinated outreach effort that included project specific PSAs in local newspapers and radio stations, direct contacts with southcentral and interior public school districts and home-schools, and direct contacts with additional participating entities (i.e. the Alaska Center for Coastal Studies, Prince William Sound Science Center, Campbell Creek Science Center).

A college intern from the University of Alaska Anchorage came on in October 2006 to coordinate and give public presentations and encourage participation in the monitoring efforts.

2&3. WOODFROG SURVEYS

There was a very high degree of public interest and response to this project, and as a consequence, several local newspapers ran articles on frogs, frog and wetland conservation in Alaska, and the Citizen Science Program.

Approximately 160 wetland sites were surveyed by volunteers in 2006, and about 100 of these were in unique locations not surveyed in the past; 97 new sites were surveyed in 2005. The volunteer surveys conducted over the two years of this project have laid the foundation for implementing a statistically defensible occurrence based monitoring effort in subsequent years.

New sites included Aniak on the Kuskokwim River, and the most northerly observation of wood frogs ever recorded. The latter report came from a reliable observer, but because this would represent a major range expansion, we plan to investigate this report thoroughly next year. Sites ranged south to Cordova, and from Aniak to McCarthy, AK. The total number of participants and the number of new sites surveyed will not be available until all the data forms are returned.

While the number of frog related telephone calls increased over last year, we had zero reports of frog abnormalities. The website was the greatest point of contact between citizens and the Program. Volunteers made great use of the website, with most downloading their observation forms.

A total of 12 school presentations were offered by various presenters throughout southcentral Alaska.

A total of 8 presentations for the general public were conducted.

2&4. Bat Surveys

Four public programs on bats were offered in the Anchorage area prior to 30 June 2006.

Public interest continues to increase in this project. In 2005 volunteers returned 72 observation forms; all sites represented novel locations for bats in Alaska. We received over 150 phone calls about bats in 2006. Absolute participation for summer 2006 can't be quantified until all observation forms are returned, (the observation period will continue until

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the end of September 2006). Roughly 50% of the 43 observation forms returned prior to June 30, 2006 were downloaded from the website, filled out electronically, and returned via email. We continue to document records of bats in novel locations.

Two very large maternity colonies, containing hundreds to thousands of female bats and their young have been located in Talkeetna and in Copper Center. The reporting volunteers will continue their surveillance of these sites through the fall and winter 2006 to determine if the bats overwinter in situ, or if they depart and when. The participation and information from these volunteers will be instrumental in answering the hibernation versus migration question for bats in Southcentral and Interior Alaska.

2&5. Loon and Grebe Watch

Two public programs specifically on Loons and Grebes (in addition to the general presentations on the Citizen Science Program) were offered in the Anchorage and Mat-Su areas prior to 30 June 2006.

In May 2006, 87 packets consisting of observation report forms and instructions were distributed to Alaska Loon Watch members. Packets were mailed to all members who have been active at some point in the last five years, including new ALW members who signed up at outreach and education events. Additional packets were handed out The Alaska Citizen Science events described above.

Like the bat project, the observational period will continue until September 2006, and assessing participation and number of lakes monitored won't be possible until all the data forms are returned this autumn. However, we estimate 90-plus citizen volunteers will monitor just over 100 lakes this year.

For the reports that were submitted in fall 2005 (after the start of State Fiscal Year 2006) 15 were surveyed lakes in Anchorage, 50 lakes in the Mat-Su Valley, 25 lakes on the Kenai Peninsula, and 3 lakes in out-lying areas such as Glen Allen and Lake Louise.

Productivity (defined as the number of chicks surviving to the end of August divided by the number of nesting pairs), was 0.68 for Common loons, 0.50 for Pacific loons, 2.00 for Red-necked Grebe, and 2.00 for Horned Grebes (n=1). Local loon and grebe population trends are difficult to assess due to confounding factors of volunteer coverage, interpretation, and small sample sizes.

Despite these difficulties, a preliminary assessment of this years Loon and Grebe Watch program data, indicates that some lakes with previous breeding activity by both Loons and Grebes are no longer used. This may reflect abandonment as a breeding territory due to human disturbances or poor juvenile survival. The information is tantalizing, but the number of confounding variables highlight that determining the cause of the loss of breeding pairs remains speculative without the aid of a color-banded population.

Project Cost: Federal \$14,138.07 + State \$4,712.69 = Total \$18,850.76

Principal Investigator: David Tessler

h. Baseline Survey of Small Mammal Species and their Distribution across the Kenai Peninsula

Duration: July 2004 – June 2007 (3 yrs) (Continued under grant T-3)

Project Objectives

1. Compile a history of all documented small mammal studies done on the Kenai Peninsula and conduct additional inventories for small mammal species on the Kenai Peninsula.
2. Assemble the first comprehensive series of small mammal specimens from the Kenai Peninsula for the University of Alaska Museum (UAM).
3. Archive a specimen voucher and frozen tissue database.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. A history of past small mammal studies has been completed. We have continued conducting additional small mammal inventories on the Kenai Peninsula from July 2005 through June 2006.
2. Steps toward completing a comprehensive series of Kenai Peninsula small mammals continued from July 2005 through June 2006. This objective of a peninsula-wide survey will be completed with additional field work in the fall of 2006. Three areas were sampled from July 2005 through June 2006. In each of these three areas, over 400 traps were set for five nights totaling over 6000 trap nights. Six hundred and twenty specimens were collected from 10 different small mammal species.
3. Specimens collected from July 2005 through June 2006 have been processed and archived at the University of Alaska Museum.

Project Cost: Federal \$17,011.72+ State \$5,670.57 = Total \$22,682.29

Principal Investigator: Thomas McDonough

I. THE POPULATION STATUS AND TREND OF PEREGRINE FALCONS, GYRFALCONS AND OTHER RAPTORS IN WESTERN AND NORTHWESTERN ALASKA (REGION V)

Duration: July 2003 – June 2009 (6 yrs) (Continued under grant T-3)

Project Objectives

1. Conduct, or cooperate with other investigators to complete population and production surveys (monitoring) of cliff-nesting raptors in selected areas on a scheduled rotational basis. Primary study areas include:
 - Lower Yukon River in GMU 18 (once each 5 years);
 - Southern Seward Peninsula in the vicinity of Nome in GMU 22 (once each 3 years, beginning in June 2002),
 - Norton Sound coastline in GMU 22 (once each ten years, beginning in June 2010),
 - DeLong Mountains in GMU 23 (once each 3 years, beginning in June 2004),
 - Northwest Alaska in GMU 26A (once each 3 years, beginning in July 2002)
 - Sagavanirktok River in GMU 26B (once each 5 years, beginning in July-August 2004);.
 - Other areas of important raptor habitat may be added as they are identified.
2. Assess contaminant levels by analyzing opportunistic collections of addled eggs and other tissues located or found during production surveys. Note: laboratory analysis is coordinated by US Fish and Wildlife Service and often takes extended time and analysis will be completed when lab results are received.
3. Evaluate the long-term potential for monitoring raptors in the area by comparing current population statistics with historical records.
4. Use GIS techniques to digitize locations of nesting raptors observed on surveys during the 1970s and 1980s.

Summary of Project Accomplishments

1. Summary of survey areas:
 - Lower Yukon River – last surveyed in 2004; scheduled for survey in June 2009
 - Southern Seward Peninsula – surveyed in June 2006; annual survey recommended
 - Norton Sound Coastline – scheduled for survey in 2010
 - DeLong Mountains – not surveyed; not scheduled due to difficult logistics
 - Northwest Alaska – last surveyed in 2003; scheduled for survey in June/July 2007
 - Sagavanirktok River – last surveyed in 2002; not scheduled due to low staffing
- Summary of Southern Seward Peninsula: Aerial surveys of the Southern Seward Peninsula study area were conducted using a R-44 helicopter during a total of 19.5 hours of flight completed on three survey days in late June 2006. The area surveyed was the same as 2004 and 2005 and included areas extending approximately 75 km east, 65 km west, and 140 km north of Nome (approximately 16,000 km²). Previously mapped nest sites and new areas of nesting habitat (N=495) were checked for occupancy by slow-speed fly-by survey techniques using GPS navigation to move from site to site. No landings or ground inspections were made during the survey. Remote fuel caches were established to allow extended surveys away from Nome. Total nest site occupancy (raptors attending nest sites or nests with eggs/young) was documented as follows: Common Raven – 26; Golden Eagle – 33; Goshawk – 1; Gyrfalcon – 38; Peregrine Falcon – 8; Rough-legged Hawk – 55; additionally, a single Bald Eagle was located and

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Canada Goose occupied 4 nest cliffs. Total raptor abundance (including ravens) was 162 nest sites, yielding an approximate occurrence of 1 pair per 98 km². Vacant sites were counted and classified, as follows: empty sticknest – 184; empty rock ledge – 23; nest scar on cliff – 34; cliffs with color – 72; artificial structures (e.g. gold dredges) – 10. Nesting success was variable and substantially lower than previous years for several species: Common Raven – 75% successful; Golden Eagle – 30%; Goshawk – 100%; Gyrfalcon – 55%; Peregrine Falcon – undetermined; and Rough-legged Hawk – 49%. There was evidence showing that severe winter winds ripped many sticknests from exposed cliffs. Late snow-melt and cold wet spring/summer weather affected nesting success of raptors as well as many avian species groups, including waterfowl, shorebirds, gulls and song birds.

2. Tissue samples for contaminants or feathers for genetic analysis were not collected during the reporting period. Results of previous genetic studies were not received or published during the reporting period.
3. Annual surveys are providing population trend information for the Seward Peninsula and Northwest Alaska study areas. Gyrfalcon and Golden Eagle numbers are quite stable in both survey areas. Rough-legged Hawks show considerable annual variation and this is attributed to variation in available prey. Peregrine Falcons have been slowly increasing in abundance, although their numbers still remain low due to limited availability of suitable nesting habitat.
4. Raptor observations on original U. S. Geological Survey topographic maps for the Red Dog Mine area (western De Long Mountains in Unit 23), Northwest Alaska survey area (western North Slope in Unit 26A), and the Yukon River between Fort Hamlin and Mountain Village (approximately 800 miles through Interior Alaska) were digitized using ESRI ArcGIS software. This work was accomplished by department GIS staff in the Anchorage regional office. Raptors observed in each study area were catalogued by date, location, species, field numbers, field observations, and other attributes. During the process, computer screen views and printed maps were compared to original maps to ensure accuracy. Summary records will be compiled in the Nome office in the next reporting period.

Project Cost: Federal \$31,461.03 + State \$10,487.00 = Total \$41,948.03

Principal Investigator: Peter Bente

j. Inventory of Western Toads on Montague Island – Final Report

Duration: July 2004 – June 2006 (2 yrs)

Project Objectives

1. Determine the timing of breeding and development of tadpoles in PWS.
2. Determine the approximate range of toads on Montague Island.
3. Design a repeatable survey to determine relative abundance of toads.

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. No work was conducted. I did not have the opportunity to return to Montague Island after spring.
2. We searched for western toads and tadpoles along lakes and ponds encountered while conducting deer pellet surveys in Rocky Bay on the northeastern end of Montague Island. Upon completion of transects, we walked different routes back to the shore so that we spread the search over a broader area. Of the three deer pellet transects in Rocky Bay, two along the north shore (650 and 530 meters in length) had limited potential habitat because of steep topography and few ponds. The third transect (2,000 m) runs inland from the south shore and transits through many small ponds and lakes. We found no toads or tadpoles present in the Rocky Bay area.

I hiked the shoreline from Hanning Bay to Port Chalmers during the first week of June, 2006. I visually surveyed many ponds along the route but did not observe any toads or tadpoles. My observations to date suggest a range from Hanning Bay to Patten Bay on the southwest portion of the island.

3. No work conducted. The catch per unit effort (CPUE) technique that I intended to use is not a good fit when applied to a catch of such low density. Unless areas of high density are found, or the overall population increases, a more simple presence or absence approach is probably adequate.

As no funds have been expended over the 2 years of this project, this project will be discontinued as a formal project. These activities will continue on an opportunistic basis associated with other projects' field work.

Project Cost: \$0.00

Principal Investigator: Dave Crowley

k. Distribution, abundance and ecology of forest owls in Southeast Alaska

Duration: Spring 2005 – Spring 2008 (4 yrs.) (Continued under grant T-3)

Project Objectives

1. Establish a Southeast Alaska Owl Network – train volunteers to participate in region-wide owl monitoring efforts

Job/Activity a.: Recruit and train volunteers in cooperation with the Juneau Raptor Center.

Job/Activity b.: Send volunteers to the field to begin collecting data

2. Design a survey protocol for nocturnal owls in Southeast Alaska

Job/Activity a.: Use distance sampling, repeated surveys, and radio-telemetry to estimate probability of detection of at least one species of owl in SEAK and evaluate survey methods for estimating abundance of forest owls

Job/Activity b.: Determine the influence of temporal, weather, and lunar factors on vocalizations of forest owls in Southeast Alaska

3. Describe distribution and abundance of forest owls in Southeast Alaska

Job/Activity a.: Design and conduct broad-scale surveys for forest owls during the peak period of detectability and using the optimal survey method

Job/Activity b.: Locate marked owls using radiotelemetry to describe habitat associations, nesting and roosting habitat (if possible), and diet through pellet analysis (if possible).

Job/Activity c.: Investigate and opportunistically survey unroaded areas

SUMMARY OF PROJECT ACCOMPLISHMENTS

1 a: We continued to solicit volunteers for the Southeast Alaska Volunteer Network, in conjunction with the Juneau Raptor Center.

1 b: We coordinated with 48 volunteers to conduct surveys across Southeast Alaska. We refined the survey protocol in response to volunteer feedback and based on results from surveys conducted in 2005. Thirty-eight volunteers conducted silent surveys and 10 volunteers participated using an extended survey protocol that combined silent and broadcast survey methods. Results from this new survey protocol will be used to refine survey methods for Phase 3. Volunteers spent 301.75 hours surveying for forest owls and detected 8 owls during broadcast surveys and 41 owls during silent surveys. Volunteers submitted anecdotal sighting reports of 105 owls.

2 a: To estimate detectability and evaluate survey methods, we radio-marked 8 western screech-owls (5 males and 3 females). These birds were captured over 24 capture nights using mist nets and affixed with backpack-mounted radio transmitters. No mortalities occurred during capture activities. We conducted 45 detectability surveys and detected responses from 5 western screech-owls, 1 barred owl, and 1 northern saw-whet owl.

Breeding status is known to influence singing behavior, and therefore detectability, of several owl species. Additionally, proximity to nest location may influence territorial behavior of a bird, and therefore detectability. To determine breeding status, we conducted 27 evening watches to record vocalization behavior and presence/absence of mate. We confirmed that 6 of 8 birds were paired and 5 of 8 successfully reproduced (i.e., fledged at least one young). We located 2 nest

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holes and identified 3 nest stands. One pair apparently failed to nest successfully and 1 bird moved from the area where it was located with a mate.

We initially planned to capture 20 western screech-owls. However, due to unusually cold and wet weather during capture efforts, as well as time and personnel constraints, we only captured 8 owls.

2 b: We conducted an analysis to determine the influence of temporal, weather, and lunar factors on vocalizations of forest owls. We used data collected during the last reporting period for this analysis. We presented these results at the 11th Alaska Bird Conference in February 2006.

3 a.: No progress was made towards this job, specifically. However, we will be using data gathered during the first 2 years of this study to direct this job.

3 b: We recorded 39 day locations using triangulation, 103 day roost locations by walking in on radio-tagged birds, and 91 night locations (total=233). These locations will allow for estimation of home range during breeding season, and identification of important physical characteristics for roosting and foraging sites. In addition, we collected 101 pellets which will allow for an assessment of the diet and 17 owl feathers for genetic analysis.

3 c: No progress was made towards this job.

Project Cost: Federal \$30,901.81 + State \$10,300.61 = Total \$41,202.42

All costs are salary costs for the PI. Operating costs are paid by SWG partnership grant T-1-6 project 13.

Principal Investigator: Steve Lewis, ADF&G

I. Participate in USFWS walrus survey using satellite radio-tagging to correct for walruses in the water during abundance aerial surveys – Final Report

Duration: March 15, 2006 – June 30, 2006 (3½ months)

Project Objective

Estimate the size of the Pacific walrus population with acceptable precision

Job/Activity a: Deploy 60 satellite radio tags on walruses in the Bering Sea (30 in the St. Lawrence Island polynya region of the northern Bering Sea, 30 in the Russian waters of Anadyr Gulf) to obtain haul-out activity data that will be used to correct for animals in water and unavailable for sighting during the subsequent aerial counts as part of an effort to estimate total size of the Pacific walrus population

Job/Activity b: Obtain skin biopsies from live animals for ongoing genetics studies

Summary of Project Accomplishments

The cruise began when we boarded the Russian icebreaker *MAGADAN* March 20th in Adak, Alaska and ended April 5th in Petropavlovsk-Kamchatkiski, Russia.

Cruise participants represented the U.S. and Russia (See list of cooperating organizations). We traveled northeast from the Aleutian Islands and reached the southern margin of the pack ice near St. Matthew Island March 22nd. We spent March 24-31st in the pack ice south and west of St. Lawrence Island searching for groups of walruses. Aerial reconnaissance located small walrus herds in the St. Lawrence Island polynya region 50-100 miles southwest of Southwest Cape. One large group (>10,000) was located near the Puduk Islands, but the ice was thick (>1.5 m) in this region and we did not pursue this group.

a: While we were underway, the Russian government denied permission to conduct research on walruses in Russian waters. Due to this setback as well as the unexpectedly low number of walruses encountered by the P/V *STIMPSON* in the southeastern Bering Sea (only one tag was deployed there), it was decided more walruses should be tagged in the St. Lawrence Island polynya area if possible.

A total of 45 walruses (34 females, nine males, and two of undetermined sex) were tagged between 24–30 March (Table 1) in the St. Lawrence Island polynya region. Skin samples were collected from 12 of the 45 tagged (Table 1). Of walruses observed on the ice, the largest group approached contained approximately 60 animals. On 29 March, small boats were used to approach walruses on unconsolidated floes to deploy tags. All other tagging and skin collection efforts were conducted by walking on the sea ice. Typically, researchers approached walruses within 10 meters by stalking them and deploying the satellite tags using crossbows.

b: Skin biopsies were collected from an additional 17 walruses. Combined with the 12 samples from the tagged animals, these 29 samples (Table 2) are important as they provide the first genetic samples from this breeding concentration and will allow the U.S. Geological Survey to determine if genetic differences occur between breeding areas.

Cooperating organizations:

- **U.S. Geological Survey, Alaska Science Center**, 4230 University Drive, Suite 201, Anchorage, Alaska, U.S.A. 99508

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- **Alaska Department of Fish and Game, Arctic Marine Mammal Program**, 1300 College Road, Fairbanks, Alaska, U.S.A. 99701
- **U.S. Fish and Wildlife Service, Marine Mammals Management**, 1011 E. Tudor Road, Anchorage, AK 99503, U.S.A.
- **University of Washington, Quantitative Ecology and Resource Management**, 330 Loew Hall, Box 352182, Seattle, Washington, 98195, U.S.A.
- **University of Alaska Fairbanks, Institute of Marine Science**, 245 O' Neill Building, PO Box 757220, Fairbanks, Alaska, 99775 U.S.A.
- **Research and Engineering Institute for the Development and Operation of Fisheries, GiproRybFlot**, 18-20 Malaya Morskaya, St. Petersburg 190000, Russia
- **Anadyr Traditional Marine Mammal Hunters of Chukotka**, 20-14 Polyarnaya, Anadyr Council, Laboratory, Anadyr, Chukotka 689000, Russia
- **Pacific Research Institute of Fisheries and Oceanography, ChukotTINRO**, Laboratory of Marine Mammals Study, P.O. Box 29, Anadyr, Chukotka 689000, Russia
- **Magadan Research Institute of Fishery and Oceanography, MagadanNIRO**, 36/10 Portovaya, Magadan, 68500, Russia
- **Petropavlovsk-Kamchatski, Kamchatka, Russia**

Project Cost: Federal \$11,538.92 + State \$3,846.30 = Total \$15,385.22

Principal investigator: Gay Sheffield

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Table 1. Information for 45 walruses tagged with a satellite transmitter. A skin biopsy was collected from 12 of the 45 walruses tagged. All tagging and sampling occurred in the St. Lawrence Island polynya region in March 2006.

Sex	Age	Date	Latitude	Longitude	Transmitter ID	Biopsy
F	10+	24-Mar	62.73717 N	173.703 W	10954	-
F	6+	24-Mar	62.73717 N	173.703 W	10953	-
M	10-15	24-Mar	62.71550 N	173.911 W	10961	-
-	6+	24-Mar	62.71550 N	173.911 W	10960	-
F	10+	24-Mar	62.79883 N	173.911 W	10959	X
M	10+	24-Mar	62.79890 N	173.911 W	10955	X
M	6+	24-Mar	62.79900 N	173.911 W	10958	X
F	10+	25-Mar	62.80000 N	173.900 W	62647	-
F	10-15	25-Mar	62.80000 N	173.900 W	62666	X
M	16+	25-Mar	62.80000 N	173.900 W	62665	-
F	10+	25-Mar	62.84167 N	174.001 W	62646	X
F	16+	25-Mar	62.84167 N	174.001 W	62648	-
F	16+	25-Mar	62.89063 N	173.893 W	10964	X
F	16+	25-Mar	62.89063 N	173.893 W	10962	-
-	4-5	25-Mar	62.89702 N	173.890 W	10963	-
F	10-15	25-Mar	62.89702 N	173.890 W	62671	X
F	10+	26-Mar	62.91000 N	173.917 W	7606	-
F	16+	26-Mar	62.96500 N	173.952 W	62649	X
F	10+	26-Mar	62.96500 N	173.952 W	7616	X
F	10+	28-Mar	62.81333 N	171.517 W	7603	-
F	10+	28-Mar	62.81333 N	171.517 W	7604	-
F	10+	28-Mar	62.81333 N	171.517 W	62674	-
F	6+	28-Mar	62.81333 N	171.517 W	10952	-
F	6+	28-Mar	62.81333 N	171.517 W	62658	-
F	6+	28-Mar	62.81333 N	171.517 W	7605	-
M	16+	28-Mar	62.79833 N	171.470 W	62673	-
M	16+	28-Mar	62.79833 N	171.470 W	10947	-
F	6-9	29-Mar	62.93667 N	171.733 W	62659	-
F	6+	29-Mar	62.93667 N	171.733 W	62662	-
F	6+	29-Mar	62.93667 N	171.733 W	62655	-
F	6+	29-Mar	62.93667 N	171.733 W	62652	-
F	6-9	29-Mar	63.00455 N	171.773 W	62656	-
F	16+	29-Mar	63.00455 N	171.773 W	62654	-
F	10+	29-Mar	63.00455 N	171.773 W	62650	-
F	6+	29-Mar	63.00455 N	171.773 W	62672	-
F	16+	29-Mar	63.00455 N	171.773 W	10956	-
F	6+	29-Mar	63.00455 N	171.773 W	62653	-
F	16+	29-Mar	63.00357 N	171.780 W	62651	-
F	16+	29-Mar	63.00357 N	171.780 W	62669	-
M	16+	29-Mar	63.01233 N	171.771 W	10950	-
F	16+	29-Mar	63.01233 N	171.770 W	10951	X
M	16+	29-Mar	63.02690 N	171.797 W	7614	-
F	16+	29-Mar	63.02690 N	171.797 W	10948	X
F	16+	29-Mar	63.02690 N	171.797 W	62667	-
M	16+	30-Mar	63.04333 N	172.125 W	7612	X

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Table 2. Information for 29 walrus from which a skin biopsy was collected. Collections occurred in the St. Lawrence Island polynya region in March 2006. Walrus tagged with a satellite transmitter are indicated by *.

ID Number	Sex	Age (yr)	Date	Latitude	Longitude
MA06-0003 *	F	10+	24-Mar	62.79883 N	173.911 W
MA06-0004 *	M	10+	24-Mar	62.79890 N	173.911 W
MA06-0005 *	M	6+	24-Mar	62.79900 N	173.911 W
MA06-0006	F	16+	24-Mar	62.79900 N	173.911 W
MA06-0007	M	6+	24-Mar	62.79900 N	173.911 W
MA06-0008 *	F	10+	25-Mar	62.80000 N	173.900 W
MA06-0009	F	10+	25-Mar	62.80000 N	173.900 W
MA06-0337 *	F	10+	25-Mar	62.84167 N	174.001 W
MA06-0338	F	16+	25-Mar	62.89063 N	173.893 W
MA06-0339 *	F	16+	25-Mar	62.89063 N	173.893 W
MA06-0340	-	-	25-Mar	62.89063 N	173.893 W
MA06-0341 *	F	10+	25-Mar	62.89702 N	173.890 W
MA06-0342	F	16+	25-Mar	62.89702 N	173.890 W
MA06-0343	F	6+	25-Mar	62.89702 N	173.890 W
MA06-0344	F	6+	25-Mar	62.89702 N	173.890 W
MA06-0345	F	6+	25-Mar	62.89702 N	173.890 W
MA06-0346 *	F	16+	26-Mar	62.96500 N	173.952 W
MA06-0347 *	F	10+	26-Mar	62.96500 N	173.952 W
MA06-0348	M	16+	26-Mar	62.96500 N	173.952 W
MA06-0349	M	16+	28-Mar	62.79833 N	171.470 W
MA06-0350	M	16+	28-Mar	62.79833 N	171.470 W
MA06-0351	M	16+	28-Mar	62.79833 N	171.470 W
MA06-0352	F	6+	28-Mar	62.79833 N	171.470 W
MA06-0353	F	6+	28-Mar	62.79833 N	171.470 W
MA06-0354	F	6+	28-Mar	62.79833 N	171.470 W
MA06-0355 *	F	16+	29-Mar	63.01233 N	171.770 W
MA06-0356 *	F	16+	29-Mar	63.02690 N	171.797 W
MA06-0357 *	M	16+	30-Mar	63.04333 N	172.125 W
MA06-0497	M	16+	28-Mar	62.79833 N	171.470 W

Reports of Nongame research activities associated with Objective 4

a. Wood frog (*Rana sylvatica*) baseline investigations in Interior Alaska – Final Report

Duration: July 2004 – June 2006 (3 yrs.)

Project Objectives

1. Describe standard morphometrics of wood frogs in Interior Alaska
2. Determine rates of malformations in wood frogs in Interior Alaska
3. Submit wood frog samples for chytrid fungus evaluations
4. Describe annual phenology of wood frogs from Interior Alaska

Summary of Project Accomplishments during current reporting period and since project inception

1. During 2006, an additional 245 wood frogs were captured, weighed and measured (snout-vent length). To date, including 2004 and 2005, a total of 609 frogs have been examined and growth curves constructed.
2. Of 609 frogs examined, only 5 have been malformed. It appears that those malformations resulted from predation attempts during early morphological life stages (tadpole stage). Observed rate of malformation over three years is at 0.8%.
3. Two frogs were screened for chytrid fungal infections in the initial year of the project. Neither was positive. Since then, no additional frogs have been screened. From earlier analyses, it does not appear to be a factor in wood frog malformations in Interior Alaska.
4. During this reporting period, adult wood frogs were first observed 21 May. In 2004 and 2005 adult frogs were first observed 3 and 12 May respectively. Egg masses were first observed on 3 June, indicating that adults had been active for at least a week prior to observation. Both the 2006 dates are later than similar observations in previous years (egg masses on 11 and 12 May in 2004 and 2005 respectively), and I suspect the late green-up probably retarded emergence from hibernation during 2006. During 2004, adult frogs were observed on 21 August, and I assume that hibernation occurred soon after that date.

As no funds have been expended over the 3 years of this project, this project will be discontinued as a formal project. These activities will continue on an opportunistic basis associated with other projects' field work.

Project Cost: \$0.00

Principal Investigator: Jackson S. Whitman

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As no funds have been expended over the 3 years of this project, this project will be discontinued as a formal project. These activities will continue on an opportunistic basis associated with other projects' field work.

Project Cost: \$0.00

Principal Investigator: Jackson S. Whitman

b. Small mammal microhabitat evaluation and relative species abundance in Interior Alaska – Final Report

Duration: July 2004 – June 2006 (3 yrs.)

Project Objectives

1. Use standard small mammal trapping protocols for collecting specimens and precise capture locations. Conduct microhabitat evaluations at each capture site and attempt to characterize habitat preference for each species encountered.
2. Establish at least 8 small mammal snaptrapping transects in the Fairbanks area for documenting annual fluctuations and relative frequency of occurrence of species. These data will be used for assessing relative abundance of small mammals in relation to boreal owl nesting density and/or productivity.
3. Collect ectoparasites from captured small mammals, identify to species (where practical), and provide a list of parasites by host species.
4. From trapped animals, provide samples for monitoring viruses in Interior Alaska (Hanta virus from mammals, West Nile virus from incidentally-captured avians).

Summary of Project Accomplishments during current reporting period and since project inception

1. Using a combination of museum special snaptraps and pitfalls, a total of 522 vertebrates were captured in 1395 trapnights in Interior Alaska during FY06. Ten species of small mammals were captured (*Myodes rutilus*, 351; *Synaptomys borealis*, 7; *Microtus pennsylvanicus*, 40; *M. oeconomus*, 7; *Microtus xanthognathus*, 1; *Microtus* sp., 7; *Sorex cinereus*, 79; *S. monticolus*, 6; *S. hoyi*, 6; *S. tundrensis*, 1; *Sorex* spp., 10). Over 3 years, 1,172 vertebrates were captured in 6,169 trapnights. Altogether, 16 species of small mammals were captured. (*Clethrionomys rutilus*, *Tamiasciurus hudsonicus*, *Zapus hudsonius*, *Microtus miurus*, *Lemmus trimucronatus*, and *Glaucomys sabrinus* in addition to those named above.) All captured mammals were donated to the University of Alaska Museum for curation. Microhabitat vegetation sampling, consisting of counting or estimating all vegetative stems that were ≥ 1 cm tall within a 1-m radius of the trapsite, was conducted at most capture locations as well as at over 300 non-capture locations. Statistical analyses are continuing on those data to assess preference or avoidance by small mammal species.
2. The nine standardized transects for monitoring species composition and annual fluctuations of small mammals established in FY04 were run in FY06. Captures of *Sorex* species were not significantly different from FY05. Following the large increase in *Myodes rutilus* between FY04 and FY05, the population again increased during FY06. Likewise, other arvicoline populations showed significant increases. It appears that, with a 1-year lag period, nesting boreal owls (*Aegolius funereus*) are very responsive to small mammal density increases, with active boreal owl nesting increasing 5-fold from FY05 to FY06.
3. No additional collections of ectoparasites were made in FY06 or FY05. Analyses of species composition of parasites collected during FY04 has yet to be completed.
4. A total of 7 avians were captured incidentally in small mammal snaptraps in FY06 making 26 total during the 3 year project. Only 4 gray jays from the first year were submitted for West Nile viral testing. Subsequent years' captures were likely candidate species for West Nile viral testing, so no samples from FY05 or FY06 were submitted for

analyses. Earlier samples for Hanta virus testing from small mammals were negative (FY04), so no additional sampling was completed during FY05 or FY06.

This project has been discontinued as a separate formal project and absorbed into the boreal owl ecology project 5.11 in grant T-3 as Job/activity 3b.

Project Cost: Federal \$453 + State \$151 = Total \$604

Principal Investigator: Jackson S. Whitman

c. Ecology of boreal owls (*Aegolius funereus*) in Interior Alaska

Duration: July 2004 – June 2008 (5 yrs.) (Continued under grant T-3)

Project Objectives

1. Establish protocol and conduct spring listening surveys for boreal owls, great horned owls, and great gray owls in Interior Alaska.
2. Establish nest boxes along accessible transects to evaluate feasibility of spring listening surveys for determining annual owl nesting abundance.
3. Assess annual productivity of nesting boreal owls throughout an array of habitat types.

Summary of Project Accomplishments

1. A protocol was developed in 2004 based on Canadian methodology for surveying boreal forest owls in Interior Alaska. During spring 2006, 8 survey routes were conducted a total of 32 times between 14 February and 14 April by 13 biologists and volunteers. A total of 638 point counts was completed. Boreal owls were detected a total of 67 times, while great horned owls and northern hawk owls were detected 124 and 2 times, respectively. No great gray owls were detected.
2. A total of 126 boreal owl nest boxes were monitored during 2006. Because of overwinter box attrition, 117 boxes were available for occupancy. Forty-three boxes were used by boreal owls (37% occupancy rate) and 7 by American kestrels. A total of 105 boreal owls fledged from 27 successful boxes, as well as 30 kestrels from 7 successful boxes. Only 43 of 237 (18%) listening stations within 1 km of active boreal owl nest boxes resulted in detections. This detection rate compares favorably with results from 2004 (14%) and 2005 (17%). Further analysis of the efficacy of monitoring owls through listening surveys and/or nest box monitoring will occur during 2007.
3. Because of the availability of natural nesting cavities and the concurrent inability to detect nesting activity using hooting surveys for boreal owls, actual nesting density over large areas is not currently feasible. High use of nest boxes during 2006 was thought to be a result of high populations of arvicolines (microtines) during 2005, suggesting a 1-year lag in boreal owl nesting response to prey densities. Analyses of prey items in nest boxes along one of 4 routes (Steese Highway) revealed the presence of 261 prey items of at least 13 taxa. Northern red-backed voles (*Clethrionomys rutilus*) made up the bulk of the prey (51%). Further analyses of boreal owl diet will continue. Results from standardized small mammal traplines indicated that arvicoline abundance was extremely high during 2005, but declined precipitously in 2006. Analysis of contents of “active” nest boxes will continue in an effort to better understand consumption rates and prey selectivity.
4. High use of nest boxes by boreal owls in 2005 and 2006 should allow analyses of productivity by major habitat type. Analyses will continue in an effort to describe

differences between productivity in four major overstory types (white spruce, black spruce, paper birch and aspen). Ninety-eight 0.01-acre timber stand exams have been conducted at boreal owl nest boxes to assess nesting preference or avoidance of any particular forest type. Analyses are ongoing.

Project Cost: Federal \$4,026 + State \$1,342 = Total \$5,368

Principal investigator: Jackson S. Whitman

d. Heavy metal concentrations in small mammals living proximate to the Red Dog Mine in Northwest Alaska

Duration: One year

Project Objective

1. Determine the extent of heavy metal contamination in various small mammal species living in proximity to Red Dog Mine and haul road in Northwest Alaska. Work in cooperation with ADEC and Teck Cominco, Limited in designing the project.

Summary of Project Accomplishments

2. No progress was made during this reporting period to determine extent of heavy metals contamination in small mammals proximate to Red Dog Mine. Discussions during 2003 with mine operators and the State of Alaska Department of Environmental Conservation have not resulted in actual field efforts at this time.

Project Cost: \$0.00

Principal Investigator: Jackson S. Whitman

E. EFFECTS OF SNOWSHOE HARE POPULATION CYCLES ON DEMOGRAPHY OF GOLDEN EAGLES IN THE ALASKA RANGE – FINAL REPORT

Duration: Spring 2005 – June 2006 (3 yrs.)

Project Objectives

1. Assess changes in abundance of hares during a declining phase of the population cycle
2. Determine the size of the population of territorial golden eagles each year
3. Determine the number of successful eagle nests and number of eagles fledged each year
4. Document diets of nesting golden eagles
5. Data analysis and report writing

Summary of Project Accomplishments During FY 2006:

1. Hare abundance was estimated at Dry Creek during June 2005 and at O'Brian Creek and Kansas Creek during July and August 2005, using counts of fecal pellets on plots surveyed annually since 1999. These data suggest that snowshoe hares have begun to increase following the cyclic low that occurred during 2001–2003, but the hare population is still less than during the peak years of 1999–2000.
- 2 and 3. A helicopter survey of eagle nest occupancy was conducted during June 2006. Of 43 previously identified nests that were observed, 6 were occupied and produced at least 8 young birds that survived until late June. This was similar to results from 2003–2005 and a

substantial increase from 2002 when only one occupied nest was found, and no young birds survived. Of the 29 nests first surveyed during July 2000, 4 were occupied and produced 6 young birds. These are the largest counts for this area obtained since 2000.

4. Due to scheduling conflicts and difficulty in accessing nests, no eagle nests were visited during this period.
5. Data on hare abundance and eagle nest occupancy were compiled. Analysis and preparation of reports for publication has begun.

Summary of Accomplishments Since Project Inception (includes preliminary data collected as part of Federal Aid project 6.13):

1. Hare abundance was estimated using counts of fecal pellets on sample plots at Dry Creek, O'Brian Creek, and Kansas Creek during June, July, and August 1999—2005. These data indicated that snowshoe hare population density peaked at 0.91 hares/ha during 1999, declined steeply to 0.05/ha during 2002, and began to increase during 2005. However, the population during 2005 (0.11/ha) was still significantly below the peak level.
- 2 and 3. Helicopter surveys of eagle nest occupancy were conducted during July 2000; April and June 2002; May and August 2003; May, June, and July 2004; June 2005; and June 2006 (adverse weather prevented a survey during 2001). A total of 49 eagle nests were located. Of 29 nests initially located during 2000 and surveyed every year, 7 (24%) were occupied during 2000, and 1 (3%), 4 (14%), 3 (10%), 2 (7%), and 4 (14%) were occupied during 2002—2006, respectively. Numbers young birds produced annually by the original 29 nests were: 5 (2000), 0 (2002), 3 (2003), 2 (2004), 2 (2005), and 4 (2006). Thus, eagle nesting success declined to 0 during the low of the hare cycle, then increased to nearly peak levels as hares began to increase.
4. Two eagle nests were visited during June 2003. One nest contained many Dall sheep lamb remains, and the other contained remains of ptarmigan and magpie. A young eagle banded at one of the nests was found dead near Muzquiz, Mexico, approximately 1,500 km from the nest site, in December 2003. Due to scheduling conflicts and difficulty in accessing nests, no nests were visited during the other years.
5. Data on hare abundance and eagle nest occupancy were compiled. Analysis and preparation of reports for publication has begun.

Project Cost for FY 2006: Federal \$6,004.07 + State \$2,001.36 = Total \$8,005.43

Principal Investigator: Steve Arthur

f. Avian mortality at communication towers in Southeast Alaska

Duration: July 2005 – June 2007 (3 yrs.) (Continued under grant T-3)

Project Objectives

1. Assess bird mortality from tower collisions
2. Identify and count carcasses at the sites
3. Mark carcasses to determine the rate of scavenging and removal from the sites

SUMMARY OF PROJECT ACCOMPLISHMENTS

1. From July 1, 2005 to June 30, 2006, twenty field surveys were conducted at the Sitka Airport and eight at the Biorca Island sites. No changes have been made in the physical design and properties of the tower and guy wire orientation (height, length, and connection configurations), distances between tower arrays, lighting, and ground conditions from the original surveys. Surveys at each site collected and removed all bird remains within a defined survey area and established a specific survey pattern that was duplicated for each additional survey. Subsequent surveys noted the location of bird remains, their general condition, identification of species, and then were placed in plastic bags and removed from the site. Any carcasses deemed of interest to scavengers had their location plotted on the survey map, marked with a small pin flag and left on-site.

Site photos at each tower location were collected and additional aerial photos were collected to update our files.

2. All feathers and carcass parts collected (approximately 1200 pieces) have been identified when possible. Digital photos were collected of carcasses and feather concentrations on-site. Owl pellets found at the Sitka Airport site were collected for analysis. The presence and activities of avian scavengers was documented during approximately 128 hours of observations at the sites. The presence of terrestrial scavengers (mink, river otter, and Norway rats) was documented from scat and tracks. We were unable to obtain permission from the FAA to live trap small mammals due to their safety concerns.
3. Carcasses deemed of interest to scavengers had their location plotted on the survey map, marked with a small pin flag and left on-site. Re-survey of the marked carcasses noted the amount of time between surveys, disposition, and removal from the site.

OTHER PROJECT ACCOMPLISHMENTS

4. Seven marine proximity surveys were conducted on waters adjacent to the sites during peak migration periods to census numbers and species of birds in the general area (approximately 50 hours).
5. Surveys conducted to date have involved the Area Biologist and resulted in refinements of the survey methods from the initial work. The AB participated in two airport bird surveys with avian biologists Jean Cedarleaf and Kim Middleton (contracted by the FAA for ongoing Sitka Airport EIS work). They and Dr. Victoria Vosberg (Alaska Raptor Center) assisted with feather and carcass identification.
6. A poster presentation of the project's objectives and accomplishments was presented at the Alaska Bird Conference in Juneau, Alaska in February 2006.
7. Intensive surveys during migration periods will continue in the fall of 2006 and spring of 2007 and will be covered in the next report period. An attempt will be made to refine the

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assessment of bird mortality at the sites using video; including census of species, under-wire feeding and flocking behavior, classification of scavengers, and determining the rate of scavenging/removal of carcasses from the sites.

Project Cost: Federal \$14,669.65 + State \$4,889.88 = Total \$19,559.53

Principal Investigator: Phil Mooney

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-3 **Segment Number:** 1
Project Number: 1.0
Project Title: Conserving Alaska's biodiversity: Program planning, development, and coordination
Project Duration: 1 September 2006 – 30 June 2009
Report Period: September 1, 2006 – September 1, 2007
Report Due Date: November 30, 2007
Partner: Alaska Department of Fish and Game

Project Objectives

OBJECTIVE 1: Oversee, administer, and coordinate the operations of the nongame program and associated education, outreach and in-reach efforts, technical guidance projects, and the updating of the Comprehensive Wildlife Conservation Strategy (CWCS) and its action plans, including participating in national and regional conservation strategy coordination efforts.

Job/Activity 1a: Supervise, hire, and coordinate staff of the nongame program, and education and outreach staff activities related to State Wildlife Grant projects.

Job/Activity 1b: Submit annual and multi-year contract documents and project implementation reports with supporting documentation for State Wildlife Grants when they are due to Federal Assistance.

Job/Activity 1c: As needed, develop the framework for subsequent grant(s) needed to coordinate wildlife action plans.

Job/Activity 1d: Participate in national and regional conservation strategy coordination efforts when appropriate.

OBJECTIVE 2: Participate in partnerships.

JOB/ACTIVITY 2A: Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame and high priority species, and coordinate participation by ADF&G staff in those partnerships.

JOB/ACTIVITY 2B: Administer partnership agreements.

OBJECTIVE 3: Coordinate and participate in monitoring, survey and inventory programs and directed studies on high priority species.

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JOB/ACTIVITY 3A: Coordinate the division's participation in monitoring, survey and inventory programs and directed studies on high priority nongame species including short-term efforts by division staff focusing on regional priorities.

JOB/ACTIVITY 3B: Prioritize, design, conduct, and participate in monitoring, survey and inventory programs and directed studies on high priority species.

JOB/ACTIVITY 3C: Incorporate information and data gathered in monitoring, survey and inventory programs and directed studies into the wildlife databases integral to the CWCS and wildlife action plans.

OBJECTIVE 4: Research and plan conservation actions proposed to conserve identified species and habitats.

JOB/ACTIVITY 4A: Gather information about and develop monitoring strategies for addressing direct or indirect adverse affects to species of greatest conservation concern. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

JOB/ACTIVITY 4B: Provide technical guidance (by developing citizen science and other projects, and providing expertise) to other agencies, groups, and the general public who want to assist wildlife biologists in collecting important information that will be used to support future research and conservation planning.

JOB/ACTIVITY 4c: Gather information, data, and other input from a variety of sources for improving and updating Alaska's CWCS and initiating wildlife action plans resulting from it.

JOB/ACTIVITY 4D: Hold/attend internal and/or interagency workgroup meetings as appropriate. Coordinate and communicate management and research priorities, plans, progress, and findings with representatives from Federal, State, and local governments, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats.

OBJECTIVE 5: Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in updates of the CWCS and in the wildlife action plans resulting from it.

JOB/ACTIVITY 5A: Develop publications, news articles, presentations, web pages, radio pieces, education programs and materials, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and featured species in the CWCS, ecosystems and their importance, and other conservation challenges.

Summary of Project Accomplishments

OBJECTIVE 1: Oversee, administer, and coordinate the operations of the nongame program and associated education, outreach and in-reach efforts, technical guidance projects, and the

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updating of the Comprehensive Wildlife Conservation Strategy (CWCS) and its action plans, including participating in national and regional conservation strategy coordination efforts.

Accomplishments: Following the departure of the program supervisor in January 2007, program coordinators oversaw, administered, and coordinated the operations of their respective programs consisting of four education and four nongame program staff. The existing T-3 federal grant agreement was amended to reflect new State Wildlife Grant administrative guidelines effective January 2007. Staff actively participated in discussions at two Association of Fish and Wildlife Agencies' Wildlife Diversity Program Managers meetings. Implementation of Alaska's CWCS included participation in national and regional conservation strategy coordination efforts, the Alaska meeting of the Pacific Coast Joint Venture, and the National Bird Education Conference in Texas.

OBJECTIVE 2: Participate in partnerships

JOB/ACTIVITY 2A: Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame and high priority species, and coordinate participation by ADF&G staff in those partnerships.

Accomplishments: Participation in partnerships and collaborative efforts continued throughout the reporting period. Program staff continued to attend meetings of various regional and local species working groups; this included five Alaska avian working groups and specific working groups for Marbled Murrelet, Rusty Blackbird and Black Oystercatcher. Nongame Program staff organized a Small Mammal Conservation Technical Session at the spring 2007 meeting of The Wildlife Society, which resulted in the formation of an Alaska small mammal conservation working group.

JOB/ACTIVITY 2B: Administer partnership agreements.

Accomplishments: The Nongame Program Coordinator provided oversight and management for 25 partner projects in federal grants T-1-6, T-1-16, T-4, and T-5 involving research, survey and inventory, and monitoring activities. Several staff worked cooperatively to develop and fund five new Partner Program projects during the reporting period.

OBJECTIVE 3: Coordinate and participate in monitoring, survey and inventory programs and directed studies on high priority species.

JOB/ACTIVITY 3A: Coordinate the division's participation in monitoring, survey and inventory programs and directed studies on high priority nongame species including short-term efforts by division staff focusing on regional priorities.

Accomplishments: Program coordinators provided oversight and management for 25 components under this grant agreement. Nearly a third of these involved division staff focusing on regional priorities.

JOB/ACTIVITY 3B: Prioritize, design, conduct, and participate in monitoring, survey and inventory programs and directed studies on high priority species.

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Accomplishments: Program staff developed and participated in 14 directed studies on high priority species including Marbled and Kittlitz's murrelets, Black Oystercatcher, forest owls, ice seals, and Bristol Bay seabirds.

Current work on Minto Flats State Game Refuge in the boreal forest of interior Alaska consists of efforts to assess population dynamics of birds of prey, including bald eagles, northern goshawks, and great gray owls. After two years of effort on the Refuge, we have documented over 350 nests of eight raptor species. That information facilitated the design and testing of a population monitoring technique. Accurate knowledge of the population swings of these species allows us to protect essential habitat, and make management decisions to assure their existence into the future.

JOB/ACTIVITY 3C: Incorporate information and data gathered in monitoring, survey and inventory programs and directed studies into the wildlife databases integral to the CWCS and wildlife action plans.

Accomplishments: Information and data are added to wildlife databases as projects are completed. Results are presented at professional meetings, in professional journals, and meetings with species working groups and managers. Over 300 avian observation records were submitted to Alaska e-Bird, which also contributes directly to the Avian Knowledge Network.

OBJECTIVE 4: Research and plan conservation actions proposed to conserve identified species and habitats.

JOB/ACTIVITY 4A: Gather information about and develop monitoring strategies for addressing direct or indirect adverse affects to species of greatest conservation concern. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

Accomplishments: Projects to develop monitoring strategies for murrelets and forest owls continued during the reporting period. In addition, the Nongame Program at Alaska Department of Fish and Game continued to lead a cooperatively funded and administered project to address key aspects of Black Oystercatcher ecology. State Wildlife Grant funds leveraged hundreds of thousands of dollars of investment from participating partners, drawing together the efforts of the U.S. Forest Service, National Park Service, U.S. Fish and Wildlife Service, U.S. Geologic Survey, the University of Alaska Fairbanks, Oregon State University, and ultimately, the Canadian Wildlife Service, Parks Canada, and the Laskeek Bay Conservation Society in British Columbia. This project filled critical information gaps for the conservation of this rare species, and culminated in the new Black Oystercatcher Conservation Action Plan; a detailed work-plan intended to be the single strategic planning resource for the conservation of this species throughout its range.

JOB/ACTIVITY 4B: Provide technical guidance (by developing citizen science and other projects, and providing expertise) to other agencies, groups, and the general public who want to assist wildlife biologists in collecting important information that will be used to support future research and conservation planning.

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Accomplishments: One of the greatest challenges facing conservation in Alaska is a lack of information on the distribution, abundance, and population status of many wildlife species. The Alaska Citizen Science Network was initiated with State Wildlife Grant funding to provide valuable baseline information across large geographic areas for very little money, and to establish statistically defensible, citizen-based monitoring efforts to track population trends in the face of environmental change. Network components include the Alaska Wood Frog Monitoring Program, the Alaska Bat Monitoring Program, and the Alaska Loon and Grebe Watch. To date, over 200 public programs have reached nearly 3,000 attendees, while over 400 volunteers have conducted 1100 wood frog calling surveys, 100 bat surveys, and monitor occupancy and productivity of loons and grebes at 83 lakes. Volunteers have documented a decline in lake occupancy by loons and grebes in South Central Alaska, documented a wood frog range expansion and refined distribution and habitat association, and confirmed two large maternal bat colonies in Interior Alaska, among the very first ever documented. The information generated by this project will assist researchers, land managers, and planners in developing long-term action plans to conserve wildlife for future generations.

JOB/ACTIVITY 4C: Gather information, data, and other input from a variety of sources for improving and updating Alaska's CWCS and initiating wildlife action plans resulting from it.

Accomplishments: Program staff continues to build a database of errata for the next printing of Alaska's CWCS and 10-year mandatory revision. ADF&G staff collaborates with Alaska Audubon to develop an Alaska e-Bird node, which will provide information on avian distribution for revising the CWCS, and also provide a basis for future monitoring.

JOB/ACTIVITY 4D: Hold/attend internal and/or interagency workgroup meetings as appropriate. Coordinate and communicate management and research priorities, plans, progress, and findings with representatives from Federal, State, and local governments, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats.

Accomplishments: Nongame Program biologists continue to attend internal and interagency meetings, providing expertise as appropriate (e.g., Tongass Round Table). Participation in species working groups enhances communication with managers and sets the stage for future collaborative efforts that address the management and research priorities outlined in Alaska's CWCS.

OBJECTIVE 5: Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in updates of the CWCS and in the wildlife action plans resulting from it.

JOB/ACTIVITY 5A: Develop publications, news articles, presentations, web pages, radio pieces, education programs and materials, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and featured species in the CWCS, ecosystems and their importance, and other conservation challenges.

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Accomplishments:

- Presented three *Birding for Absolute Beginners* workshops (Wrangell and Homer) to 42 participants, a tracking workshop in Wrangell (5 participants), business of wildlife tourism workshop in Chevak and Wrangell (14 participants).
- Reprinted 10,000 and distributed approximately 7,000 *Wings Over Alaska* bird checklists (with ethics and eBird information – using private partner funds). Issued approximately 200 *Wings* certificates.
- Held seven wildlife lectures in Anchorage and six wildlife viewing clinics in Juneau, and two in Homer. ADF&G partnered with the Forest Service on a Juneau lecture series that reached approximately 1,500 participants, and with the Geophysical Institute on a Juneau, Fairbanks, Anchorage lecture series that reached about 3,200 participants.
- Developed and held first intensive week-long, field based facilitator training for the Project WILD / Project Learning Tree (PLT) /Alaska Wildlife Programs. Trained 15 new facilitators from across the state.
- Offered 22 Project WILD/Alaska Wildlife Curriculum workshops training 200 educators. 15 workshops were offered for graduate credit.
- Worked with contractor to complete the revision of the 'Wetlands and Wildlife', a volume of the Alaska Wildlife Curriculum.
- Offered four Project WILD/AWC workshops were using distance learning techniques.
- Represented ADF&G and Project WILD on the Board of Directors for the Alaska Natural Resource and Outdoor Education Association. Displayed ADF&G education resources at three regional Alaska Natural Resource & Outdoor Education Association meetings across the state.
- Partnered with PLT to create combined PLT/Project WILD statewide advisory committee.
- Attended the Alaska Wildland Fire Coordinating Group Education subcommittee meetings.
- Trained and supported dozens of educators and various agency personnel in Region III regarding wildlife related information and issues and held several teacher workshops to train educators in the use of various wildlife curricula including facilitation of *Fire in Alaska!*, a graded credit class for educators, Project WILD, Project WILD Early Childhood Curriculum, Alaska Wildlife Curriculum, forest ecology, and more.
- Participated in development and operation of the 2nd annual Alaska Conservation Camp, and the 1st annual Advanced Alaska Conservation Camp.
- Participated in the development and oversight of the Interagency "Camp Habitat" program.

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- Expanded and improved Web site content to include more division reports, publications and updated time-sensitive pages such as calendars of events, new planning documents, and other information. Continued maintenance and upgrading of content, Web server, and programming for WC Web site.
- “Sounds Wild” provided the public with accessible information on wildlife species, Alaska ecosystems and conserving Alaska’s biodiversity on a regular, ongoing basis using a variety of media. Recorded the majority of the field audio and engineered the studio recording sessions for 60 episodes of this 90-second radio program broadcast weekly (and in some cases daily) on 26 stations statewide, and episodes highlight current research, wildlife and natural history. Provided copies to several guides and naturalists working in Alaska, and to two tour operators who wanted to play the recordings on tour buses during their travels throughout the state.
- Alaska Fish and Wildlife News is a monthly online publication that raises awareness about the status of wildlife species and their habitats in Alaska, and the activities of ADF&G biologists. This publication provided information to a broad section of Alaskans and to folks throughout the United States.
- Developed and presented program for both school groups and general public concerning habitat changes of the Mendenhall Wetlands State Game Refuge.
- Created the third edition of Wood Bison News, a newsletter about the Alaska Wood Bison Recovery project.
- Reviewed text and design for five new interpretative signs at Potter Marsh. Reviewed and participated in the creation of a new Master Interpretative Plan for Potter Marsh.
- Wrote text for two new interpretative signs at the Ted Stevens International Airport in Anchorage highlighting recreational opportunities within South-central and Southwestern Alaska.

Prepared By: Mary Rabe

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-3 **Segment Number: 1**
Project Number: 1
Project Title: Conserving Alaska's biodiversity: Program planning, development, and coordination
Project Duration: 1 September 2006 – 30 June 2009
Report Period: September 1, 2007 – August 31, 2008
Report Due Date: November 30, 2008
Partner: Alaska Department of Fish and Game

Project Objectives:

OBJECTIVE 1: Oversee, administer, and coordinate the operations of the nongame program and associated education, outreach and in-reach efforts, technical guidance projects, and the updating of the Comprehensive Wildlife Conservation Strategy (CWCS) and its action plans, including participating in national and regional conservation strategy coordination efforts.

JOB/ACTIVITY 1A: Supervise, hire, and coordinate staff of the nongame program, and education and outreach staff activities related to State Wildlife Grant projects.

Accomplishments: Following the departure of the program supervisor, program coordinators oversaw, administered, and coordinated the operations of their respective programs consisting of 5 education/outreach and 4 nongame program staff until January 2008. The Education and Nongame programs currently are supervised by Assistant Director, Cindi Jacobson, who continued these activities in 2008. The coordinator worked with other ADF&G staff to establish lines of authority and working relationships with the department's new endangered species coordinator. With the retirement of Region III nongame biologist Jack Whitman at the end of April 2008, a recruitment process was initiated; interviews were held in July and the position was offered at the end of August to Travis Booms who will begin work for ADF&G in January 2009.

JOB/ACTIVITY 1B: Submit annual and multi-year contract documents and project implementation reports with supporting documentation for State Wildlife Grants when they are due to Federal Assistance.

Accomplishments: During this report period, contracts with partners and interim and final progress reports were completed for many projects.

We submitted final Federal Assistance research reports on trumpeter swans (T-1-6-8), collared pika and marmot (T-1-6-9), Important Bird Areas (T-1-6-11), SE bats (T-1-6-12), SE marble murrelet population trends (T-1-16-5), Creamer's

Field Migration Station passerines (T-1-16-6), Aleutian terns (T-3-2.12), Black oystercatcher (T-3-3.10), boreal owls (T-3-5.11), Minto Flats raptors (T-3-5.12), nongame ranking (T-4-1), American dipper (T-4-2) and marbled murrelet foraging ecology (T-5-1).

We submitted interim Federal Assistance research reports on SE forest owls (T-1-6-13 & T-3-5.13), Port Snettisham marbled murrelets (T-1-16-1), bowhead whales (T-1-16-3), E-Bird geospatial database (T-1-16-7), marble murrelet monitoring (T-3-2.10), Northern Bristol Bay seabirds (T-3-2.11), Eskimo curlew (T-3-3.11), landbirds on state lands (T-3-4.10), western and northwestern raptors (T-3-5.10), Minto Flats small mammals (T-3-6.11), tundra hare (T-3-6.12),¹ marine mammal project coordination (T-3-7.10), ice seals (T-3-7.11), Citizen Science Program (T-3-10.10), citizen-based marbled murrelet monitoring (T-3-10.11), population and habitat assessments in SE, south-central, interior, and N/NW (T-3-11.11-15).²

We initiated SWG projects on wood bison restoration (T-7-1), marble murrelets (T-8-1), hoary marmots (T-9-1), spruce grouse (T-9-2), Aleutian terns (T-9-3), Steller seal lions (T-11-1), harbor seals (T-11-2), ice seals (T-11-3), endangered species coordination (T-12-1), and yellow-billed loons (T-13-1).

JOB/ACTIVITY 1C: As needed, develop the framework for subsequent grant(s) needed to coordinate wildlife action plans.

Accomplishments: Nongame Program coordinator Mary Rabe also worked to develop a process and criteria for updating the department's species of special concern list. Efforts to develop a 5-year accomplishment report for the Alaska State Wildlife Grants and ADF&G's Nongame and Partner programs were initiated.

JOB/ACTIVITY 1D: Participate in national and regional conservation strategy coordination efforts when appropriate.

Accomplishments: The Nongame Program coordinator continued to participate in ADF&G nongame permitting activities as well as federal permitting and policy review for a diversity of species including subsistence species, bald eagle, and peregrine falcons.

OBJECTIVE 2: Participate in partnerships

JOB/ACTIVITY 2A: Actively participate in established partnerships and create new ones for research on and conservation of Alaska's nongame and high priority species, and coordinate participation by ADF&G staff in those partnerships.

Accomplishments: Participation in partnerships and collaborative efforts continued throughout the reporting period. Nongame Program staff developed new partnerships and projects for priority species like Yellow-billed Loon, Aleutian Tern, and Kittlitz's Murrelet. Staff continued to attend meetings of

¹ Project to be implemented when a northern/northwestern AK coordinator is hired.

² Project to be implemented when a northern/northwestern AK coordinator is hired.

various regional and local species working groups; this included 5 Alaska avian working groups and specific working groups for Marbled Murrelet, Rusty Blackbird and Black Oystercatcher. Staff also participated in formation of the Alaska Raptor Working Group at the 2008 Alaska Bird Conference, collaborated with Alaska Audubon to establish an Alaska node within the national eBird system, and formed a working group to help develop an Alaska node within the national Avian Knowledge Network.

Region II nongame biologist Dave Tessler is involved with the following groups:

- 2004-present, Chairperson, International Black Oystercatcher Working Group
- 2004-present, Co-founder and executive committee member, Alaska Amphibian Working Group
- 2006-present, member, Rusty Blackbird International Technical Working Group
- 2006-present, Alaska Representative, Partnership for Amphibian and Reptile Conservation (PARC)
- 2005-present, Co-Chairperson, Boreal Partners in Flight
- 2005-present, Alaska Representative, Western Bat Working Group
- 2005-present, Alaska Representative, Partners in Flight, Western Working Group

Over the past year a number of marbled murrelet research and monitoring projects in Alaska using >\$500,000 of Alaska's State Wildlife Grant funds were completed. Staff organized and moderated a Marbled Murrelet meeting in Port Townsend, WA. The meeting convened top experts in the Marbled Murrelet field together to (a) discuss the results of ongoing research in Alaska and BC the past 3 years, and (b) to determine what future research or monitoring work, if any, is warranted in the coming years. With this foundation, ADF&G developed a report that identifies the highest priority research and management needs for this species over the next 2-4 years, and the rationale for this strategic plan. The product was shared among agencies, and will serve as a guiding blueprint for future collaborative work. It also was distributed to members of the Marbled Murrelet Technical Committee within the Pacific Seabird Group.

During the summer session at University of Alaska Southeast, Region I nongame biologist Matt Kirchhoff worked closely with the Marine Ornithology class to expand the effectiveness of his individual research efforts. The class culminated with a special seminar on "*Brachyramphus* Murrelet Ecology and Population Monitoring" that included the following presentations: Spatial Correlation of Humpback Whales and Marbled Murrelets in Icy Strait, Alaska by Kelli Burkinshaw; The Ecology of the Kittlitz's Murrelet in Alaska by Tim Cullison; Diurnal Activity Patterns of *Brachyramphus* Murrelets During the Breeding Season in Icy Strait, Southeast Alaska by Julie Koehler; Distribution of *Brachyramphus* Murrelets relative to Tidal Fluctuations and Time of Day in Icy Strait, Alaska by Christina Mounce; The Effect of Precipitation and Sea State on the Detectability of Marbled Murrelets During Surveys by Kaili Jackson; and Spatial Distribution of Marbled Murrelets in Nearshore Waters of Icy Strait, Alaska by Jeremy Brown.

JOB/ACTIVITY 2B: Administer partnership agreements.

Accomplishments: The Nongame Program Coordinator provided oversight and management for 20 partner projects in federal grants T-1-6 (6 active projects), T-1-16 (6 active projects), T-4 (2 active projects), T-5 (1 active project), T-8 (1 active project), T-13 (1 active project) and T-9 (3 active projects) involving research, survey and inventory, and monitoring activities. Several staff worked cooperatively to develop and fund 5 new Partner Program projects during the reporting period; two additional projects developed under T-9 have an effective date of October 20, 2008; three other projects have been discussed for future funding.

OBJECTIVE 3: Coordinate and participate in monitoring, survey and inventory programs and directed studies on high priority species.

JOB/ACTIVITY 3A: Coordinate the division's participation in monitoring, survey and inventory programs and directed studies on high priority nongame species including short-term efforts by division staff focusing on regional priorities.

Accomplishments: Program coordinators provided oversight and management for 25 components under this grant agreement. Nearly a third of these involved division staff focusing on regional priorities.

JOB/ACTIVITY 3B: Prioritize, design, conduct, and participate in monitoring, survey and inventory programs and directed studies on high priority species.

Accomplishments: Staff developed and participated in 14 directed studies on high priority species including Marbled and Kittlitz's murrelets, Black Oystercatcher, Rusty Blackbird, Peregrine Falcon, forest owls, ice seals, and Bristol Bay seabirds.

JOB/ACTIVITY 3C: Incorporate information and data gathered in monitoring, survey and inventory programs and directed studies into the wildlife databases integral to the CWCS and wildlife action plans.

Accomplishments: Information and data are added to wildlife databases as projects are completed. Results are presented at professional meetings, in professional journals, and meetings with species working groups and managers.

OBJECTIVE 4: Research and plan conservation actions proposed to conserve identified species and habitats.

JOB/ACTIVITY 4A: Gather information about and develop monitoring strategies for addressing direct or indirect adverse affects to species of greatest conservation concern. Where deemed appropriate, establish research and surveys to identify factors that may assist in restoration and more effective conservation of such species and their habitats.

Accomplishments: Projects to develop monitoring strategies for murrelets, raptors and forest owls continued during the reporting period. In addition, the Nongame Program at Alaska Department of Fish and Game continued to lead a cooperatively funded and administered project to address key aspects of Black

Oystercatcher ecology. This project filled critical information gaps for the conservation of this rare species, and culminated in the Black Oystercatcher Conservation Action Plan; a detailed work-plan intended to be the single strategic planning resource for the conservation of this species throughout its range.

JOB/ACTIVITY 4B: Provide technical guidance (by developing citizen science and other projects, and providing expertise) to other agencies, groups, and the general public who want to assist wildlife biologists in collecting important information that will be used to support future research and conservation planning.

Accomplishments: One of the greatest challenges facing conservation in Alaska is a lack of information on the distribution, abundance, and population status of many wildlife species. The Alaska Citizen Science Network was initiated with State Wildlife Grant funding to provide valuable baseline information across large geographic areas for very little money, and to establish statistically defensible, citizen-based monitoring efforts to track population trends in the face of environmental change. Network components include the Alaska Wood Frog Monitoring Program, the Alaska Bat Monitoring Program, and the Alaska Loon and Grebe Watch. The information generated by this project will assist researchers, land managers, and planners in developing long-term action plans to conserve wildlife for future generations.

Region II nongame biologist Dave Tessler attended the International Wader Study Group meeting in La Rochelle, France, 28 September – 1 October. One of the principle foci of the conference was a workshop entitled “Conservation Status of Oystercatchers Around the World.” The purpose of the workshop was to review the state of knowledge on each oystercatcher species and sub-species, and to construct a conservation plan for each. The end result of the workshop was the publication of a special edition of International Wader Studies (a widely recognized international shorebird journal) featuring papers (summaries of these plans) for each oystercatcher subspecies. Dave is lead author on the recently completed Black Oystercatcher Conservation Action Plan (an international blueprint for the conservation of the species). This plan is recognized as the single strategic planning document by all federal, state, Canadian, and provincial agencies where the species occurs (see:

http://www.whsrn.org/shorebirds/conservation_plans.html). Dave was specifically invited by the conference organizers because ADF&G's Black Oystercatcher Plan is the first for the genus, and because it is comprehensive, inclusive, and collaborative in nature. Workshop organizers intend this plan to serve as a template for the other plans to be developed for the remaining oystercatcher species.

JOB/ACTIVITY 4C: Gather information, data, and other input from a variety of sources for improving and updating Alaska's CWCS and initiating wildlife action plans resulting from it.

Accomplishments: Staff continue to build a database of errata for the next printing of Alaska's CWCS and 10-year mandatory revision. ADF&G staff collaborated with Alaska Audubon to develop an Alaska e-Bird node, and collaborated with a

variety of other partners to initiate development of an Alaska Avian Knowledge Network node. Both efforts will provide information on avian distribution for revising the CWCS, and also provide a basis for future monitoring. Program coordinators continue to participate in a variety of climate change discussions, forecasting of wildlife adaptations, and assessment of the need for immediate revisions of Alaska's CWCS. Staff continue to work with the Alaska Natural Heritage Program at UAA to develop the Alaska Species Ranking System that will be used to better identify species priorities when implementing Alaska's CWCS.

JOB/ACTIVITY 4D: Hold/attend internal and/or interagency workgroup meetings as appropriate. Coordinate and communicate management and research priorities, plans, progress, and findings with representatives from Federal, State, and local governments, NGOs, and Native corporations that manage significant areas of land and water within the state, or significantly affect the conservation of wildlife and their habitats.

Accomplishments: Nongame Program biologists continue to attend internal and interagency meetings, providing expertise as appropriate (e.g., Tongass Round Table). Participation in species working groups enhances communication with managers and sets the stage for future collaborative efforts that address the management and research priorities outlined in Alaska's CWCS. The Program Coordinator participated in a panel discussion at the spring meeting of The Wildlife Society Northwest Section focusing on "State Wildlife Action Plan Implementation – Progress, Priorities, Projects and Partnerships."

Region I nongame biologist Matt Kirchoff participated in a Tongass field trip and science conference hosted by Alaska Audubon and The Nature Conservancy. Matt provided his experience and knowledge of marbled murrelets, nongame species, and general forest ecology. Matt's participation was a great asset in helping interpret the ecology of the region and evaluating strategies for balancing a sustainable timber industry with conservation of the region's valuable fish and wildlife resources. The objective was to bring a group of nationally recognized scientists to southeast Alaska to review the Tongass conservation strategy and recent conservation assessment and provide recommendations for enhancing fish and wildlife conservation throughout the region. The focus of the conference was on synthesizing available science and its application to the conservation of forest biodiversity and ecological integrity. Participating scientists included: Dr. Gordon Orians, University of Washington; Dr. Jerry Franklin, University of Washington; Dr. Paul Alaback, University of Montana; Dr. Martin Nie, University of Montana; Dr. Barry Noon, Colorado State University; Dr. Joe Cook, University of New Mexico; and Andy MacKinnon, Research Ecologist, BC Ministry of Forestry. The scientists who agreed to participate are nationally recognized experts in their fields of forest ecology and conservation biology.

Region I nongame biologist Matt Kirchoff, participated in the Kittlitz's Murrelet workshop at the Alaska Marine Science Symposium in Anchorage, presenting findings from Glacier Bay findings that show the highest KIMU numbers in Glacier Bay since 1993.

OBJECTIVE 5: Provide the public with information on nongame species, Alaskan ecosystems, and issues pertaining to conserving Alaska's biodiversity to help them participate meaningfully in updates of the CWCS and in the wildlife action plans resulting from it.

JOB/ACTIVITY 5A: Develop publications, news articles, presentations, web pages, radio pieces, education programs and materials, and other tools to raise awareness about the status of wildlife species and their habitats in Alaska. Disseminate information to a broad section of Alaskans on species of concern and featured species in the CWCS, ecosystems and their importance, and other conservation challenges.

Accomplishments: Our information specialist, educators and other Division of Wildlife Conservation staff developed the following publications, news articles, presentations, web pages, radio pieces, education programs and materials, and other tools to raise awareness about the status of nongame wildlife species and their habitats in Alaska.

- Two naturalist training workshops for Juneau area wildlife watching tours.
- Workshops on seabirds, wildlife and marine mammals on a nine-day trip to Glacier Bay, teaching biology to nine advanced high school students. ADF&G partnered with UAF (the ASRA program), DoD (the major granting agency), the National Parks Service and others to make this possible.
- Alaska Wildlife Notebook series – supervised production and distribution, graphic design and editing of 300 page book on wildlife in Alaska. Printed 5,000 copies. Provided a copy to every school, community and academic library in Alaska. Worked with dozens of bookstores to carry copies.
- Articles for the Otolith, the interdepartmental newsletter of ADF&G, on wood bison restoration and the Endangered Species Act.
- About 25 articles for the Juneau Empire Sunday Outdoors section, topics include hunting and hunter safety, wildlife viewing, ADF&G research projects, and general interest/natural history of wildlife and birds.
- About 40 articles for Alaska Fish and Wildlife News, ADF&G's online magazine, including orphaned animals, natural history of Alaska wildlife and birds, overview of research projects and science (hair snares, captures and collaring, conservation issues), as well as profiles of department staff and their work.
- 52 episodes of "Sounds Wild" a radio science program focusing on Alaska wildlife, broadcast weekly on at least 27 stations statewide.
- Audio education package for Potter's March.
- Presentations to Girl Scouts on Women of Science and Technology.
- Newspaper articles on spectacled eider rescue, rehabilitation and release, and orphaned wildlife.
- Ferry tabletop wildlife field guides—laminated tabletops installed on 8 state ferries.

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- Presentations to the Juneau and Anchorage Audubon chapters on birding assessment tours and birding in Yup'ik Country (Yukon-Kuskokwim Delta).
- Birding in Yup'ik Country brochure.
- Presentation to April 2008 Wildlife Society meeting on "Why Wildlife Watchers Matter."
- Birding sessions for Juneau School District's "Seaweek."
- *Tundra Drums* newspaper article on "Waiting for birders to flock to the Y-K Delta."
- "Birding in Yup'ik Country" article appeared in the *Anchorage Daily News*, *Fairbanks News Miner*, *Peninsula Clarion*, and *Juneau Empire*.
- *Birder's World* magazine article on ADF&G project to promote birding in the Yukon-Kuskokwim Delta "Unbirded Alaska."
- Presentations in Juneau schools on Wildlife sign & tracking (150 attendees) and Wetlands and Wildlife (120 students).

Prepared By: Mary Rabe and others

**Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT**

Grant Number: T-1 **Segment Number:** 6
Project Number: 3
Project Title: Develop nongame species database for Comprehensive Wildlife Conservation Strategy
Project Duration: July 1, 2004 – June 30, 2006
Report Period: July 1, 2004 – June 30, 2005
Report Due Date: September 30, 2005

Objectives

Compile and synthesize information that is reasonably complete and accurate on range, distribution, abundance, habitat use and most current conservation rankings of at least 30 target species as determined cooperatively by ADFG and Alaska Natural Heritage Program. Also document population status/trends, level of protection and threats.

1. Review for accuracy and, as necessary, revise Heritage Program state status ranks for identified target species.
2. Provide specified publication-quality text for selected target species.
3. Provide GIS mapping information within an ecoregion along with the text for 2-3 selected species to represent the full value to be derived by using Heritage Methodology.

Summary of Accomplishments (*Describe accomplishments related to the work that was proposed to be done during this same period in the Project Description and work schedule*):

The following accomplishment is related to Objective 1.

1. To date, we have completed the literature review and compiled information on range, distribution, abundance, habitat use, population status/trends, level of protection and threats for 32 of 37 species on the featured species list for terrestrial animals.

The following accomplishments are related to Objective 2.

2. This information has been synthesized and draft reports developed for 22 of the 37 species. Seventeen of the 22 draft reports were reviewed, internally, a second time by the project PI who assigned or made recommendations to change conservation status ranks at the state and global levels (to date, 17 of the reports reviewed resulted in status changes).
3. We developed a list of expert contacts for individual species.
4. Draft reports are in the process of being sent to experts for external review.

The following accomplishment is related to Objective 4.

5. We began to collect geographic information for four species, to develop GIS maps and provide associated information textually. The four species included the Rusty Blackbird, Wrangell Island red-back vole, wood frog, and the Yukon floater (a freshwater mussel). This process involved contacting researchers from around the state for accurate unpublished location/observation information, as well as a thorough

literature review. To, date we have collected geographic information for 735 observations for the Rusty Blackbird, 150 new locations for the wood frog, obtained range information and developed geographic coverages for the Wrangell Island red-back vole, and received 136 locations where the Yukon floater has been collected.

Significant Deviations (*if any, and explain the reasons for these*):

1. We had originally planned to complete the entire project by June 30, 2005; however, funding for the FY05 component of our project arrived later than anticipated and we were not able to begin work on the project until March 2005. We aim to complete all 37 expert-reviewed species reports, provided in publication quality by Dec. 31, 2005 (Obj. 3). We will also provide maps and associated documentation for at least three of the four species that we have been compiling GIS information on (Obj. 4).

Actual Costs during this Report Period (*personnel plus all operating expense totals*):

Federal (from ADF&G):	Partner (nonfederal share):
\$98,649.97	\$32,883.32

Project Leader (*or Report Contact Person*): Tracey Gotthardt

Additional Information: None

**Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT**

Grant Number: T-1 **Segment Number:** 6
Project Number: 3
Project Title: Develop nongame species database for Comprehensive Wildlife Conservation Strategy
Project Duration: July 1, 2004 – June 30, 2007
Report Period: July 1, 2005 – June 30, 2006
Report Due Date: September 30, 2006
Partner: University of Alaska Anchorage, Alaska Natural Heritage Program

Objectives

Compile and synthesize information that is reasonably complete and accurate on range, distribution, abundance, habitat use and most current conservation rankings of at least 30 target species as determined cooperatively by ADFG and Alaska Natural Heritage Program. Also document population status/trends, level of protection and threats.

1. Review for accuracy and, as necessary, revise Heritage Program state status ranks for identified target species.
2. Provide specified publication-quality text for selected target species.
3. Provide GIS mapping information within an ecoregion along with the text for 2-3 selected species to represent the full value to be derived by using Heritage Methodology.
4. Provide GIS mapping information for 50 species and final project report.

Summary of Accomplishments

The following accomplishment is related to Objective 1.

1. We completed a literature review and compiled information on range, distribution, abundance, habitat use, population status/trends, level of protection and threats for 37 species included in the CWCS featured species list.

The following accomplishments are related to Objective 1 & 2.

2. Information referred to in Objective 1 was synthesized into species summary status reports for the 37 selected species. All reports were reviewed externally by experts and internally by qualified staff. Species conservation status ranks were reviewed and updated by AKNHP staff zoologist.
3. Reports were finalized as separate word and .pdf documents and were delivered on CD-Rom to Mary Rabe at the ADF&G Nongame Program, June 30, 2006. AKNHP will also post each report on their web-site (http://aknhp.uaa.alaska.edu/zoology/Zoology_ADFG.htm) which is linked to the ADF&G CWCS web-site by August 2006.

The following accomplishment is related to Objective 3.

4. We collected current and historical geographic information from the literature and from researchers for four species: the Rusty Blackbird, Wrangell Island red-back vole, wood frog, and the Yukon floater (a freshwater mussel). We collected over 1120

observations for the Rusty Blackbird from the literature, from researchers around the state, and from the notebooks of Brina Kessel, formerly with the University of Alaska Museum. We presented this information in poster format at the Alaska Bird Conference and also at the Boreal Partners in Flight Meeting, spring 2006. We are currently working on a multi-scale habitat analysis for this species with researchers from the USGS, USFWS and the US Forest Service. We aim to complete our analyses by fall 2006 and anticipate developing a manuscript for publication based on our findings by winter 2007.

We collected 145 specimen locations for the Yukon Floater and entered this information into Biotics (the Heritage Program's GIS database). We revised range information for the Wrangel Island red-backed vole based on habitat preferences and updated this information in the Biotics database. We collected over 400 observations and/or specimen locations for the wood frog and entered them into an Access database designed specifically for Alaska amphibians. We are currently in the process of quality controlling this data so that we may transfer it to the Biotics database by September 2006.

The following accomplishment is related to Objective 4.

5. ADF&G selected a subset of 50 featured species for GIS mapping of occurrence and distribution information. During the 2006 report period, we began collecting distribution information for individual species from the literature, unpublished reports and unpublished data. To date, the literature review is in progress or has been completed for 34 of the 50 featured species. Of the 34 species we reviewed, occurrence information has been summarized for 15 of them.

Significant Deviations

1. The original project completion date was June 30, 2006. However, AKNHP was unable to completely spend out FY05 funds; the balance of these funds was rolled over into the FY06 budget, which took several months to facilitate. Additionally, once we received the rolled FY05 funds at UAA, it then took several additional months to set up the match account. Therefore, we were not able to officially begin work on the project until April 2006. As a result, a substantial portion of the FY06 RSA was not spent; the balance will be used in FY07 to complete the GIS database for the 50 featured species, to develop element occurrence data layers based on distribution information and enter this information into the Heritage Program's Biotics database, and to develop a final report that summarizes methodologies and results for the three years of the project.

Actual Costs during this Report Period (*personnel plus all operating expense totals*):

(Reported costs included ADF&G indirect calculated at 13.5%)

Federal (from ADF&G):	Partner (nonfederal share):
\$207,326	\$69,108

Project Leader (*or Report Contact Person*): Tracey Gotthardt

Additional Information: None

FEDERAL AID
FINAL PERFORMANCE REPORT

ALASKA DEPARTMENT OF FISH AND
GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

Alaska Department of Fish and Game
State Wildlife Grant

Grant Number: T-1 **Segment Number:** 6
Project Number: 3
Project Title: Develop nongame species database for Comprehensive Wildlife Conservation Strategy
Project Duration: July 1, 2004 – June 30, 2007
Report Period: July 1, 2006 – June 30, 2007
Report Due Date: September 30, 2007
Partner: University of Alaska Anchorage, Alaska Natural Heritage Program

Project Objectives

Compile and synthesize information that is reasonably complete and accurate on range, distribution, abundance, habitat use and most current conservation rankings of at least 30 target species as determined cooperatively by ADF&G and Alaska Natural Heritage Program (AKNHP). Also document population status/trends, level of protection and threats.

1. Review for accuracy and, as necessary, revise Heritage Program state status ranks for identified target species.
2. Provide specified publication-quality text for selected target species.
3. Provide GIS mapping information within an ecoregion along with the text for 2-3 selected species to represent the full value to be derived by using Heritage Methodology.
4. Provide GIS mapping information for 50 species and final project report.

Summary of Project Accomplishments for entire project:

Objective 1: We reviewed the Heritage Rank conservation status ranks for each of 92 identified species, and revised 46 state ranks. Additionally, state ranks were assigned to 28 species that were previously unranked, and we recommended 12 global ranks be changed and forwarded these recommendations to NatureServe for review by the chief zoologist. We also made global rank recommendations for 21 species that were previously not included in the NatureServe database.

Objective 2: We developed status reports summarizing information on range, distribution, abundance, habitat use, population status/trends, level of protection and threats for 92 of the Comprehensive Wildlife Conservation Strategy featured species: 35 birds, 23 mammals, 10 fishes, 6 amphibians, 1 reptile and 17 invertebrates. We consulted numerous experts from throughout Alaska and elsewhere to help improve the quality and accuracy of individual reports.

Objective 3: Current and historical observations in Alaska were compiled for the Rusty Blackbird and the wood frog, and range maps for these species were updated; this information was entered into the Heritage Program's Biotics GIS database, and was used to conduct a multi-scale habitat analysis for the Rusty Blackbird, in cooperation with researchers from the USGS, USFWS and the US Forest Service.

Objective 4: Range and distribution maps for 56 featured species were developed using ArcGIS software. Printed versions of these maps are presented in Appendix I of the final project report, and GIS map documents, shapefiles and metadata are included in CD-Rom format. Data sources used to develop maps included published and unpublished literature, museum specimen records, existing databases, field notes and unpublished data obtained directly from researchers.

Project Accomplishments during last segment period only (July 1, 2006 – June 30, 2007):

Objective 4: Continuing our efforts from the 2006 report period, we collected and reviewed distribution information from published and unpublished data for 22 species, and summarized this information in spreadsheet format for 41 species. Range and distribution maps for all 56 species were developed using ArcGIS software, and maps of range and Natural Heritage Element Occurrence areas were created and inputted to the Heritage Program's Biotics database.

Significant Deviations: The original project completion date was June 30, 2006. However, AKNHP was unable to completely spend out FY05 funds; the balance of these funds was rolled over into the FY06 budget, which took several months to facilitate. Additionally, once we received the rolled FY05 funds at UAA, it then took several additional months to set up the match account. Therefore, we were not able to officially begin work on the project until April 2006. As a result, a substantial portion of the FY06 RSA was not spent; the balance was used in FY07 to complete the GIS mapping for the 56 featured species, to develop Element Occurrence data layers based on distribution information and enter this information into the Biotics database, and to develop a final report summarizing methodologies and results for the duration of the project.

Project Leader: Tracey Gotthardt

**FEDERAL AID
FINAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-4 **SEGMENT NUMBER:** 1

PROJECT NUMBER: 1

PROJECT TITLE: Ranking nongame species and conservation priorities – Phase II

PARTNER: Alaska Natural Heritage Program

PRINCIPAL INVESTIGATORS: Tracey Gotthardt

PROJECT DURATION: July 1, 2007 – June 30, 2008

REPORT PERIOD: July 1, 2007 – June 30, 2008

I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH

To make the best use of federal funds provided through the Wildlife Conservation and Restoration and the State Wildlife Grants (SWG) programs, Congress directed each state to develop a Comprehensive Wildlife Conservation Strategy (CWCS). As a primary objective, Congress further directed each state to identify and focus on species of greatest conservation need (SGCN). With the completion and approval of Alaska's CWCS in 2005, the Alaska Department of Fish and Game (ADF&G) became eligible for congressional SWG appropriations. In order to identify and prioritize projects that address the species of greatest conservation need in Alaska, ADF&G recognized the need to implement a systematic approach to evaluate and quantitatively analyze the state's wildlife and fish conservation needs.

About 600 species or subspecies of vertebrate animals regularly occupy Alaska's terrestrial habitats. With such a large array of taxa it is difficult to objectively allocate limited resources to those most in need of active conservation. When the State of Alaska developed their Comprehensive Wildlife Conservation Strategy (CWCS) in 2006, they compiled a list of nominee species that contained 400 species of greatest conservation need. This list was derived from conservation plans, lists from conservation organizations, and expert and public comments. Although a number of evaluation criteria were considered to develop the nominee list, no criteria were used to objectively score species. This approach, along with the sizeable number of species, has limitations for guiding future projects and funding decisions. The CWCS identified the need for an objective ranking process and suggested that a key requirement is to complete a systematic statewide species ranking process in the near future.

The goal of this project was to research and develop a consistent and transparent priority ranking system for wildlife species in Alaska with the goal of providing more specific programmatic guidance. The project objective was to provide a logical ranking for all vertebrate taxa included in ADF&G's Comprehensive Wildlife Conservation Strategy

(CWCS) nominee species list. After extensive consultation and discussion with other nongame programs, the approach used by the Florida Game and Fresh Water Fish Commission (FGFWFC), and first described by Millsap et al. (1990), was selected as a model for Alaska's species ranking effort. Within the Millsap et al. (1990) ranking system, vertebrate species are ranked based on biological vulnerability and extent of knowledge of population status and management. Advantages of the Millsap et al. (1990) approach include scores that are explicit and traceable, the ability to update ranks as better information becomes available, and flexibility in setting priorities as a result of separate subscores and sorting mechanisms.

II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED

Since the publication of Millsap et al. (1990) Wildlife Monograph, this procedure has been adjusted and employed as a tool to guide conservation decision making in a number of states, other countries, and also within the National Park system. At the state level, a modified Millsap approach was used to set priorities for species ranking in Indiana (Knapp et al. 2003) and for identifying species of concern in Maine (Ritchie et al. 2005). Baldi et al. (2001) adapted the Millsap system to set priorities for the conservation of terrestrial vertebrates in Hungary and Lunney et al. (1996) customized the Millsap et al. (1990) ranking system to identify and prioritize endangered fauna in New South Wales, Australia. At a finer scale, Garret and Wright (2000) used a modified Millsap approach to prioritize research and monitoring needs for terrestrial mammals in national parks. Additionally, a number of authors have evaluated the Millsap et al. system and others that are similar and suggested improvements to help reduce error associated with uncertainty and expert opinion (e.g Knapp et al. 2003 and Regan et al. 2002 & 2005).

The Alaska CWCS identified the need for an objective ranking process and suggested that a key requirement is to complete a systematic statewide species ranking process as a primary step in the planning process. To meet this need, ADF&G Nongame Program staff reviewed a variety of options for systematically ranking and evaluating the conservation status of species, including a number of basic approaches that were described in other states' conservation strategies. After extensive consultation and discussion with other nongame programs, the approach used by the Florida Game and Freshwater Fish Commission, and first described by Millsap et al. (1990), was selected as a model for Alaska's species ranking effort.

III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED

OBJECTIVE 1: As needed, review and refine newly developed species ranking system for Alaska based on Millsap et al. (1990).

We modified the ranking system developed by Millsap et al. (1990) to improve the system's applicability to Alaska. Millsap et al. (1990) answered the biological variables from a range wide (global) perspective. We believe that conservation efforts in Alaska will best address range wide issues by conserving species that face challenges within the state as opposed to species that experience issues elsewhere, but that are secure in Alaska. As a result, we modified the biological variables to reflect a state wide perspective (e.g. Population size: known or suspected adult population size in Alaska). Within the

biological variables, we condensed the ecological specialization variables from three to two, by combining the Millsap categories “reproductive specialization” and “other specialization” into a single attribute labeled “habitat specialization”. Within the Millsap ranking system, the “other specialization” category captured ecological or behavioral specializations not covered under reproductive or ecological specialization (e.g., strict habitat requirements for hibernacula, specific roosting structures, etc.). Due to the high rate of seasonal occurrence of many species in Alaska (i.e. migratory birds), we found that the “other specialization” category resulted in a high number of unknowns. We felt that combining the two categories better captured habitat specialization during the season when a taxon was most specialized and was a more efficient and consistent approach that was easier to interpret and compare among taxa. The responses were also changed for this attribute in order to distinguish between specialists with scarce resources and specialists with resources common (Master et al. 2003). Lastly, we added an eighth biological variable to address Alaska’s role in conservation. The percent of the global population that occurs in Alaska was added to improve the efficacy of conservation efforts by increasing scores for species that have a higher dependency on Alaska for their persistence.

We also modified the scoring system so that it better captured uncertainty and missing data. To address linguistic uncertainty, attributes were explicitly defined and initial assessments were only performed by two individuals to maximize consistency. When experts were consulted, definitions were explained and the initial assessor was available to answer any questions. After ranking was completed for the suite of taxa, consistency checks for each variable were performed. One person reviewed all taxa for each criteria to minimize reviewer bias. We used weighted averages to compensate for epistemic uncertainty because they were found to provide the best balance between straightforward calculation and incorporating the full probability distribution (Knapp et al. 2003). In order to address the problem of missing data and to avoid taxa that are less known from scoring as less threatened, we modified the scoring system used for Alaska so that scores for an individual variable ranged from -10 to 10 and missing data were given a value of 0, which was the middle score instead of the lowest score.

Two reviews were also conducted by ADF&G staff, one at an early stage after completion of the pilot project, and another near the completion of the project, when all the species had been ranked but not reviewed. Each review resulted in modifications to the ranking and scoring system to better meet the objectives of this project.

OBJECTIVE 2: Continue to score and rank Alaska’s nominee species and SGCN using published information and expert opinion.

We ranked a total of 341 taxa including 6 amphibians, 213 birds, and 122 mammals. A major two year effort was required to complete the ranking process. An expert review for taxa with missing information and a consistency check across all variables was conducted.

OBJECTIVE 3: Design a data capture system for biological information and associated references.

An access database was developed to include the 341 taxa and their biological, action, and supplemental variable scores and justifications. The database includes entry forms for changes to taxa ranking criteria and the addition of new taxa. Automatically generated reports display scores for individual taxa and allow for comparison among taxa. The database also has extensive query capabilities that allow the user display the results in a myriad of forms depending on their individual objectives.

OBJECTIVE 4: Develop a manuscript that describes the methodologies and research findings and provides recommendations for priority setting based on the rank scores.

We developed a report that examined the results of the ranking process to assess the ability of the system to adequately evaluate biological vulnerability and the state of current knowledge. We conducted analyses to explore the interrelationships among variables, compare scores to other existing agency listing designations, and to assess taxonomic bias. To better assist with interpretation of biological and action scores, we also devised categories to group taxa according to biological vulnerability and action need.

We found no strong correlations among the biological variables or the action variables. The principal components analysis partitioned the biological variables into three components that grouped them according to population and life history status. Although, ecological specialization, distribution trend, and population trend contributed the least to explaining the variance in biological scores, they were retained due to the current imbalance in taxonomic representation of Alaska terrestrial vertebrates within the ranking system. When comparing biological scores to federal and state status designation, no difference was observed between unlisted species and listed taxa. This was attributed to the high proportion of federally listed taxa that occur primarily outside of Alaska and the obsolete nature of the state Species of Concern list. A more meaningful comparison was made with NatureServe ranks, which revealed an increase in median biological scores from global and state critically imperiled and imperiled (G1, G2, S1, S2) through taxa considered secure (G4, G5, S4, S5). This analysis indicated that the system follows a similar pattern observed in a well known and accepted ranking system and accurately represents the relative status of taxa across a wide range of status conditions. Comparison of scores among classes revealed higher biological scores for mammals and higher action scores for mammals and amphibians than for birds. Higher biological and action scores for mammals were due to a high proportion of endemic taxa included in the ranking. Individual action scores were also compared among classes. The ranking system indicated that beyond an initial survey to assess distribution, more funding has been allocated towards bird monitoring and research compared to amphibians and mammals. Management efforts have also been greater for birds and amphibians compared to mammals.

IV. MANAGEMENT IMPLICATIONS

Our goal was to develop a species ranking system that would assist the ADF&G Nongame Program with setting priorities for conservation. The modified Millsap et al. (1990) approach provides an objective procedure for evaluating the status of vertebrate species in Alaska. The strengths of this system include: answers to criteria are transparent and repeatable, equal effort was spent on each species, consistent criteria were used for

all taxa, and a wide range of expert opinion was included. Results of the Alaska Species Priority Ranking System can now be used as a decision support tool to identify priority species for conservation with minimal bias.

Our knowledge of the ecology of vertebrate species in Alaska is far from complete; therefore any ranking system will be imperfect. Species prioritization depends highly on the availability and quality of data (Baldi et al. 2001). Insufficient data can result in misleading species ranks. Expert evaluation of unknown criteria could greatly improve the strength of the ranking system and subsequent results. Due to time and budgetary constraints, only a partial expert review of the criteria was completed. We recommend a full review for the remaining species as well as a peer review of the ranking system itself.

If the overall goal of the species ranking project is to develop a defensible methodology for establishing research and management priorities for terrestrial vertebrate species in Alaska, then all terrestrial vertebrates should be included in the process, or they should at least be selected based upon consistent criteria. The 341 nominee species that were included in this analysis were selected because they were either mentioned or listed by numerous organizations, were suggested by the public and other reviewers, or were nominated by species experts. Although a number of evaluation criteria were considered for including a species, no single criteria was used to objectively score species and the rationale for inclusion was often times inconsistent. Millsap et al. (1990) ranked all vertebrate taxa in the state of Florida (including fishes) and found that the objective view provided by taxa ranks steered the Florida Nongame Wildlife Program into areas that were not intuitively obvious beforehand. Similar to Florida, we recommend a full ranking for all terrestrial vertebrate species in Alaska.

V. SUMMARY OF WORK COMPLETED ON JOBS FOR LAST SEGMENT PERIOD ONLY (July 1, 2007 – June 30, 2008)

JOB/ACTIVITY 1A: We will continue to work with ADF&G to evaluate scoring criteria developed by Millsap et al. (1990) as used for ranking Alaska species. If necessary, elements of the system will be refined.

Even though we used the Millsap et al. (1990) classification system as a template, it still took considerable time to develop the ranking and scoring system to be Alaska specific. This included two reviews by ADF&G staff, one at an early stage after completion of the pilot project, and another near the completion of the project, when all the species had been ranked but not reviewed. Each review resulted in modifications to the ranking and scoring system.

JOB/ACTIVITY 2A: Continue to score and rank target species.

Prior to implementing the ranking system, we refined the nominee species list to reflect any recent changes to conservation status, taxonomic status, and occurrence in Alaska (taxa considered accidental and casual were excluded). When bird taxa at the species level were included on the nominee list and all subspecies that occur in Alaska were also included, the species level was not ranked. The same was not applied to mammals due to the high number of mammals with questionable taxonomic status.

Although two fish species were included during the pilot testing to insure that the system worked across all taxa, fishes and invertebrates were excluded from the remainder of the ranking process. During Phase I of the project we ranked 200 species. During this phase (II) we ranked an additional 141 species for a total of 341 species, subspecies, or populations, including: 213 birds, 122 mammals, and 6 amphibians.

JOB/ACTIVITY 3A: Complete Species Ranking Sheets.

We completed ranking for a total of 341 taxa including 6 amphibians, 213 birds, and 122 mammals. A major two year effort was required to complete the ranking process. An expert review for taxa with missing information and a consistency check across all variables were conducted.

JOB/ACTIVITY 3B: Develop Species Ranking Database.

An access database was developed to include the 341 taxa and their biological, action, and supplemental variable scores and justifications. The database includes entry forms for changes to taxa ranking criteria and the addition of new taxa. Automatically generated reports display scores for individual taxa and allow for comparison among taxa. The database also has extensive query capabilities that allow the user display the results in a myriad of forms depending on their individual objectives.

JOB/ACTIVITY 3C: Develop a project web-site.

In consultation with ADF&G Nongame Program staff, we opted to eliminate this step until the project was completely reviewed, both internally and externally. At that time, ADF&G may opt to post the database on their department web-site, or simply post the results of the associated project report.

JOB/ACTIVITY 4A: Develop a final report and prepare a manuscript for publication.

We developed a final report to present the methods and results of this project. We examined the results of the ranking process to assess the ability of the system to adequately evaluate biological vulnerability and the state of current knowledge. We conducted analyses to explore the interrelationships among variables, compare scores to other existing agency listing designations, and to assess taxonomic bias. To better assist with interpretation of biological and action scores, we also devised categories to group taxa according to biological vulnerability and action need. Our initial goal was to develop a manuscript to include the results of the findings from this project. That manuscript was developed in draft format. However, we are currently seeking additional funds to complete the ranking for all terrestrial and aquatic vertebrates to add to the results of this study. We feel that a complete ranking for all Alaska vertebrate fauna will provide for a more robust analyses and a more meaningful manuscript.

VI. PUBLICATIONS

FINAL REPORT:

Fields, T. L, and T. A. Gotthardt. 2008. Setting priorities for wildlife conservation: The Alaska species prioritization ranking system. Prepared for the Alaska Department of Fish and Game Nongame Program by the Alaska Natural Heritage Program, Anchorage, AK.

LITERATURE CITED

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- Garrett, L. K. and R. G. Wright. 2000. Prioritizing the research and monitoring needs of terrestrial mammals in national parks. *George Wright Forum* 17: 80-92.
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- Lunney, D., A. Curtin, D. Ayers, H. G. Cogger, and C. R. Dickman. 1996. An ecological approach to identifying the endangered fauna of New South Wales. *Pacific Conservation Biology* 2:212-231.
- Millsap, B. A., J. A. Gore, D. E. Runde, and S. I. Cerulean. 1990. Setting priorities for the conservation of fish and wildlife in Florida. *Wildlife Monograph* No. 111. 57 pages.
- Regan, H. M., M. Colyvan, and M. A. Burgman. 2002. A taxonomy and treatment of uncertainty for ecology and conservation biology. *Ecological Applications* 12: 618-628.
- Regan, T. J., M. A. Burgman, M. A. McCarthy, L. L. Master, D. A. Keith, G. M. Mace, and S. J. Andelman. 2005. The consistency of extinction risk classification protocols. *Conservation Biology* 19: 1969-1977.
- Ritchie, S., G. Matula, and M. Stadler. 2005. *Maine's Comprehensive Wildlife Conservation Strategy*. Maine Department of Inland Fisheries and Wildlife. Augusta, ME.

**Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT**

Grant Number: T-1 **Segment Number:** 6
Project Number: 11
Project Title: Important Bird Areas of Alaska
Project Duration: July 1, 2004 – June 30, 2007
Report Period: July 1, 2004 – June 30, 2005
Report Due Date: September 30, 2005

Objectives *(as submitted in grant project statement):*

1. Identify the Important Bird Areas (IBAs) of Alaska using objective criteria and scientific peer review;
2. Integrate information on “all birds and all habitats” into a single inventory and database, accessible to natural resource managers, land owners, researchers, and environmental professionals.

Summary of Accomplishments *(Describe accomplishments related to the work that was proposed to be done during this same period in the Project Description and work schedule):*

The following accomplishments are related to Objective 1.

1. Dr. Iain J. Stenhouse, employed as Audubon Alaska’s Director of Bird Conservation, started work on the project in mid-November 2004.
2. Dr. Stenhouse attended a two-day IBA orientation workshop at the National Audubon Science Office in Pennsylvania in February 2005.
3. Initiated a review of previously nominated sites in the Bering Sea and Cook Inlet. Currently working with Audubon’s National IBA Technical Committee to finalize these, and update details of these sites in Audubon’s new IBA database.
4. Organized and convened the Alaska IBA Technical Committee, with members drawn from ADFG, USFWS, USFS, UAF, Alaska Bird Observatory, and the North Slope Borough. The first meeting was held in Anchorage on May 13 2005, where the committee discussed proposed IBA nomination materials and defined State IBA criteria.
5. An assessment of bird species is currently in progress to identify priorities for conservation in Alaska and includes considerable consultation with local experts and peer review.

No progress was made or planned to be made on Objective 2 during this report period.

Significant Deviations *(if any, and explain the reasons for these):*

1. Project initiation delayed, due to work visa requirements which had to be completed prior to Dr. Stenhouse's employment in US.

Actual Costs during this Report Period *(personnel plus all operating expense totals):*

Federal (from ADF&G):	Partner (nonfederal share):
\$6,501.28	\$2,167.09

Project Leader *(or Report Contact Person):* Stan Senner

Additional Information *(Not required. Add any additional detail, if desired, related to the progress of the project):* None

**Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT**

Grant Number: T-1 **Segment Number:** 6
Project Number: 11
Project Title: Important Bird Areas of Alaska
Project Duration: July 1, 2004 – June 30, 2007
Report Period: July 1, 2005 – June 30, 2006
Report Due Date: September 30, 2006
Partner: Audubon Alaska

Objectives:

1. Identify the Important Bird Areas (IBAs) of Alaska using objective criteria and scientific peer review;
2. Integrate information on “all birds and all habitats” into a single inventory and database, accessible to natural resource managers, land owners, researchers, and environmental professionals.

Summary of Accomplishments

The following accomplishments relate to Objective 1:

1. Dr. Stenhouse gave oral presentations on the existence and progress of the Alaska IBA program at the 11th Alaska Bird Conference, Juneau, February 7th-9th, 2006, and at the Alaskan Audubon Chapter Council meeting, Anchorage, March 18th, 2006.
2. Ten IBA nominations were finalized and entered in the National Audubon Society (NAS) IBA database. Many more IBA nominations are in progress, in various stages of development and review.
3. Dr. Stenhouse met with members of the Alaska IBA Technical Committee (ATC) in attendance at the Alaska Bird Conference, on February 10th, 2006, to assess the first of the IBA nominations, and communicated via e-mail with other committee members to include their views in the initial assessment.
4. Five sites assessed by the ATC were accepted as IBAs and Dr. Stenhouse worked with the NAS Science Department to have these sites reviewed by the National Technical Committee (NTC).
5. Dr. Stenhouse edited all of the Bering Sea and Cook Inlet IBA entries in the NAS IBA database and made these available to the public via the NAS IBA webpage.
6. Dr. Stenhouse worked with an outside contractor to map the digital boundaries of the Bering Sea and Cook Inlet IBAs, a requirement of all new nominations.
7. Site visits have been made to potential IBAs in southeast, south-central, and interior Alaska.

No progress was made or planned to be made on Objective 2 during this report period.

Significant Deviations None

Actual Costs during this Report Period (*personnel plus all operating expense totals*):
(Reported costs included ADF&G indirect calculated at 13.5%)

Federal (from ADF&G):	Partner (nonfederal share):
\$16,616	\$5,539

Project Leader (*or Report Contact Person*): Stan Senner

Additional Information:

1. Do you anticipate having any unspent funds at the end of the project? ___No___

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-1 **Segment Number:** 6
Project Number: 11
Project Title: Important Bird Areas of Alaska
Project Duration: July 1, 2004 – March 31, 2008
Report Period: July 1, 2006 – June 30, 2007
Report Due Date: September 30, 2007
Partner: Audubon Alaska

Project Objectives

1. Identify the Important Bird Areas (IBAs) of Alaska using objective criteria and scientific peer review.
2. Integrate information on “all birds and all habitats” into a single inventory and database, accessible to natural resource managers, land owners, researchers, and environmental professionals.

Summary of Accomplishments

Objective 1: Over the period of July 2006 to June 2007, 16 new sites were nominated as potential IBAs in Alaska. Dr. Stenhouse worked with the nominators to prepare each of these site nominations for review by the Alaska IBA Technical Committee (ATC). To date, a total of 21 site nominations have been reviewed by the ATC, 16 of them since July 2006. So far, the ATC has accepted 15 of these as state IBAs, and recommended that 14 of them be forwarded to the National IBA Technical Committee (NTC) for further review of their continental and/or global status. Dr. Stenhouse has worked closely with National Audubon Society’s science staff to prepare these nominations for review by the NTC. The results of that review are pending.

Dr. Stenhouse was invited to give oral presentations on the existence and progress of the Alaska IBA Program to the Anchorage Audubon Society (December 2006) and the Kodiak Audubon Society (March 2007).

Objective 2: All 16 new site nominations have been entered in the National Audubon Society’s IBA database, and Dr. Stenhouse has continued to update all previous nomination entries. The database now includes details and site reports for all recognized IBAs and currently nominated sites in Alaska. Information on the 126 recognized IBAs in Alaska is publicly accessible via the database, which can be found online at:
<http://iba.audubon.org/iba/stateIndex.do?state=US-AK>

Significant Deviations: none

Project Leader: Stan Senner

**FEDERAL AID
FINAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-1

SEGMENT NUMBER: 6

PROJECT NUMBER: 11

PROJECT TITLE: Important Bird Areas of Alaska

PARTNER: Audubon Alaska

PRINCIPAL INVESTIGATORS: Stan Senner

COOPERATORS: Among others: Dr. Michael Goldstein (U.S. Forest Service); Mr. Steven Matsuoka (U.S. Fish & Wildlife Service); Dr. Ed Murphy (University of Alaska Fairbanks); Mr. Thomas Rothe (Alaska Department of Fish & Game); Dr. Susan Sharbaugh (Alaska Bird Observatory); Dr. Robert Suydam (North Slope Borough)

PROJECT DURATION: July 1, 2004 – March 31, 2008

REPORT PERIOD: July 1, 2007 – March 31, 2008

I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH

Although there is much information on Alaska's birdlife, there is no site-based inventory that integrates information on all birds and their habitats, across all types of landownership and status. Important Bird Areas (IBAs) are sites that are essential for breeding, resting, or feeding birds at any time of the year and during any phase of their annual cycles or life histories. IBAs were first identified in Europe in the 1980s by BirdLife International and are now being identified in more than 130 countries worldwide. Identification is based on objective criteria emphasizing sites of global or continental significance used by threatened or endangered species, endemic or range-restricted species, species of special concern, and concentrations of breeding, migrating, molting, or wintering birds.

Recognition of IBAs is a way to highlight a site's significance for birds and is a valuable management tool for setting site-based conservation priorities, monitoring birds and their habitats, and fostering cooperative relationships among stakeholders to enhance bird conservation. This program is an effective means of integrating information on all birds and their habitats into a single inventory and database system. Furthermore, screening candidate IBAs reveals gaps in knowledge about the distribution and abundance of birds across a state, and periodic review of the status of IBAs and the birds that use them provides a framework for monitoring habitat changes and bird populations over time.

II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED

Developed in the 1980s by BirdLife International, the IBA Program is a global effort to identify the most important areas for bird populations and to focus conservation efforts on those sites.

As the U.S. Partner for BirdLife International, the National Audubon Society has to date identified more than 2,100 IBAs in more than 40 states. Progress on the identification and conservation of IBAs in the U.S. has been achieved through the efforts of dozens of staff and thousands of volunteers, making it the largest and most ambitious IBA program in the world.

III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED

OBJECTIVE 1: Identify the Important Bird Areas (IBAs) of Alaska using objective criteria and scientific peer review.

To achieve this objective, we convened a statewide IBA technical committee, consisting of 6 voting members. This committee included representatives from federal government agencies (U.S. Fish & Wildlife Service, U.S. Forest Service), state government (ADF&G), local governments (North Slope Borough), academic institutions (University of Alaska), and non-governmental organizations (Alaska Bird Observatory). In May 2005, the committee met in Anchorage to discuss and finalize state-level criteria and site nomination protocols. In June 2005, a "call for nominations" of candidate sites of interest was made to a comprehensive list of stakeholders around the state, including: federal, state, and local government agencies; native tribes, corporations, and villages; non-governmental organizations; academic institutions; resource extraction industries; and major land owners.

Over the period of this project, we systematically compiled documentation on candidate sites and conducted initial screening based on objective criteria as developed by BirdLife International and modified by the National Audubon Society for application in the United States. In consultation with government biologists, independent ornithologists, local birders, and others with relevant field experience, we reviewed scientific literature and agency reports to compile existing site-based data on bird distributions and areas of importance. Where necessary, we conducted limited field explorations (e.g., aerial reconnaissance) to fill key information gaps at some sites (e.g., within the Anchorage area and the southern Matanuska-Susitna Valley).

We submitted draft nominations and preliminary boundary maps to the state technical committee for their review of these documents, using a combination of face-to-face meetings, teleconferences, and e-mail. When recommended by the state technical committee, we submitted documentation and maps of identified sites in Alaska to the U.S. IBA technical committee for their review of continental and/or global status.

As of March 31, 2008, a total of 145 sites have been identified as IBAs in Alaska. Of these, 69 have also been recognized as being of global significance, and 8 of continental significance. Review of Alaska sites by the U.S. IBA technical committee is ongoing, however, and more sites will be uplisted to these higher tiers in the future.

OBJECTIVE 2: Integrate information on “all birds and all habitats” into a single inventory and database, accessible to natural resource managers, land owners, researchers, and environmental professionals.

Details of the ornithological importance, habitat types, land use, threats, etc. for all 145 sites confirmed as qualifying for IBA status in Alaska have been entered into the National Audubon Society’s IBA database. Publicly-accessible profiles of each site are available online at <http://www.audubon.org/bird/iba/index.html>.

As of June 15, 2008 Audubon Alaska has completed a draft GIS shapefile of all Alaska IBAs.

IV. MANAGEMENT IMPLICATIONS

IBAs form a worldwide network of sites for the conservation of birds. When complete, the global network is likely to comprise around 15,000 IBAs covering some 10 million km² (~7% of the world’s land surface) identified on the basis of about 40% of the world’s bird species. The effective conservation of these sites will contribute substantially to the protection of the world’s biological diversity.

The National Audubon Society’s IBA database includes a useful Search Tool that allows users to find IBAs in a particular area or with particular species. This function allows land managers, and the wider the conservation community, to aggregate IBAs by region, species, threat, or other characteristics in order to more easily identify potential problems and plan conservation activities. With a network of IBAs in place across the state, periodic review of the status of these sites and the birds that use them will provide a convenient framework for monitoring habitat changes, threats, and bird populations over time.

IBAs are identified using data on birds specifically. In principle, however, the same criterion-based approach to site identification could be generalized to include any other species. In recent years, the IBA approach has been adapted by other organizations to identify important sites for other taxonomic groups, including butterflies and mammals. Within the BirdLife International family, some partner organizations have begun to consider how they can extend the IBA concept to biodiversity as a whole.

The IBA concept is very easy to understand. It derives from the obvious consideration that we cannot effectively protect birds if we do not conserve the places where they live. This offers an exceptional communication advantage and opportunity. Communicating the existence and importance of IBAs and their threats will greatly support the conservation efforts to protect them and should be considered an integral part of the IBA conservation strategy.

V. SUMMARY OF WORK COMPLETED ON JOBS FOR LAST SEGMENT PERIOD ONLY (July 1, 2007 – May 15, 2008)

JOB/ACTIVITY 1: Identify the Important Bird Areas (IBAs) of Alaska using objective criteria and scientific peer review.

Over the period of July 1, 2007, to May 15, 2008, 8 new sites were nominated as potential IBAs in Alaska. Dr. Stenhouse prepared each of these site nominations for review by the Alaska IBA Technical Committee. To date, a total of 32 site nominations have been reviewed by the Alaska committee, 11 of them since July 2007. So far, they have accepted 31 of these as state IBAs and recommended that 28 of them be forwarded to the U.S. IBA Technical Committee for further review of their continental and/or global status. Dr. Stenhouse worked closely with the National Audubon Society's science staff to prepare these nominations for review by the U.S. committee. The results of that review are ongoing. Of the 12 sites reviewed so far, however, 9 have been accepted as global IBAs and 3 as continental IBAs.

JOB/ACTIVITY 2: Integrate information on "all birds and all habitats" into a single inventory and database, accessible to natural resource managers, land owners, researchers, and environmental professionals.

All new site nominations have been entered in the National Audubon Society's IBA database. All previous nomination entries have been updated. The IBA database now includes details and site reports for all sites currently nominated, identified, and recognized as IBAs in Alaska. Dr. Stenhouse presented an update on the Alaska IBA Program at the 13th Alaska Bird Conference in Fairbanks, in February 2008, highlighting the IBA database and its utility in conservation planning.

VI. PUBLICATIONS

Audubon Alaska (2008) Important Bird Areas of Alaska.

Note: This large-format (2 feet by 3 feet) wall map showing the locations of all 145 IBAs in Alaska was published and distributed in May 2008 to a comprehensive list of stakeholders around the state, including: federal, state, and local government agencies; native tribes, corporations, and villages; non-governmental organizations; academic institutions; resource extraction industries; major land owners; and Audubon members.

Presentations:

Stenhouse, I.J. & Senner, S.E. Update on identifying the Important Bird Areas (IBAs) of Alaska. Oral presentation at 13th Alaska Bird Conference, Fairbanks, AK, USA, 2008.

Stenhouse, I.J. The Important Bird Area (IBA) Program in Alaska. Oral presentation to the Arctic Audubon Society, Fairbanks, AK, USA, 2007.

Stenhouse, I.J. The Important Bird Area (IBA) Program in Alaska. Oral presentation to the Kodiak Audubon Society, Kodiak, AK, USA, 2007.

Stenhouse, I.J. The Important Bird Area (IBA) Program in Alaska. Oral presentation to the Anchorage Audubon Society, Anchorage, AK, USA, 2006.

Stenhouse, I.J. & Senner, S.E. Identifying the Important Bird Areas of Alaska. Oral presentation at 11th Alaska Bird Conference, Juneau, AK, USA, 2006.

**Alaska Department of Fish and Game
State Wildlife Grant
ANNUAL INTERIM PERFORMANCE REPORT**

Grant Number: T-1 **Segment Number:** 6
Project Number: 16
Project Title: Developing an international All-Bird Conservation Plan for the
Northwestern Interior Forest Bird Conservation Region
Project Duration: July 1, 2005 – June 30, 2007
Report Period: July 1, 2005 – June 30, 2006
Report Due Date: September 30, 2006
Partner: Alaska Bird Observatory

Objectives

1. Establish a partnered regional working group to devise specific strategies for consultation, writing and technical review of plan, and implementation.
2. Contact partners and develop consultation strategy (workshop, focus group)
3. Engage regional partners including but not limited to First Nations, all levels of government, forest, mining, oil and gas industries, universities and non-government agencies through personal interactions and workshops.
4. Conduct literature review and receive technical input from regional experts regarding habitat and other ecological requirements of species, their status where data are limited and their current and future conservation threats.
5. Assess the status of species objectively following international protocols developed by Partners in Flight (Carter et al. 2000), accepted by scientists of the American Ornithologists' Union (Beissinger et al. 2000), and improved by PIF technical committees (Winnipeg, Manitoba, February 2000; The Plains, Virginia, July 2000; Brighton, Colorado, August 2001). Criteria include global and regional distributions, relative abundance, population trend, regional significance to global population, conservation threats, jurisdictional listings and cultural significance.
6. Solicit partner review of assessment and identify priority species (including focal species) and habitats for BCR4.
7. With partners, establish biological objectives for BCR4, including identification of specific needs for inventory, monitoring, research and conservation.
8. Work with partners to devise strategies for implementation of conservation action and evaluation

Summary of Accomplishments

The following numbers correspond with the objectives above:

1. An international working group has been established to devise specific strategies for consultation, writing and technical review of the Plan, and implementation. The working group includes representatives from the Alaska Bird Observatory (ABO), Canadian Wildlife Service (CWS), US Fish and Wildlife Service (FWS), Alaska Department of Fish and Game (ADF&G), and Alaska Audubon. Members are: Susan Sharbaugh (ABO), Pam Sinclair (CWS-Yukon), Wendy Easton (CWS-BC), Kathleen Moore (CWS-BC), Elsie Krebs (CWS-BC), Steve

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Matsuoka (FWS), Russ Oates (FWS), Rich Lanctot (FWS), Tom Rothe (ADF&G), and Iain Stenhouse (Alaska Audubon).

2. This group of partners (or subsets of this group) has met 3 times in the past year: December 2005 (Anchorage), February 2006 (Juneau), and June 2006 (Delta, BC). Various aspects of the plan were discussed at each meeting. A consultation strategy has been developed. More meetings are planned for FY 2007.

3. A one-page prospectus and letter of invitation have been developed to solicit partners with the Alaska Native and Canadian First Nations community, industry (oil and gas, mining, timber), non-governmental organizations, Department of Defense, local governments, museums, and universities. These documents will be sent out in the early fall of 2006, followed by phone calls to prospective partners. Partner workshops in Canada and Alaska are planned for late fall 2006.

4. Basic data on species habitat associations have been compiled. This information will be sent out for expert review at the end of the 2006 summer field season. Current and future conservation threats will be defined during FY 2007 and then sent out for expert review.

We are currently working with GIS analysts in the US and Canada to develop a combined Alaska/Canada landcover map. We will use this map to designate priority habitats, total the amount of these habitats across BCR4, develop conservation strategies for these habitats, and further define threats to priority species

5. Priority species for BCR4 have been defined using prioritization schemes from Partners in Flight (PIF) (North American Landbird Conservation Plan), Alaska Shorebird Conservation Plan, and North American Waterbird Conservation Plan. All of these prioritization schemes are based on the revised PIF protocol (2005). The Alaska Migratory Bird Co-Management Plan and the North American Waterfowl Management Plan were used to designate priority species not covered by the above plans. Species of Interest and/or Concern from the ADF&G Comprehensive Wildlife Conservation Strategy, Canadian Waterbird Plan (Wings over Water), CWS/Pacific Yukon Region (PYR) Priority Landbirds, CWS/PYR Priority Shorebirds, CWS/PYR Priority Waterbirds, CWS/PYR Priority Seabirds, CWS/PYR Priority Shorebirds, CWS Yukon Species of Concern, CWS British Columbia Species of Concern, and the Audubon Watchlist were also included. The revised PIF scheme (Panjabi et al. 2005) has been accepted as the standard for prioritization schemes (see Significant Deviations #1).

6. Priority species and habitats for BCR4 have been identified. These will be sent out for expert review after the 2006 summer field season (early fall).

7. Biological objectives for BCR4 will be developed in FY 2007.

8. Strategies for implementation for conservation action and evaluation will be developed in FY 2007.

Significant Deviations

1. We are now using the recently revised Partners in Flight prioritization scheme (Panjabi et al. 2005) not Carter et al. 2000 as outlined in Objective 5. As stated in The Partners in Flight handbook on species assessment. Version 2005. (Panajabi et al. 2005):

The species assessment process is based entirely on biological criteria that evaluate distinct components of vulnerability. The process has evolved over time (Hunter et al. 1992, Carter et al. 2000, Panjabi et al. 2001), and the procedures have been thoroughly tested, externally reviewed (Beissinger et al. 2000), and updated to address issues raised by reviewers and by Mexican and Canadian partners.

Beissinger, S.R., T.M. Reed, J.M. Wunderle, S.K. Robinson, and D.M. Finch. 2000. Report to the AOU conservation committee on Partners in Flight species prioritization plan. *Auk* 117:549-561.

Carter, M.F., W.C. Hunter, D.N. Pashley, and K.V. Rosenburg. 2000. Setting conservation priorities for landbird in the United States: the Partners in Flight approach. *Auk* 117:541-548.

Hunter, W.C., M.F. Carter, D.N. Pashley, and K. Barker. 1993. The Partners in Flight prioritization scheme. Pp. 109-119 in *Status and Management of Neotropical Migratory Birds*, D. Finch and P. Stangel, eds. USDA For. Ser. Gen. Tech. Rep. RM-229. Fort Collins, Colorado.

Panjabi, A., C. Beardmore, P. Blancher, G. Butcher, M. Carter, D. Demarest, E. Dunn, C. Hunter, D. Pashley, K.V. Rosenburg, T. Rich, and T. Will. 2001. *The Partners in Flight handbook on species assessment and prioritization*. Version 1.1. Rocky Mountain Bird Observatory. Brighton, Colorado.

Panjabi, A.O., E.H. Dunn, P.J. Blancher, W.C. Hunter, B. Altman, J. Bart, C.J. Beardmore, H. Berlanger, G.S. Butcher, S.K. Davis, D.W. Demarest, R. Dettmers, W. Easton, H. Gomez de Silva Garza, E.E. Ingio-Elias, D.N. Pashley, C.J. Ralph, T.D. Rich, K.V. Rosenburg, C.M. Rustay, J.M. Roth, J.S. Wendt, and T.C. Will. 2005. *The Partners in Flight handbook on species assessment*. Version 2005. Technical Series No. 3. Rocky Mountain Bird Observatory website: <http://www.rmbo.org/pubs/downloads/Handbook2005.pdf>

T-1-6-16 FY06 performance report

Actual Costs during this Report Period (*personnel plus all operating expense totals*):
(Reported costs included ADF&G indirect calculated at 13.5%)

Federal (from ADF&G):	Partner (nonfederal share):
\$16,250	\$5,417

Project Leader (*or Report Contact Person*): Susan Sharbaugh (ssharbaugh@alaskabird.org)

Additional Information:

1. Do you anticipate having any unspent funds at the end of the project? NO

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-1 **Segment Number:** 6
Project Number: 16
Project Title: Developing an international All-Bird Conservation Plan for the
Northwestern Interior Forest Bird Conservation Region
Project Duration: July 1, 2005 – August 30, 2007
Report Period: July 1, 2006 – June 30, 2007
Report Due Date: September 30, 2007
Partner: Alaska Bird Observatory

Project Objectives

1. Establish a partnered regional working group to devise specific strategies for consultation, writing and technical review of plan, and implementation.
2. Contact partners and develop consultation strategy (workshop, focus group).
3. Engage regional partners including but not limited to First Nations, all levels of government, forest, mining, oil and gas industries, universities and non-government agencies through personal interactions and workshops.
4. Conduct literature review and receive technical input from regional experts regarding habitat and other ecological requirements of species, their status where data are limited and their current and future conservation threats.
5. Assess the status of species objectively following international protocols developed by Partners in Flight (Carter et al. 2000), accepted by scientists of the American Ornithologists' Union (Beissinger et al. 2000), and improved by PIF technical committees (Winnipeg, Manitoba, February 2000; The Plains, Virginia, July 2000; Brighton, Colorado, August 2001). Criteria include global and regional distributions, relative abundance, population trend, regional significance to global population, conservation threats, jurisdictional listings and cultural significance.
6. Solicit partner review of assessment and identify priority species (including focal species) and habitats for BCR4.
7. With partners, establish biological objectives for BCR4, including identification of specific needs for inventory, monitoring, research and conservation.
8. Work with partners to devise strategies for implementation of conservation action and evaluation.

Summary of Accomplishments

Objective 1: Developed partnerships with biologists from Alaska Department of Fish and Game (ADFG), US Fish and Wildlife Service (Migratory Bird Management, Anchorage and refuge biologists) (USFWS), Canadian Wildlife Service, Yukon Territory and British Columbia (CWS), and Alaska Audubon. Set up strategies for Plan development, review, and implementation.

Objective 2: Conducted individual and group meetings with partners through conference calls, in-person meetings, and general workshop after the Boreal Partners in Flight (BPIF) meeting in December 2006.

Objective 3: Sent out letter of announcement and invitation to Alaska Native Corporations, First Nations, non-profits, mining companies, oil companies, and other persons of interest.

Objective 4: Gathered available habitat information for BCR4, assembled habitat classification information, developed single habitat classification for Alaska and Canada, merged habitat maps from Alaska and Canada into a single GIS habitat maps for BCR4, applied new habitat classifications.

Objective 5: Species status was established using priority lists from numerous conservation and management plans (ADFG Comprehensive Wildlife Conservation Plan, BPIF Landbird Conservation Plan, Alaska Shorebird Plan, Alaska Migratory Bird Co-Management Council, North American Waterfowl Management Plan 2004, North American Waterbird Conservation Plan, Canadian Waterbird Plan (Wings over Water), Canadian Wildlife Service (CWS) Pacific/Yukon Region (PYR) Priority Landbirds, CWS/PYR Priority Waterbirds, CWS/PYR Priority Waterfowl, CWS/PYR Priority Seabirds, CWS/PYR Priority Shorebirds Species of International Significance, CWS/PYR Priority Shorebirds Species of Regional Monitoring Responsibility, CWS/PYR Priority Shorebirds Species of Concern BC Red List, CWS/PYR Priority Shorebirds Species of Concern BC Blue List, CWS/PYR Priority Shorebirds Species of Concern Yukon Red List, CWS/PYR Priority Shorebirds Species of Concern Yukon Blue List Audubon Watchlist 2005, Partners in Flight Continental Priority Species). All prioritization strategies from these plans have been peer-reviewed.

Objective 6: Draft priority species and habitats lists were sent out for comment to regional biologists from ADFG, USFWS, CWS, and scientists from University of Alaska Fairbanks (UAF), and University of Alaska Anchorage (UAA) and Alaska Audubon. Comments were incorporated and revised lists were sent out for another review. Results were discussed at general partners meeting after the Boreal Partners in Flight meeting in Anchorage (December 2006).

Objective 7: Worked with partners to identify specific needs for inventory, monitoring, research, and conservation.

Objective 8: Worked with partners through discussion and review of current status to develop ideas for implementation of conservation actions.

T-1-6-16 All-bird conservation plan
FY07 Annual Performance Report

Significant Deviations: none

Project Leader: Susan Sharbaugh

**FEDERAL AID
FINAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-1 **SEGMENT NUMBER:** 6

PROJECT NUMBER: 16

PROJECT TITLE: Developing an International All-Bird Conservation Plan for the
Northwestern Interior Forest Bird Conservation Region

PARTNER: Alaska Bird Observatory

PRINCIPAL INVESTIGATOR: Susan Sharbaugh

COOPERATORS: Pam Sinclair, Wendy Easton, Kathleen Moore (Canadian Wildlife Service (Pacific/Yukon Region)); Russ Oates, Rick Lanctot, Steve Matsuoka, Phil Schempf (USFWS, Migratory Bird Management); Tracey Gotthardt (Alaska Natural Heritage Program); Tom Rothe, Jack Whitman, David Tessler, John Wright (ADF&G); Stu Smith (True north GIS).

PROJECT DURATION: July 1, 2005 – August 30, 2007

REPORT PERIOD: July 1, 2007 – August 30, 2007

I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH

Regional conservation planning has become an instrumental component in prioritizing the inventory, monitoring, research, habitat restoration, and conservation needs for North America's diverse avifauna. Such planning is essential to help determine where limited resources should be directed to meet the most pressing regional conservation needs for birds. To this end, the North American Bird Conservation Initiative (NABCI), a cooperative venture with representation from Canada, Mexico, and the United States, was developed to promote avian conservation. NABCI has partitioned the continent into 67 bird conservation regions following ecosystem boundaries. One of the largest is Bird Conservation Region 4 (BCR4), the Northwestern Interior Forest. BCR4 includes land in interior Alaska, the Yukon Territory, the Northwest Territories, and northern British Columbia.

Currently, multiple plans address bird conservation in this region. These plans focus on specific taxa (landbird, waterfowl, waterbird, and shorebird) in specific regions (Alaska, Yukon, British Columbia) under specific administration (state, territorial, provincial, federal). Land managers and other interested parties must glean information on priority species and their associated habitats from a myriad of sources. A regional All-Bird Conservation Plan will integrate and update information from all these sources and present it in a comprehensive manner. This single source will provide information on all

avian taxa and their associated habitats across BCR4. Regional patterns will be readily discernible, along with regional and local development and conservation concerns.

II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED

We began by assembling and reviewing all current conservation/management plans that addressed the avifauna of BCR4. These plans included:

- Alaska Comprehensive Wildlife Conservation Strategy
- Alaska Migratory Bird Co-Management Council Birds of Conservation Interest
- Alaska Shorebird Plan
- Audubon Watchlist 2005
- Boreal Partners in Flight (BPIF) Landbird Conservation Plan: Central Alaska Priority Species
- North American Waterfowl Management Plan 2004
- North American Waterbird Conservation Plan
- Partners in Flight Continental Priority Species
- Canadian Waterbird Plan (Wings over Water)
- Wild Species 2005: The General Status of Species in Canada
- Canadian Species at Risk. Report of Committee on the Status of Endangered Wildlife in Canada (COSEWIC)
- Canadian Wildlife Service Environment Canada Pacific and Yukon Region Migratory Bird Conservation Plans: Compendium Report (includes Landbird Conservation Plan, Waterbird Conservation Plan, Waterfowl Conservation Plan, Seabirds Conservation Plan, Shorebird Conservation Plan)

We also reviewed BCR All-Bird Plans already in place. These are limited, so we extended our reading to include the landbird plans for BCRs 5, 8, 12, 13, and 14. Because of Wendy Easton's involvement with the Canada's Great Basin Landbird Conservation Plan (the northern part of BCR 9), we also used that for background. We also looked to the "Breeding Landbird Inventory of Yukon-Charley National Preserve, Alaska, June 1999 and 2000" by Swanson and Nigro and the "Ecoregion-Based Conservation in the Bering Sea" by the World Wildlife Fund and the Nature Conservancy as examples of well-written and well-presented work.

To address the issue of priority species vs. focal species we read and discussed "Focal Species: A Multi-Species Umbrella for Nature Conservation" by R.J. Lambeck in *Conservation Biology* (1997, 11:849-856).

III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED

OBJECTIVE 1: Establish a partnered regional working group to devise specific strategies for consultation, writing and technical review of plan, and implementation.

The organizing meeting of folks interested in the BCR4 All-Bird Conservation Plan was held at the Boreal Partners in Flight meeting in December 2004. The steering committee

of Susan Sharbaugh (ABO), Wendy Easton (CWS), Steve Matsuoka (USFWS), John Wright (ADF&G), and Russ Oates (USFWS) was established.

OBJECTIVE 2: Contact partners and develop consultation strategy (workshop, focus group)

Subsequent meetings were held in conjunction with the Boreal Partners in Flight meetings in 2005 and 2006. An additional meeting was held following the Alaska Bird Conference in Juneau in 2006 (with teleconference available to Canadian partners in British Columbia). In addition to these all-partners meetings, Sharbaugh met with USFWS partners, the Alaska Natural Heritage Program personnel, ADF&G partners in Anchorage and CWS partners in Delta, BC.

OBJECTIVE 3: Engage regional partners including but not limited to First Nations, all levels of government, forest, mining, oil and gas industries, universities and non-government agencies through personal interactions and workshops.

A letter of invitation to participate was sent out to all First Nation groups, Alaska Native Corporations within BCR4. In addition, we sent the same letter to non-governmental organizations, resource extraction industries (oil and gas, mining, timber), pertinent University of Alaska faculty, and local governments. This letter explained the purpose of the Plan and extended an open invitation for their participation and comment on the Plan.

OBJECTIVE 4: Conduct literature review and receive technical input from regional experts regarding habitat and other ecological requirements of species, their status where data are limited and their current and future conservation threats.

When developing habitat associations of the birds of BCR4 we used the Birds of North America species accounts (Cornell Lab of Ornithology), Birds of Alaska (Gabrielson and Lincoln 1959), and Birds of the Yukon (Sinclair et al. 2003). After birds were assigned to habitats, the list was sent out for comments to partners within the USFWS, ADF&G, and CWS. At this time, any pertinent additional information was requested.

OBJECTIVE 5: Assess the status of species objectively following international protocols developed by Partners in Flight (Carter et al. 2000), accepted by scientists of the American Ornithologists' Union (Beissinger et al. 2000), and improved by PIF technical committees (Winnipeg, Manitoba, February 2000; The Plains, Virginia, July 2000; Brighton, Colorado, August 2001). Criteria include global and regional distributions, relative abundance, population trend, regional significance to global population, conservation threats, jurisdictional listings and cultural significance.

We used the revised Partners in Flight prioritization scheme (Panjabi et al. 2005) not Carter et al. 2000. As stated in Panjabi et al. 2005:

The species assessment process is based entirely on biological criteria that evaluate distinct components of vulnerability. The process has evolved over time (Hunter et al. 1992, Carter et al. 2000, Panjabi et al. 2001), and the procedures have been thoroughly tested, externally reviewed (Beissinger et al. 2000), and updated to address issues raised by reviewers and by Mexican and Canadian partners.

- Beissinger, S.R., T.M. Reed, J.M. Wunderle, S.K. Robinson, and D.M. Finch. 2000. Report to the AOU conservation committee on Partners in Flight species prioritization plan. *Auk* 117:549-561.
- Carter, M.F., W.C. Hunter, D.N. Pashley, and K.V. Rosenberg. 2000. Setting conservation priorities for landbird in the United States: the Partners in Flight approach. *Auk* 117:541-548.
- Hunter, W.C., M.F. Carter, D.N. Pashley, and K. Barker. 1993. The Partners in Flight prioritization scheme. Pp. 109-119 in *Status and Management of Neotropical Migratory Birds*, D. Finch and P. Stangel, eds. USDA For. Ser. Gen. Tech. Rep. RM-229. Fort Collins, Colorado.
- Panjabi, A., C. Beardmore, P. Blancher, G. Butcher, M. Carter, D. Demarest, E. Dunn, C. Hunter, D. Pashley, K. Rosenberg, T. Rich and T. Will. 2001. *The Partners in Flight handbook on species assessment and prioritization*. Version 1.1. Rocky Mountain Bird Observatory. Brighton, Colorado.
- Panjabi, A. O., E. H. Dunn, P. J. Blancher, W. C. Hunter, B. Altman, J. Bart, C. J. Beardmore, H. Berlanga, G. S. Butcher, S. K. Davis, D. W. Demarest, R. Dettmers, W. Easton, H. Gomez de Silva Garza, E. E. Iñigo-Elias, D. N. Pashley, C. J. Ralph, T. D. Rich, K. V. Rosenberg, C. M. Rustay, J. M. Ruth, J. S. Wendt, and T. C. Will. 2005. *The Partners in Flight handbook on species assessment*. Version 2005. Partners in Flight Technical Series No. 3. Rocky Mountain Bird Observatory website: <http://www.rmbo.org/pubs/downloads/Handbook2005.pdf>

OBJECTIVE 6: Solicit partner review of assessment and identify priority species (including focal species) and habitats for BCR4.

Partners had the opportunity to review the assessment and identification of priority species and their habitat associations at working group meetings held in conjunction with the Boreal Partners in Flight meetings in 2005 and 2006 and at the Alaska Bird Conference in 2006. Attendees at these meetings represented the USFWS, ADF&G, CWS, UAA, the Alaska Natural Heritage Program, and ABO.

In addition, Sharbaugh was in contact with members of the steering committee (Pam Sinclair, Wendy Easton, Kathleen Moore – CWS, Steve Matsuoka, Russ Oates, Rick Lanctot – USFWS, Dave Tessler, John Wright, Tom Rothe – ADF&G) for refinement of the priority species list and habitat associations.

OBJECTIVE 7: With partners, establish biological objectives for BCR4, including identification of specific needs for inventory, monitoring, research and conservation.

Through the integration of recommendations of the Alaska Wildlife Conservation Strategy and the Canadian Wildlife Service Environment Canada Pacific and Yukon Region Migratory Bird Conservation Plans: Compendium Report, the partners established the specific needs for inventory, monitoring, research and monitoring. These reports reiterate the fact that we know very little about the natural history and population dynamics of the avifauna in BCR4. Filling these data gaps is the first step in the wise conservation and management of these birds. In the face of a changing climate, we need to establish a baseline for many of our declining populations.

OBJECTIVE 8: Work with partners to devise strategies for implementation of conservation action and evaluation.

The acceptance and implementation of strategies for conservation action is a long process. It is especially difficult to establish strategies that cross international boundaries. This BCR4 All-Bird Conservation Plan is the first step the development of these overarching actions. We have developed a synthesis of all the important information for bird conservation in BCR4: a listing of priority birds from all taxa grouped by habitat and a common habitat map that reflects the priority habitats. From this baseline we can work together to address the conservation concerns spelled out in this document and follow the recommendations presented to devise strategies that can be followed across agencies and international boundaries.

IV. MANAGEMENT IMPLICATIONS

Currently, multiple plans address bird conservation in parts of this region. These plans focus on specific groups of birds in specific regions under specific administration. Land managers and other interested parties must glean information on priority species and their associated habitats from a myriad of sources. The BCR4 All-Bird Conservation Plan integrates and updates information from all these sources and presents it in a comprehensive manner. This single source provides information on all birds and their associated habitats across BCR4.

In addition, a single habitat map that covers the whole region is vital to regional conservation planning. This map shows the extent of each type of habitat, so all managers know how their area fits in with the rest of the BCR and which of the priority birds they need to consider.

If all managers use the information contained in this plan, they will all be working from a common baseline; a first step for coordinated management.

For further work, it would be great to post the Plan on a website. This website should be large enough to post the BCR4 Habitat map and all the associated layers (range maps, wetlands, rivers, elevation, etc). Users could download the maps and layers that they need. We would also post species accounts of all the birds in BCR4, links to other conservation plans, etc. The possibilities are endless. It would be great to have this information just a click away. Posting it would also allow easier updates.

This plan is just the beginning of international cooperation. Our Canadian colleagues were stymied by lack of funds and the myriad of layers for adoption of new conservation strategies. They can use the plan as a source of information but cannot buy into the recommendations. Perhaps another attempt with more monetary support for the Canadian side may push the plan to fruition.

V. **SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN FOR LAST SEGMENT PERIOD ONLY (July 1, 2007 – August 30, 2007)**

JOB/ACTIVITY 1: Establish a partnered regional working group to devise specific strategies for consultation, writing and technical review of plan, and implementation.

Partners were established earlier in the process.

JOB/ACTIVITY 2: Contact partners and develop consultation strategy (workshop, focus group).

Consultation strategy was established earlier in the process.

JOB/ACTIVITY 3: Engage regional partners including but not limited to First Nations, all levels of government, forest, mining, oil and gas industries, universities and non-government agencies through personal interactions and workshops.

Regional partners were solicited earlier in the process.

JOB/ACTIVITY 4: Conduct literature review and receive technical input from regional experts regarding habitat and other ecological requirements of species, their status where data are limited and their current and future conservation threats.

Species and associated habitats and conservation threats were already established previously in the project.

JOB/ACTIVITY 5: Assess the status of species objectively following international protocols developed by Partners in Flight (Carter et al. 2000), accepted by scientists of the American Ornithologists' Union (Beissinger et al. 2000), and improved by PIF technical committees (Winnipeg, Manitoba, February 2000; The Plains, Virginia, July 2000; Brighton, Colorado, August 2001). Criteria include global and regional distributions, relative abundance, population trend, regional significance to global population, conservation threats, jurisdictional listings and cultural significance.

Priority species and associated habitats were already established previously in the project.

JOB/ACTIVITY 6: Solicit partner review of assessment and identify priority species (including focal species) and habitats for BCR4.

Priority species and associated habitats were already established previously in the project.

JOB/ACTIVITY 7: With partners, establish biological objectives for BCR4, including identification of specific needs for inventory, monitoring, research and conservation.

Information for specific needs for monitoring, research, and conservation was distilled and established previously. Canadian partners were not available for this portion due to monetary and staffing shortfalls.

JOB/ACTIVITY 8: Work with partners to devise strategies for implementation of conservation action and evaluation.

Canadian partners were not available for this portion due to monetary and staffing shortfalls. So, strategies are focused towards Alaskan recommendations.

In this time period (1 July – 30 August 2007), work was focused on the integration of all parts of the report into a completed document.

VI. PUBLICATIONS

The fully formatted Bird Conservation Region 4 All Bird Conservation Plan will be ready in early December. I am currently incorporating final edits and formatting the final document.

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-1 **SEGMENT NUMBER:** 16

PROJECT NUMBER: 7

PROJECT TITLE: E-Bird Alaska geospatial database development and promotion

PARTNER: Audubon Alaska

PRINCIPAL INVESTIGATORS: Richard Capitan (ABO)

COOPERATORS: Iain Stenhouse (Audubon), Karla Hart (ADF&G) & Brian Sullivan (Cornell Lab of Ornithology - CLO)

PROJECT DURATION: September 30, 2006 – June 30, 2008

REPORT PERIOD: September 30, 2006 – September 29, 2007

Project Objectives:

OBJECTIVE 1: Develop and set up the *Alaska eBird* website.

OBJECTIVE 2: Provide data entry training to birdwatchers and researchers.

OBJECTIVE 3: Promote the active use of eBird as a tool for gathering data that aids avian research and conservation.

OBJECTIVE 4: Target and promote use of eBird to address specific needs, such as monitoring avian use of Important Bird Areas

Summary of Accomplishments:

JOB/ACTIVITY 1A: Completion of a contract between Audubon Alaska and Cornell Laboratory of Ornithology (CLO).

The Alaska eBird contract was agreed upon and signed on 12 December, 2006.

JOB/ACTIVITY 1B: Audubon Alaska provides draft website content as per guidelines from CLO.

Completed. Audubon Alaska staff coordinated with CLO staff to ensure proper training on website editing and updating of content.

JOB/ACTIVITY 1C: CLO builds the website and, following review by Audubon, the site is activated and opened to the public (target date January 2007).

Completed. The Alaska eBird website was successfully launched on 4 May, 2007.

T-1-16-E-bird Database
FY08 Annual Performance Report

JOB/ACTIVITY 2A: Develop data entry instructions for inclusion on the website.

The website includes data entry instructions. However, additional instructional material is in development.

JOB/ACTIVITY 2B: On-line demonstrations will be given to birdwatchers (see Procedures for Objective 3) and researchers, including relevant staff as U.S. Fish and Wildlife Service, U.S. Geological Survey, and Alaska Department of Fish and Game.

This work is on-going. Some on-line demonstrations have been given already; the Audubon Alaska staff are strategically ramping up on a delivery schedule.

JOB/ACTIVITY 3A: Once Alaska eBird is launched, Audubon Alaska will then engage in an aggressive program of training and promotion to create awareness about eBird and its active use.

This activity is on-going. To date, Audubon Alaska has issued a press release which was quite successful, created a variety of promotional materials and is distributing them, written articles for newsletters, given presentations to Audubon chapters and others.

JOB/ACTIVITY 4A: All promotional and training activities (Obj. 2 and 3) will highlight the connection with IBAs and the specific need to obtain observations at IBAs.

This is the case in all promotional materials, training activities, and presentations. IBAs are a central theme to this project.

JOB/ACTIVITY 4B: The Alaska eBird website will be set up with maps of pre-identified "Birding Hotspots," including key locations with publicly-accessible IBAs, from which we will invite and encourage records.

This item is currently in progress. Audubon Alaska staff are coordinating with CLO staff regarding this matter. Alaska is unique in that most of its IBAs are not accessible – thus refocusing our efforts on IBAs that are located on the road system, or areas that are frequented by birders.

Significant Deviations:

It took longer than we had hoped to get the website up and running (i.e., May vs. January), due to issues at CLO, but the site was online prior to the main bird migration.

Additional Information:

None

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

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

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-1 **SEGMENT NUMBER:** 16

PROJECT NUMBER: 7

PROJECT TITLE: E-Bird Alaska geospatial database development and promotion

PARTNER: Audubon Alaska

PRINCIPAL INVESTIGATORS: Rich Capitan (ABO), Taldi Walter (ABO)

COOPERATORS: Iain Stenhouse (Audubon), Beth Peluso (ADF&G) & Brian Sullivan (Cornell Lab of Ornithology - CLO)

PROJECT DURATION: September 30, 2006 – December 31, 2008

REPORT PERIOD: September 30, 2007 – September 29, 2008

Project Objectives OBJECTIVE 1: Develop and set up the *Alaska eBird* website.

OBJECTIVE 2: Provide data entry training to birdwatchers and researchers.

OBJECTIVE 3: Promote the active use of eBird as a tool for gathering data that aids avian research and conservation.

OBJECTIVE 4: Target and promote use of eBird to address specific needs, such as monitoring avian use of Important Bird Areas.**Summary of Accomplishments:**

JOB/ACTIVITY 1A: Completion of a contract between Audubon Alaska and Cornell Laboratory of Ornithology (CLO).

The Alaska eBird contract was agreed upon and signed by Audubon Alaska and Cornell Laboratory of Ornithology (CLO) on 12 December 2006.

JOB/ACTIVITY 1B: Audubon Alaska provides draft website content as per guidelines from CLO.

Audubon Alaska provided CLO with website content per agreed guidelines. Audubon Alaska staff continue to coordinate with CLO staff to ensure proper training on website editing and updating of content.

JOB/ACTIVITY 1C: CLO builds the website and, following review by Audubon, the site is activated and opened to the public (target date January 2007).

The Alaska eBird website was successfully launched on 4 May 2007.

JOB/ACTIVITY 2A: Develop data entry instructions for inclusion on the website.

Data entry instructions have been created and are presented on the website.

JOB/ACTIVITY 2B: On-line demonstrations will be given to birdwatchers (see Procedures for Objective 3) and researchers, including relevant staff as U.S. Fish and Wildlife Service, U.S. Geological Survey, and Alaska Department of Fish and Game.

This work is on-going. Several on-line demonstrations have been given, mostly on a one-on-one basis or to small groups. A key presentation is coming to U.S. Fish and Wildlife Service, U.S. Geological Survey and other agency staff at the Boreal Partners in Flight meeting in December 2008.

JOB/ACTIVITY 3A: Once Alaska eBird is launched, Audubon Alaska will then engage in an aggressive program of training and promotion to create awareness about eBird and its active use.

This activity is on-going. To date, Audubon Alaska issued an initial press release, which was quite successful, created and distributed a variety of promotional materials, written articles for newsletters, and given a number of presentations to Audubon chapters and other organizations.

JOB/ACTIVITY 4A: All promotional and training activities (Obj. 2 and 3) will highlight the connection with IBAs and the specific need to obtain observations at IBAs.

Important Bird Areas (IBAs) have been, and continue to be a central theme of this project. All promotional materials, training activities, and presentations have highlighted the connection between IBAs and Alaska eBird.

JOB/ACTIVITY 4B: The Alaska eBird website will be set up with maps of pre-identified "Birding Hotspots," including key locations with publicly-accessible IBAs, from which we will invite and encourage records.

Audubon Alaska staff coordinated with CLO staff regarding this matter. Several key IBAs, which are road accessible, are pre-selected as "hotspots" on the Alaska eBird website. Examples are the Anchorage Coastal Wildlife Refuge and the Mendenhall Wetlands in Juneau.

Significant Deviations:

It took longer than we had hoped to get the website up and running (i.e., May vs. January), due to issues at CLO, but the site was online prior to the peak of spring migration.

Additional Information: None

**FEDERAL AID
FINAL PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

GRANT NUMBER: T-1 **SEGMENT NUMBER:** 16

PROJECT NUMBER: 7

PROJECT TITLE: E-Bird Alaska geospatial database development and promotion

PARTNER: Audubon Alaska

PRINCIPAL INVESTIGATORS: Rich Capitan (Audubon), Taldi Walter (Audubon)

COOPERATORS: Iain Stenhouse (Audubon), Beth Peluso (ADF&G) & Brian Sullivan (Cornell Lab of Ornithology - CLO)

PROJECT DURATION: September 30, 2006 – June 30, 2009

REPORT PERIOD: September 30, 2008 – June 30, 2009

I. PROBLEM OR NEED THAT PROMPTED THIS RESEARCH

eBird is a national project jointly developed by the Cornell Lab of Ornithology and the National Audubon Society to provide a simple mechanism for gathering information on avian distribution and abundance from people's recorded bird observations across North America. Birders subsequently can retrieve information on their sightings—from their backyard to their neighborhood to their favorite bird-watching locations and remote sites—at any time for their personal use. They also can access the entire historical database to find out what other eBird participants are reporting from across North America. In addition, the cumulative eBird database may be used by birdwatchers, citizens, scientists, and conservationists who want to know more about the distributions, numbers, habitat use, and movements of birds across the continent.

The eBird database allows birders to gather information which is useful to:

- *Scientists*, to uncover patterns in bird movements and ranges across North America, including migratory pathways, wintering and breeding ranges, arrival and departure dates, range expansions and contractions, and a host of other important environmental relationships including avian responses to climate change.
- *Conservationists*, to identify important areas for birds based on current range distributions, and to track population trends that can be used to better manage and conserve species that are endangered, threatened, or at-risk species.
- *Industry environmental officials or land managers*, to gather information on the presence of endangered, threatened, or at-risk species on their lands or in relation to industrial activities.

- *Themselves*, to track their personal observations and maintain lists of all of the birds ever seen, recorded at specific locations, or recorded over specific periods of time; or to create lists of birds recorded from various locations and dates based on the records of other eBirders.
- *Other birders and amateur naturalists*, to learn about the birds in different localities.
- *Educators*, to teach students about birds and the scientific method, including collecting, analyzing, and interpreting results.
- *Anyone*, to discover where species can be found throughout the year; which birds are regularly found at specific locations across North America; when certain species arrive or depart from their breeding and wintering grounds; and many other possibilities.

eBird is available nationally via the worldwide web at www.ebird.org. Organizers have consistently observed that participation is highest when there is a state-based version that adapts and promotes eBird with respect to the specific conservation needs of an individual state and its birding and avian research communities.

Alaska eBird complements the international Important Bird Area (IBA) program and the Alaska portion of that program which was supported by State Wildlife Grant T-1-6 Project 11. In that project, Audubon identified more than 145 IBAs across the state. The IBA program is based on the recognition that habitat loss and fragmentation are the most serious threats facing populations of birds across America and around the world. By identifying such habitats, and working cooperatively through the North American Bird Conservation Initiative and other programs, it is hoped that IBA designation can be used to leverage the resources, attention, and commitment needed to protect these areas on a sustained basis. Conservation of these sites will be most effective if they are monitored for avian use. eBird can help provide an efficient and cost-effective means of doing so, especially for sites that are accessible to birdwatchers.

For example, the tide flats of Cook Inlet in the Anchorage area, including the Anchorage Coastal Wildlife Refuge, comprise an IBA of continental significance because of the presence of Hudsonian Godwits and other shorebirds, such as Short-billed Dowitchers. There are various plans under discussion that could impact the extent and quality of the mudflats, including expansion of the Port of Anchorage and the Anchorage Marsh Project (near the jetty by Ship Creek). Notwithstanding the fact that there are many expert birdwatchers in Anchorage and they frequently are watching birds along the coastal trail, there are few data on avian use of the tide flats near the Anchorage port and mouth of Ship Creek. If every birdwatcher who watched birds along the Tony Knowles Coastal Trail or at the mouth of Ship Creek were to enter his or her data in Alaska eBird, it would quickly build a substantial database to help inform decision-makers about the possible impacts of the proposed alterations and provide a basis for monitoring changes over time. The Mendenhall Wetlands in Juneau is another example of an IBA that is located near a population center with many expert birdwatchers, and building a database on avian use could prove to be very helpful for making future land-use decisions.

II. REVIEW OF PRIOR RESEARCH AND STUDIES IN PROGRESS ON THE PROBLEM OR NEED

The Alaska Department of Fish and Game's Alaska Comprehensive Wildlife Conservation Strategy (Alaska Department of Fish and Game 2006) identifies a general concern that biologists have poor information on species distributions and population sizes and trends of birds in Alaska (Landbirds Sensitive to Forest Management Template, Section G, Issue 1a, page 332). The Landbird Introduction, page 320, specifically notes "... there is still extremely limited information on the changing status and trends of Alaska's 135 breeding species of landbirds." There especially are needs for better data on species occurrence by location and habitat utilization outside of the breeding season, including data on migratory stopover sites and routes (CWCS Section IVD, page 95). Alaska eBird could help meet these needs, as well as help document population trends of Species of Greatest Conservation Need. Through Alaska eBird, data compilation of habitat use, habitat attributes, and geographic locations that support high densities of these species during breeding, migration, and wintering seasons (Landbirds with Long-term Declines in Population Size Template, Section G, Issue 3, Conservation Action a, page 325) could be collected and those data would help provide a baseline for establishing specific habitat targets for avian conservation (Landbirds Sensitive to Forest Management Template, Section G, Issue 2a, page 333).

III. APPROACHES USED AND FINDINGS RELATED TO THE OBJECTIVES AND TO PROBLEM OR NEED

OBJECTIVE 1: Develop and set up the *Alaska eBird* website.

To achieve this objective, Audubon contracted with the Cornell Laboratory of Ornithology (CLO) in December 2006 to build an active public website for Alaska (www.ebird.org/ak). The website was launched in May 2007.

Audubon and CLO developed data entry instructions and included them on the website. Audubon Alaska provided other website content, including news and updates for the Alaska portal's front page, per agreed guidelines. Audubon staff met and coordinated with CLO staff to ensure proper training on editing and updating the website.

Audubon staff members continue to monitor and update the content of Alaska eBird, with technical assistance and maintenance from CLO. Specifically Audubon continues to add new articles to the website's front page to ensure that it is relevant for the season, highlighting specific needs, and/or reporting new information.

OBJECTIVE 2: Provide data entry training to birdwatchers and researchers.

Audubon engaged in various training and promotional activities to create awareness about and use of eBird. Through May 2009, Audubon staff made 13 eBird presentations across the state, including presentations at the 2008 Alaska Bird Conference, 2009 Kachemak Bay Shorebird Festival, and 2009 Boreal Partners in Flight meeting.

In April of 2009, Audubon held an interactive, hands-on eBird workshop in Anchorage with Brian Sullivan, who is CLO's eBird staff with responsibility for western states. The half-day seminar included a step-by-step demonstration of how to submit bird

observations and explored the numerous eBird tools available to birders and researchers alike. The attendees were individuals selected as expert or influential birders in the state.

In addition, there have been one-on-one demonstrations with numerous individuals who have expressed interest in learning how to access and use eBird. In sum, these presentations and personal contacts reached 750-800 people.

To ensure data quality, regional eBird editors are located in Juneau, Kodiak, Aleutian Islands, Kenai, Pribilof Islands, Fairbanks, and the Matanuska-Susitna Valley. We are still trying to recruit an eBird editor for the Anchorage area. These volunteer editors review submitted checklists whenever a questionable sighting—either because of the species or number of birds report—is electronically flagged by the filters that screen all eBird submissions. When a filter highlights a record in question, it is then the responsibility of the regional editor to contact the individual who submitted the record and request more information. Questionable records are then either accepted or rejected for inclusion in eBird’s public database.

OBJECTIVE 3: Promote the active use of eBird as a tool for gathering data that aids avian research and conservation.

Audubon continues to engage in a variety of promotional activities to build awareness about and increase use of eBird in Alaska. Audubon has prepared eBird bookmarks, rack cards, postcards, and magnets. These items have been distributed statewide to Audubon Alaska members and others in the research, conservation, and birding communities. Some distributions were by mail, such as to the Chamber of Commerce birding information center in Nome, and others were in person, such as at the Kachemak Bay Shorebird Festival in Homer.

Audubon Alaska, Anchorage Audubon Society, Alaska Department of Fish and Game, and Alaska Bird Observatory have actively promoted the use of eBird by placing the Alaska eBird logo and hyperlink on their websites.

When the Alaska eBird portal was launched in 2007, Audubon issued a press release and the event was covered in the Anchorage Daily News, Juneau Empire, Anchorage Press, Peninsula Clarion, Ester Republic, and SitNews (the online paper of Ketchikan). Audubon has promoted Alaska eBird in the biannual *Audubon Alaska News* and in various Audubon Chapter newsletters statewide.

OBJECTIVE 4: Target and promote use of eBird to address specific needs, such as monitoring avian use of Important Bird Areas.

Several key IBAs are close to population centers, accessible by roads, and popular with birders. Audubon preselected these sites, including the Anchorage Coastal Wildlife Refuge and the Mendenhall Wetlands in Juneau, as “hotspots” on the Alaska eBird website. Flagging them as hotspots encourages records specific to these sites.

Additionally, Audubon posted front-page stories on eBird about bird species that are on the Alaska WatchList and are the subject of research on their status. Species highlighted in this way include Hudsonian Godwit and Rusty Blackbird. These stories encouraged

users to specifically report sightings of those species to gain insight on their ranges and habitat requirements.

IV. MANAGEMENT IMPLICATIONS

It's probably too soon to draw conclusions about the management implications of this project. However, Alaska eBird users have now contributed hundreds of eBird reports and thousands of bird observations at such places as the Anchorage Coastal Wildlife Refuge and Mendenhall Wetlands State Game Refuge. Over time, this body of data, which can be broken out by season, will grow to the point that it can be analyzed and reviewed for information on avian use of these areas. Such information would have direct benefits in evaluating and monitoring management and conservation of the areas as well as possible impacts from nearby development or other activities.

V. **SUMMARY OF WORK COMPLETED ON JOBS FOR LAST SEGMENT PERIOD ONLY (October 1, 2008 – June 30, 2009)**

JOB/ACTIVITY 1A: Completion of a contract between Audubon Alaska and Cornell Laboratory of Ornithology (CLO).

The Alaska eBird contract was agreed upon and signed by Audubon Alaska and Cornell Laboratory of Ornithology (CLO) on 12 December 2006.

JOB/ACTIVITY 1B: Audubon Alaska provides draft website content as per guidelines from CLO.

Audubon Alaska provided CLO with website content per agreed guidelines. Audubon Alaska staff continue to coordinate with CLO staff to ensure proper training on website editing and updating of content.

JOB/ACTIVITY 1C: CLO builds the website and, following review by Audubon, the site is activated and opened to the public (target date January 2007).

The Alaska eBird website was successfully launched on 4 May 2007.

JOB/ACTIVITY 2A: Develop data entry instructions for inclusion on the website.

Data entry instructions have been created and are presented on the website.

JOB/ACTIVITY 2B: On-line demonstrations will be given to birdwatchers (see Procedures for Objective 3) and researchers, including relevant staff as U.S. Fish and Wildlife Service, U.S. Geological Survey, and Alaska Department of Fish and Game.

Several on-line demonstrations have been given, mostly on a one-on-one basis or to small groups. In April of 2009, Audubon held an interactive, hands-on eBird workshop in Anchorage with Brian Sullivan, who is CLO's eBird staff with responsibility for western states. The half-day seminar included a step-by-step demonstration of how to submit bird observations and explored the numerous eBird tools available to birders and researchers alike. The attendees were individuals selected as expert or influential birders in the state.

JOB/ACTIVITY 3A: Once Alaska eBird is launched, Audubon Alaska will then engage in an aggressive program of training and promotion to create awareness about eBird and its active use.

Audubon engaged in various training and promotional activities to create awareness about and use of eBird. Through May 2009, Audubon staff made 12 eBird presentations across the state, including presentations at the 2009 Kachemak Bay Shorebird Festival, and 2009 Boreal Partners in Flight meeting. In addition, there have been one-on-one demonstrations with numerous individuals who have expressed interest in learning how to access and use eBird. In sum, these presentations and personal contacts reached 750-800 people. When the Alaska eBird portal was launched in 2007, Audubon issued a press release and the event was covered in the Anchorage Daily News, Juneau Empire, Anchorage Press, Peninsula Clarion, Ester Republic, and SitNews (the online paper of Ketchikan). Audubon has promoted Alaska eBird in the biannual *Audubon Alaska News* and in various Audubon Chapter newsletters statewide.

JOB/ACTIVITY 4A: All promotional and training activities (Obj. 2 and 3) will highlight the connection with IBAs and the specific need to obtain observations at IBAs.

Important Bird Areas (IBAs) have been, and continue to be a central theme of this project. All promotional materials, training activities, and presentations have highlighted the connection between IBAs and Alaska eBird.

JOB/ACTIVITY 4B: The Alaska eBird website will be set up with maps of pre-identified “Birding Hotspots,” including key locations with publicly-accessible IBAs, from which we will invite and encourage records.

Audubon Alaska staff coordinated with CLO staff regarding this matter. Several key IBAs, which are road accessible, are pre-selected as “hotspots” on the Alaska eBird website. Examples are the Anchorage Coastal Wildlife Refuge and the Mendenhall Wetlands in Juneau.

VI. PUBLICATIONS

None.

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-1 **Segment Number:** 3
Project Number: 10.10
Project Title: Alaska Citizen Science Program
Project Duration: July 1, 2006 – June 30, 2009
Report Period: 1 July 2006 – 30 June 2007
Report Due Date: September 30, 2007
Partner: Alaska Department of Fish and Game

Project Objectives

OBJECTIVE 1: To create a cooperative, coordinated, inter-agency citizen science program to:

JOB/ACTIVITY A: Collect region-wide baseline biological data.

JOB/ACTIVITY B: Use baseline data to construct and implement monitoring.

JOB/ACTIVITY C: Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game.

JOB/ACTIVITY D: Develop working alliances between ADF&G and local partners to focus efforts on nongame issues.

JOB/ACTIVITY E: Pool resources to widen the scope and relevance of selected citizen science research projects.

JOB/ACTIVITY F: Increase program visibility for all partners, and build a constituency to support nongame efforts.

OBJECTIVE 2: Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species:

JOB/ACTIVITY A: Wood frog (*Rana sylvatica*).

JOB/ACTIVITY B: Little brown bat (*Myotis lucifugus*).

JOB/ACTIVITY C: Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).

OBJECTIVE 3: Continue the collection of baseline distribution data for woodfrogs, initiated in 2002 in the Cook Inlet Watershed.

JOB/ACTIVITY A: Document the presence and approximate number of wood frogs in specific lakes.

JOB/ACTIVITY B: Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously.

JOB/ACTIVITY C: Characterize habitats important to wood frog reproduction.

OBJECTIVE 4: Collect baseline data on the distribution of the little brown bat in Southcentral and interior Alaska.

JOB/ACTIVITY A: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats.

JOB/ACTIVITY B: Identify and investigate potential winter hibernacula.

JOB/ACTIVITY C: Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.

OBJECTIVE 5: Collect baseline data on the distribution of Red-necked and Horned Grebes on lakes in Southcentral Alaska.

JOB/ACTIVITY A: Determine nesting densities on lakes supporting grebes.

JOB/ACTIVITY B: This project will provide data that will support development of an ongoing monitoring project.

Summary of Project Accomplishments

OBJECTIVE 1:

JOB/ACTIVITY A: Collect region-wide baseline biological data.

See OBJECTIVES 3, 4, and 5.

JOB/ACTIVITY B: Use baseline data to construct and implement monitoring.

See OBJECTIVES 3, 4, and 5.

JOB/ACTIVITY C: Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game.

ADF&G Education and Watchable Wildlife Programs have undergone seismic changes in terms of personnel and direction in the past year. The Nongame Program has had to continue this program on its own.

JOB/ACTIVITY D: Develop working alliances between ADF&G and local partners to focus efforts on nongame issues.

We have established the Partnership for Citizen Science - a coalition of agencies and organizations committed to implementing our citizen science projects. This partnership includes: the US Fish and Wildlife Service Office of Migratory Bird Management, Chugach National Forest, the Alaska Natural Heritage Program at the University of Alaska, and the Alaska Zoo. Beyond this immediate collaboration, participating institutions delivering public programs with our materials include the Prince William Sound Science Center, the Campbell Creek Science Center, the Center for Alaska Coastal Studies, the Denali Education Center, and the Imaginarium.

JOB/ACTIVITY E: Pool resources to widen the scope and relevance of selected citizen science research projects.

All partners are intimately involved with every aspect of the Citizen Science Program (from the development of web content, to the production of “stand-alone” Powerpoint presentations for each project, to data analyses, to conducting public programs). However, for efficiency, each partner takes a lead role in specific program elements. In terms of media and content development, the Alaska Zoo is the lead for Bat curriculum; USFWS is leads Loon and Grebe content, and ADF&G manages developing wood frog content. ADF&G is responsible for managing the overall program, and for compiling data, data quality control, overall data analyses. AKNHP hosts the websites, archives the compiled data, and integrates it with other data sets for higher level modeling. Representatives from ADF&G, Alaska Natural Heritage Program, Alaska Zoo, and USFWS all conduct public and school programs and civic presentations for each of our three primary projects were conducted by

JOB/ACTIVITY F: Increase program visibility for all partners, and build a constituency to support nongame efforts.

The Alaska Citizen Science Program continues to become more visible every year. We continue to conduct civic and school programs around the state (except Southeast AK). We have produced four excellent educational posters that we distribute to schools and youth groups. We have produced and continue to update three websites (www.akbats.net, www.akfrogs.net, and www.akloonwatch.net) that receive substantial traffic. We answer thousands of email and telephone requests for information on our projects. We also provide “Do Not Disturb – Bird Nesting Area” signs to landowners and land managers to protect floating or shoreline nests of loons and grebes. We also developed and produced the popular “Landscaping for Wildlife” brochure which has been distributed in nurseries and greenhouses throughout Southcentral Alaska. Each of our projects has been the subject of numerous stories in local newspapers in Anchorage, Kenai, Wasilla, Homer, and Fairbanks. All partner organizations are represented on our programmatic web pages and in all distributed materials, including informational handouts, survey instructions, data sheets, and educational posters.

OBJECTIVE 2:

JOB/ACTIVITY A: Wood frog (*Rana sylvatica*).

The Alaska Wood Frog Monitoring Project has been wildly popular.

- >150 public programs conducted, >3000 people attended educational programs, >15 separate newspaper articles, thousands of phone calls, requests for information, and website hits
- >250 volunteers have conducted >1100 surveys at nearly 300 unique locations from Shageluk and Sleetmute to McCarthy, and from the Brooks Range to Cordova.
- Expanded the known distribution of the species – may provide first evidence of an actual range expansion.

- Enabled an initial analysis of wood frog habitat, and the construction of predicted distribution models for stratifying future occupancy monitoring.
- Set the stage for the future implementation of a statistically defensible means of monitoring occupancy over time by volunteers.

JOB/ACTIVITY B: Little brown bat (*Myotis lucifugus*).

Alaska Bat Monitoring Project. Public interest has been quite strong in this project, and many Alaskans have learned for the very first time that Alaska has bats.

- >15 public programs conducted with >500 people attending. Hundreds of phone calls, emails, requests for information and website hits.
- >75 volunteers returned survey forms last year.

JOB/ACTIVITY C: Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).

Alaska Loon and Grebe Watch is especially popular in the Matanuska Susitna Valley:

- >100 volunteers annually monitor loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai peninsula.
- Currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.
- Citizens have requested and posted hundreds of “Bird Nesting Area – Do Not Disturb” signs near waterbird nests throughout Southcentral Alaska

OBJECTIVE 3:

JOB/ACTIVITY A: Document the presence and approximate number of wood frogs in specific lakes.

Volunteers surveyed more than 100 lakes, ponds, and wetlands last year for presence of woodfrogs during calling surveys.

JOB/ACTIVITY B: Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously.

While the highest concentration of participants were in southcentral Alaska, we had volunteers from all over the state, including Shageluk, Sleetmute, Fairbanks, Northpole, Cordova, McCarthy, and north of the Brooks Range.

JOB/ACTIVITY C: Characterize habitats important to wood frog reproduction.

We began an initial analysis of habitat associations using the data from the spring time calling surveys, and the incidental reports that we have received. Although these data are likely biased and give us an incomplete picture of wood frog habitat, it is the first quantitative description of wood frog habitat in Alaska. We also used the data, in combination with the statewide amphibian observation database, to develop preliminary predictive models of wood frog distribution using both deductive and inductive methods.

OBJECTIVE 4:

JOB/ACTIVITY A: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats.

- Documented the first three bat maternity colonies ever found in Interior and Northern Alaska.
- Documented first summer roosts in caves in Southcentral Alaska.
- Have found new evidence of potential migratory behavior for bats in the interior.
- Project has enabled an initial investigation of whether South Central and Interior bats are migratory or overwinter in place – set to commence winter 2007-2008.

JOB/ACTIVITY B: Identify and investigate potential winter hibernacula.

See OBJECTIVE 4; ACTIVITY A

JOB/ACTIVITY C: Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.

See OBJECTIVE 4; ACTIVITY A

OBJECTIVE 5:

JOB/ACTIVITY A: Determine nesting densities on lakes supporting grebes.

- We are currently monitoring loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai peninsula.

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- Currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.

JOB/ACTIVITY B: This project will provide data that will support development of an ongoing monitoring project.

See OBJECTIVE 5; ACTIVITY A

Prepared By: David F. Tessler

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-3 **Segment Number:** 1
Project Number: 10.10
Project Title: Alaska Citizen Science Program
Project Duration: July 1, 2006 – June 30, 2009
Report Period: July 1, 2007 – June 30, 2008
Report Due Date: September 30, 2007
Principal Investigator: Dave Tessler, Alaska Department of Fish and Game

Project Objectives:

OBJECTIVE 1: To create a cooperative, coordinated, inter-agency citizen science program to:

JOB/ACTIVITY A: Collect region-wide baseline biological data;

JOB/ACTIVITY B: Use baseline data to construct and implement monitoring;

JOB/ACTIVITY C: Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game;

JOB/ACTIVITY D: Develop working alliances between ADF&G and local partners to focus efforts on nongame issues;

JOB/ACTIVITY E: Pool resources to widen the scope and relevance of selected citizen science research projects;

JOB/ACTIVITY F: Increase program visibility for all partners, and build a constituency to support nongame efforts.

OBJECTIVE 2: Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species:

JOB/ACTIVITY A: Wood frog (*Rana sylvatica*)

JOB/ACTIVITY B: Little brown bat (*Myotis lucifugus*)

JOB/ACTIVITY C: Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).

OBJECTIVE 3: Continue the collection of baseline distribution data for woodfrogs, initiated in 2002 in the Cook Inlet Watershed.

JOB/ACTIVITY A: Document the presence and approximate number of wood frogs in specific lakes.

JOB/ACTIVITY B: Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously.

JOB/ACTIVITY C: Characterize habitats important to wood frog reproduction.

OBJECTIVE 4: Collect baseline data on the distribution of the little brown bat in Southcentral and interior Alaska.

JOB/ACTIVITY A: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats.

JOB/ACTIVITY B: Identify and investigate potential winter hibernacula.

JOB/ACTIVITY C: Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.

OBJECTIVE 5: Collect baseline data on the distribution of Red-necked and Horned Grebes on lakes in Southcentral Alaska.

JOB/ACTIVITY A: Determine nesting densities on lakes supporting grebes.

JOB/ACTIVITY B: This project will provide data that will support development of an ongoing monitoring project

Summary of Project Accomplishments:

OBJECTIVE 1:

JOB/ACTIVITY A: See Objectives 3, 4, and 5.

JOB/ACTIVITY B: See Objectives 3, 4, and 5.

JOB/ACTIVITY C: ADF&G Education and Watchable Wildlife Programs have undergone seismic changes in terms of personnel and direction in the past year. The Nongame Program has had to continue this program on its own.

JOB/ACTIVITY D: We have established the Partnership for Citizen Science - a coalition of agencies and organizations committed to implementing our citizen science projects. This partnership includes: the US Fish and Wildlife Service Office of Migratory Bird Management, Chugach National Forest, the Alaska Natural Heritage Program at the University of Alaska, and the Alaska Zoo. Beyond this immediate collaboration, participating institutions delivering public programs with our materials include the Prince William Sound Science Center, the Campbell Creek Science Center, the Center for Alaska Coastal Studies, the Denali Education Center, The Alaska Public Lands Information Center, and the Imaginarium.

JOB/ACTIVITY E: All partners are intimately involved with every aspect of the Citizen Science Program (from the development of web content, to the production of "stand-alone" Powerpoint presentations for each project, to data analyses, to conducting public programs). However, for efficiency, each partner takes a lead role in specific program elements. In terms of media and content development, the Alaska Zoo is the lead for Bat curriculum; USFWS is leads Loon and Grebe

content, and ADF&G manages developing wood frog content. ADF&G is responsible for managing the overall program, and for compiling data, data quality control, overall data analyses. AKNHP hosts the websites, archives the compiled data, and integrates it with other data sets for higher level modeling. Representatives from ADF&G, Alaska Natural Heritage Program, Alaska Zoo, and USFWS all conduct public and school programs and civic presentations for each of our three primary projects.

JOB/ACTIVITY F: The Alaska Citizen Science Program continues to become more visible every year. We continue to conduct civic and school programs around the state (except Southeast AK). We have produced four excellent educational posters that we distribute to schools and youth groups. We have produced and continue to update three websites (www.akbats.net, www.akfrogs.net, and www.akloonwatch.net) that receive substantial traffic. We answer thousands of email and telephone requests for information on our projects. We also provide “Do Not Disturb – Bird Nesting Area” signs to landowners and land managers to protect floating or shoreline nests of loons and grebes. We also developed and produced the popular “Landscaping for Wildlife” brochure which has been distributed in nurseries and greenhouses throughout Southcentral Alaska. Each of our projects has been the subject of numerous stories in local newspapers in Anchorage, Kenai, Wasilla, Homer, and Fairbanks. All partner organizations are represented on our programmatic web pages and in all distributed materials, including informational handouts, survey instructions, data sheets, and educational posters.

We produced a new Landscaping for Wildlife Brochure. This colorful brochure offers tips for improving “backyard” wildlife habitat for desired species, as well as for discouraging “problem” wildlife. It has been distributed for free at nurseries and greenhouses in Southcentral Alaska from Wasilla south to Homer.

- >2000 copies were distributed in 2006 – the entire first printing. Frequent requests from the public prompted a second printing in 2007 which were widely distributed in 2008.
- Representatives of the ADF&G Nongame Program and/or Education Program were on hand at booths to represent the Citizen Science Program at a number of large public events, including: the 2006, 2007, 2008 International Migratory Bird Day at the Alaska Zoo, the 2008 opening ceremony for the new improved Potter Marsh, the 2007, 2008 Alaska Garden and Arts Festival, the 2006 Alaska State Fair, and the 2006, 2007 Bell’s Nursery Garden Exposition.

OBJECTIVE 2:

JOB/ACTIVITY A: Alaska Wood Frog Monitoring Project – this project has been wildly popular. Since its inception the project lists the following accomplishments:

- >175 public programs conducted, >3000 people attended educational programs, >20 separate local newspaper articles, thousands of phone calls, requests for information, and website hits
- >450 volunteers have conducted >1500 surveys at nearly 600 unique locations from Shageluk and Sleetmute to McCarthy, and from the Brooks Range to Cordova.
- Expanded the known distribution of the species – may provide first evidence of an actual range expansion to the Arctic north slope.
- Enabled an initial analysis of wood frog habitat, and the construction of predicted distribution models for stratifying future occupancy monitoring.
- Set the stage for the future implementation of a statistically defensible means of monitoring occupancy over time by volunteers.

JOB/ACTIVITY B: Alaska Bat Monitoring Project – Public interest has been quite strong in this project, and many Alaskans have learned for the very first time that Alaska has bats. Since its inception the project lists the following accomplishments:

- >40 public programs conducted with >1000 people attending. Hundreds of phone calls, emails, requests for information and website hits.
- >300 volunteers have returned survey forms.
- Continuing to document the first bat maternity colonies ever confirmed in Interior, Southcentral, and Northern Alaska. The vast majority are in structures, while some include abandoned mines in Chugach National Forest.
- Documented range expansions for the little brown bat (northwest to St. Michael and west to the Semidi Islands).
- Has enabled forthcoming investigation of whether South Central and Interior bats are migratory or overwinter in place.

JOB/ACTIVITY C: Alaska Loon and Grebe Watch – Especially popular in the Matanuska Susitna Valley.

- >100 volunteers annually monitor loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai peninsula.
- Currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.
- Citizens have requested and posted hundreds of “Bird Nesting Area – Do Not Disturb” signs near waterbird nests throughout Southcentral Alaska

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JOB/ACTIVITY B: Alaska Bat Monitoring Project – Public interest has been quite strong in this project, and many Alaskans have learned for the very first time that Alaska has bats. Since its inception the project lists the following accomplishments:

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- Continuing to document the first bat maternity colonies ever confirmed in Interior, Southcentral, and Northern Alaska. The vast majority are in structures, while some include abandoned mines in Chugach National Forest.
- Documented range expansions for the little brown bat (northwest to St. Michael and west to the Semidi Islands).
- Has enabled forthcoming investigation of whether South Central and Interior bats are migratory or overwinter in place.

JOB/ACTIVITY C: Alaska Loon and Grebe Watch – Especially popular in the Matanuska Susitna Valley.

- >100 volunteers annually monitor loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai peninsula.
- Currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.
- Citizens have requested and posted hundreds of “Bird Nesting Area – Do Not Disturb” signs near waterbird nests throughout Southcentral Alaska

OBJECTIVE 3:

JOB/ACTIVITY A: Volunteers surveyed more hundreds of lakes, ponds, and wetlands last year for presence of woodfrogs during calling surveys. We also had dozens of incidental observations submitted by professional biologists working for the various federal and state agencies while conducting field work out in remote areas of the state.

JOB/ACTIVITY B: While the highest concentration of participants were in southcentral Alaska, we had volunteers from all over the state, including Shageluk, Sleetmute, Fairbanks, Northpole, Cordova, McCarthy, and north of the Brooks Range.

JOB/ACTIVITY C: We began an initial analysis of habitat associations using the data from the spring time calling surveys, and the incidental reports that we have received. Although these data are likely biased and give us an incomplete picture of wood frog habitat, it is the first quantitative description of wood frog habitat in Alaska. We also used the data, in combination with the statewide amphibian observation database, to develop preliminary predictive models of wood frog distribution using both deductive and inductive methods. These models were used as demonstration projects for the upcoming Alaska GAP project to commence in 2009 by the Alaska Natural Heritage Program.

OBJECTIVE 4:

JOB/ACTIVITY A:

- Documented the first bat maternity colonies ever found in Interior, Southcentral, and Northern Alaska.
- Documented first summer roosts in caves in Southcentral Alaska.
- Have found new evidence of potential migratory behavior for bats in the interior.
- Documented expansion of known range far to the west to the town of St. Michael as well as the Simidi Islands.
- Project has enabled an initial investigation of whether South Central and Interior bats are migratory or overwinter in place – set to commence winter 2008.

JOB/ACTIVITY B: See Objective 4; Activity a.

JOB/ACTIVITY C: See Objective 4; Activity a.

OBJECTIVE 5:

JOB/ACTIVITY A:

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FY08 Annual Performance Report

- We are currently monitoring loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai peninsula.
- Currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.

JOB/ACTIVITY B: See Objective 5; Activity a.

Prepared By: David F. Tessler

Date: 5 September 2008

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-3 **Segment Number: 1**
Project Number: 10.10
Project Title: Alaska Citizen Science Program
Project Duration: July 1, 2006 – June 30, 2011
Report Period: July 1, 2008 – June 30, 2009
Report Due Date: September 30, 2009
Principal Investigator: Dave Tessler, Alaska Department of Fish and Game

Project Objectives:

OBJECTIVE 1: To create a cooperative, coordinated, inter-agency citizen science program to:

JOB/ACTIVITY 1A: Collect region-wide baseline biological data;

JOB/ACTIVITY 1B: Use baseline data to construct and implement monitoring;

JOB/ACTIVITY 1C: Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game;

JOB/ACTIVITY 1D: Develop working alliances between ADF&G and local partners to focus efforts on nongame issues;

JOB/ACTIVITY 1E: Pool resources to widen the scope and relevance of selected citizen science research projects;

JOB/ACTIVITY 1F: Increase program visibility for all partners, and build a constituency to support nongame efforts.

OBJECTIVE 2: Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species:

JOB/ACTIVITY 2A: Wood frog (*Rana sylvatica*)

JOB/ACTIVITY 2B: Little brown bat (*Myotis lucifugus*)

JOB/ACTIVITY 2C: Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).

OBJECTIVE 3: Continue the collection of baseline distribution data for woodfrogs, initiated in 2002 in the Cook Inlet Watershed.

JOB/ACTIVITY 3A: Document the presence and approximate number of wood frogs in specific lakes.

JOB/ACTIVITY 3B: Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously.

JOB/ACTIVITY 3C: Characterize habitats important to wood frog reproduction.

OBJECTIVE 4: Collect baseline data on the distribution of the little brown bat in Southcentral and interior Alaska.

JOB/ACTIVITY 4A: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats.

JOB/ACTIVITY 4B: Identify and investigate potential winter hibernacula.

JOB/ACTIVITY 4C: Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.

OBJECTIVE 5: Collect baseline data on the distribution of Red-necked and Horned Grebes on lakes in Southcentral Alaska.

JOB/ACTIVITY 5A: Determine nesting densities on lakes supporting grebes.

JOB/ACTIVITY 5B: This project will provide data that will support development of an ongoing monitoring project

Summary of Project Accomplishments:

JOB/ACTIVITY 1A & 1B: Collect region-wide baseline biological data. Use baseline data to construct and implement monitoring.

See 3, 4, and 5 job/activities.

JOB/ACTIVITY 1C: Coordinate efforts between the Education, Watchable Wildlife, and Nongame Programs at Alaska Department of Fish and Game.

We conducted multiple meetings between ADF&G Nongame, Education, and Watchable Wildlife Programs to explore the potential for expanding the Citizen Science Program statewide, to include existing and future citizen science projects under a single aegis. Discussion included defining and institutionalizing the roles of each program to deliver a more robust Alaska Citizen Science Program.

JOB/ACTIVITY 1D: Develop working alliances between ADF&G and local partners to focus efforts on nongame issues.

We continued our leadership role in the Partnership for Citizen Science - a coalition of agencies and organizations committed to implementing our citizen science projects. This partnership includes: the US Fish and Wildlife Service Office of Migratory Bird Management, Chugach National Forest, the Alaska Natural Heritage Program at the University of Alaska, and the Alaska Zoo. Beyond this immediate collaboration, participating institutions delivering public programs with our materials include: the Prince William Sound Science Center, Campbell Creek Science Center, Center for Alaska Coastal Studies, Denali Education Center, and Alaska Public Lands Information Center.

JOB/ACTIVITY 1E: Pool resources to widen the scope and relevance of selected citizen science research projects.

We established a partnership with the USGS Terrestrial Wetlands Global Change Research Network (TWGCRN), a continental effort to use biological systems as response variables to document the effects of our changing climate. The effort will focus on various wetland species, but specifically targets the wood frog because it is the most ubiquitously distributed wetland vertebrate in North America. The ambitious program aims to monitor several aspects of wood frog biology (presence, abundance, productivity, breeding and developmental phenology, etc.) over time in relation to a suite of locally measured, climate-related physical parameters (water temperature, air temperature, water level, etc.). We have developed our participation in this effort maximize the potential for citizen science, principally through the involvement of schools, and will integrate the TWGCRN into the Alaska Wood Frog Monitoring Program.

We have developed a plan to establish at least six study sites in a latitudinal array from Arctic Village south to Fort Yukon and continuing through communities southward to the Anchorage – Mat/Su region. We plan to pair each of these study sites with a partnering school / teacher with an interest in participating with students as the actual on-the-ground observers. This would include some classroom presentation, and field instruction, and then the teacher can work alone with the students in the field.

These study sites will be instrumented with a series of remote data loggers recording various physical parameters, as well as an Automatic Recording Unit (ARU) – a digital stereo sound recorder. The ARU will be used to detect frog calls and bird song at the selected wetlands (and is analyzed with a very cool software using sound recognition so that no one has to listen to thousands of hours of recordings – this will provide information on the timing of arrival and breeding of target species. At each site, observers will also determine aspects of water chemistry, and via directed observation, will record various specific aspects of organism biology: i.e., wood frog numbers; reproductive effort (egg mass numbers/sizes); productivity (survival of eggs into emigrating metamorphs); developmental phenology (speed of development); chytridiomycosis assays (a destructive fungus responsible for many mass extinctions of amphibians and now detected in Alaska); etc. Observers would also include similar measures for selected target bird species.

Results will be analyzed centrally (but each class can explore analyzing their own data) and shared with the participating classes. Each year would be a novel learning experience for each new class, but the value and meaning of the information would grow with successive years – results of various years and conditions can be compared, and over time we expect that patterns would begin to emerge – patterns that remain unknown today.

JOB/ACTIVITY 1F: Increase program visibility for all partners, and build a constituency to support nongame efforts.

The Alaska Citizen Science Program continues to become more visible every year. We continue to conduct civic and school programs around the state (except Southeast AK). We continue to distribute the four excellent educational posters that we developed to schools and youth groups. We continue to maintain and update three programmatic websites (www.akbats.net, www.akfrogs.net, and www.akloonwatch.net that receive

substantial traffic. We answer thousands of email and telephone requests for information on our projects. We continue to provide “Do Not Disturb – Bird Nesting Area” signs to landowners and land managers to protect floating or shoreline nests of loons and grebes. We continued to free distribution of the popular “Landscaping for Wildlife” brochure in nurseries and greenhouses throughout Southcentral Alaska. Each of our projects has been the subject of numerous stories in local newspapers in Anchorage, Turnagain, Kenai, Wasilla, Homer, and Fairbanks. We continue to do radio interviews on local radio stations and utilize radio public service announcements to reach out to people in communities off the road system. All partner organizations are represented on our programmatic web pages and in all distributed materials, including informational handouts, survey instructions, data sheets, and educational posters.

JOB ACTIVITIES 2A, 2B, & 2C: Implement three distinct citizen science projects, each using its own set of shared objectives and methods, to educate and organize volunteers to collect baseline distribution and habitat information for three species: Wood frog (*Rana sylvatica*). Little brown bat (*Myotis lucifugus*). Red-necked and horned grebe (*Podiceps grisegena*, and *P. auritus*).

We hired a new permanent wildlife biologist to coordinate the Alaska Citizen Science Program. Unfortunately, the first incumbent, hired in December 2008, left shortly later for position with great financial rewards. A state hiring freeze prevented us from refilling the position until May 2009, and the new incumbent have been busy getting up to speed on the various projects, and in updating them.

All data from 2008 and 2009 have been entered and quality controlled, but have yet to be analyzed. For all projects, we are updating and revising the background materials, instructions to volunteers, to reflect advances in knowledge. We have been working to revise and update our web pages and our electronic data sheets to make it easier for the public to find information, and more convenient to submit their observations.

The Alaska Wood Frog Monitoring Project, Alaska Bat Monitoring Project, and Alaska Loon and Grebe Watch continue to be very popular. Public interest in these projects remained quite strong, despite the lack of a coordinator to shepherd these efforts along through the critical spring period. We continued to receive data from hundreds of volunteers and fielded hundreds more requests for information. The public became aware of the Alaska Citizen Science Program primarily through web searches that referred them to our websites, and a minimal amount of marketing through newspaper articles, community calendars, and public service announcements.

JOB ACTIVITIES 3A, 3B, & 3C: Document the presence and approximate number of wood frogs in specific lakes. Expand the range of project coverage to include Interior and Southcentral Alaskan Communities not served previously. Characterize habitats important to wood frog reproduction.

Volunteers surveyed more hundreds of lakes, ponds, and wetlands last year for presence of woodfrogs during calling surveys. We also had dozens of incidental observations submitted by professional biologists working for the various federal and state agencies while conducting field work out in remote areas of the state. While the highest concentration of participants were in southcentral Alaska, we had volunteers from all over the state.

JOB ACTIVITIES 4A, 4B, & 4C: Document bat presence and identify roosting sites and maternity roosts in particular communities, locations, structures, and habitats. Identify and investigate potential winter hibernacula. Provide data necessary for an expanded project examining seasonality of habitat use, wintering concentrations, migration, and population structure.

We continued to document more bat maternity colonies – among the first ever found in Interior, Southcentral, and Northern Alaska. This project has enabled an initial investigation of whether South Central and Interior bats are migratory or overwinter in place. A pilot project will commence winter 2009.

We continued to respond to hundreds of queries about the effects of bats on human health, and on how to effectively exclude bats from homes and buildings.

The new wildlife biologist coordinating Alaska Citizen Science attended a training workshop covering various bat study techniques at the Laurel Caverns Geological Park in Indiana. The training included bat handling and capture techniques as well. The new Alaska Citizen Science coordinator also received prophylactic inoculation against rabies in preparation for upcoming field work.

JOB ACTIVITIES 5A & 5B: Determine nesting densities on lakes supporting grebes. This project will provide data that will support development of an ongoing monitoring project.

We are currently monitoring loon and grebe occupancy and productivity at well over >100 lakes in the Mat-Su area south across the Kenai Peninsula.

We are currently documenting an apparent decrease in lake occupancy of both loons and grebes in the developing areas of Southcentral Alaska.

Citizens have requested and posted hundreds of “Bird Nesting Area – Do Not Disturb” signs near waterbird nests throughout Southcentral Alaska

Prepared By: David F. Tessler

**FEDERAL AID
INTERIM PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: T-12 **Segment Number:** 1
Project Number: 1.0
Project Title: State Endangered Species Act Team: Coordination, Management,
and Planning
Project Duration: 1 July 2008 – 30 June 2010
Report Period: July 1, 2008 – June 30, 2009
Report Due Date: September 30, 2009
Partner: Alaska Department of Fish and Game

Project Objectives

OBJECTIVE 1: Update Species of Special Concern List and Endangered Species List.

JOB/ACTIVITY 1A: Establish a working group comprised of ADF&G experts in areas of subsistence, habitat, marine mammals, large game, nongame, waterfowl, sport and commercial fisheries.

JOB/ACTIVITY 1B: Coordinate meetings and discussions of proposed criteria/methodology for species determinations, and final species determinations.

JOB/ACTIVITY 1C: Enhance communication between ADF&G divisions and the State ESA Team.

OBJECTIVE 2: Assist in the coordination of the development of State comments to Federal actions regarding endangered and sensitive Alaska species (e.g., status reviews, listing proposals).

JOB/ACTIVITY 2A: Solicit comments and information from State departments and divisions with expertise/information.

JOB/ACTIVITY 2B: Compile all comments in a State response.

JOB/ACTIVITY 2C: Request approval from contributing Departments/Divisions on draft comments and/or information.

JOB/ACTIVITY 2D: Enhance communication and coordination between the State of Alaska and Federal agencies concerning Federal actions regarding endangered and sensitive Alaska species.

OBJECTIVE 3: Collaborate with the Nongame Program manager to identify projects that, if funded, would benefit endangered and sensitive Alaska species.

JOB/ACTIVITY 3A: Review CWCS and ranking database to determine information gaps and species of highest priority.

JOB/ACTIVITY 3B: Review research proposals to determine projects that would most effectively gather needed data.

JOB/ACTIVITY 3C: Rank proposals to determine top projects to be funded.

Summary of Project Accomplishments:

JOB/ACTIVITY 1A: Establish a working group comprised of ADF&G experts in areas of subsistence, habitat, marine mammals, large game, nongame, waterfowl, sport and commercial fisheries.

The project leader established a working group that consisted of representatives from the wildlife conservation, habitat, sport fish, and commercial fish divisions, and the commissioner's office. Information and expertise was solicited from this group in meetings, via email and/or telephone.

JOB/ACTIVITY 1B: Coordinate meetings and discussions of proposed criteria/methodology for species determinations, and final species determinations.

The project leader coordinated multiple meetings of various sizes in order to discuss criteria for species selection for both the Species of Special Concern List and the Endangered Species List. Several meetings of the entire group were held either in Juneau or Anchorage. As a follow up to each meeting draft summaries of our discussions were developed by the project leader, and were reviewed and approved by all group members. Meetings with fewer participants to discuss Endangered Species listing determinations were also coordinated by the project leader.

JOB/ACTIVITY 1C: Enhance communication between ADF&G divisions and the State ESA Team.

Communication between ADF&G Divisions and the ESA Team was greatly enhanced. The ESA Team worked with representatives from the Division of Wildlife Conservation (DWC) to draft a Guidance document for cooperating on ESA issues. This document serves as a framework for cooperative efforts between the ESA Team and ADF&G Divisions. The project leader worked with division representatives on the working group, and other division employees to ensure that they were aware of ESA Team activities.

JOB/ACTIVITY 2A: Solicit comments and information from State departments and divisions with expertise/information.

The project leader solicited information from ADF&G Divisions and other State Departments relating to sensitive species issues (listed species, and species being considered for listing).

JOB/ACTIVITY 2B: Compile all comments in a State response.

The project leader reviewed and compiled all comments and information from ADF&G Divisions and other State Departments in response to requests for information. All comments and information were compiled in a way that was understandable and easy to interpret.

JOB/ACTIVITY 2C: Request approval from contributing Departments/Divisions on draft comments and/or information.

Upon completion of drafting a coordinated State/ADF&G response utilizing comments and information provided to me by within State experts, the project leader notified the experts of any changes made to their submissions, and requested their review and approval of any changes.

JOB/ACTIVITY 2D: Enhance communication and coordination between the State of Alaska and Federal agencies concerning Federal actions regarding endangered and sensitive Alaska species.

Communication and coordination between the State of Alaska and Federal agencies was enhanced by expanding and strengthening contacts within these agencies and communicating with them regularly via phone and email regarding sensitive Alaska species. The project leader interacted with Federal contacts at meetings and workshops and collaborated with Federal agencies to organize and shape meetings related to sensitive Alaska species.

JOB/ACTIVITY 3A: Review CWCS and ranking database to determine information gaps and species of highest priority.

The project leader:

- Frequently reviewed the CWCS and ranking database (ASRS) to determine information gaps and eligibility of identified conservation actions for grant funding, and collaborated with the Nongame Program Manager to review the CWCS and ASRS to provide comments to help strengthen the ASRS.
- Investigated the potential application of the ASRS to shape and inform the Alaska Species of Special Concern list.

JOB/ACTIVITY 3B: Review research proposals to determine projects that would most effectively gather needed data.

The project leader:

- Developed several research proposals which were submitted for various funding sources based on investigations of priority projects and information data gaps in the CWCS and ASRS. One proposal received a Coastal Impact Assistance Program (CIAP) award; research will be initiated by the project leader in 2010.
- Assisted in drafting a proposal to conduct Kittlitz's Murrelet work in Glacier Bay, which was funded; the project leader participated in data collection in 2009.
- Coordinated with the Nongame Program Manager on species sensitivity and priority in regards to research proposals submitted to the in Nongame Program.

JOB/ACTIVITY 3C: Rank proposals to determine top projects to be funded.

The project leader submitted proposals to the Nongame Program, so did not participate in ranking and scoring the proposals. The project leader did comment on species sensitivity and priority based on review of the CWCS and ASRS, and on other possible sources of funding for projects that did not receive awards.

Significant Deviations: The project leader applied for Nongame Program administered grants and therefore did not help rank or evaluate proposals for those sources of funds. The project leader helped coordinate DWC proposal submissions for CIAP funds, and submitted 2 proposals from the Endangered Species Program.

Prepared By: Sadie Wright, Wildlife Biologist