Report to the 61st Legislature

Use of State Wildlife Grant Funds in the Nongame Bureau of Fish, Wildlife & Park's Wildlife Program

December 2008

Photo Credits: Kristi Dubois, plains spadefoot, Steve Carson, yellow-pine chipmunk, Steve Carson, peregrine falcon

Prepared by

**Montana Fish,
Wildlife & Parks**

Montana State Library

3 0864 1005 8615 8

PROJECT REPORT SUMMARY – STATE WILDLIFE GRANT FUNDS FY2008 & FY2009

In 2001 Congress established the State Wildlife Grants (SWG) program to support conservation of wildlife habitat and wildlife species across the nation. Recognizing the need for comprehensive fish and wildlife conservation, the State of Montana and the U.S. Fish and Wildlife Service developed a comprehensive fish and wildlife conservation strategy for Montana. The overall goal of this strategy is to prevent wildlife from declining to the point of being endangered. Montana's Comprehensive Fish and Wildlife Conservation Strategy (CFWCS; 2005) embraces all vertebrate species known to exist in Montana, including game and nongame species, as well as some invertebrate species (freshwater mussels and crayfish). Montana Fish, Wildlife & Parks (FWP) believes comprehensive management of fish and wildlife guided by the CFWCS and supported in part by the SWG funding mechanism has led to more effective landscape level conservation.

In 2007, FWP developed an implementation plan to direct priorities for implementation of the CFWCS for the next five years. As part of that implementation plan, it was decided that State Wildlife Grants funding would be divided as follows: 50% towards habitat conservation, 25% towards species conservation, and 25% towards survey and inventory. Within these categories, FWP also identified priority species and habitats. These include:

Community Types: Riparian and Wetland
 Sagebrush
 Grassland Complexes
 Aspens (one component of the broadleaf forest community type)
 Mountain Streams
 Prairie Rivers and Streams

Species: Northern Leopard Frog
 Spiny Softshell Turtle
 Greater Sage Grouse
 Mountain Plover
 Burrowing Owl
 Trumpeter Swan
 Prairie Dogs (white and black-tailed)
 Grizzly Bear
 Burbot
 Westslope and Yellowstone Cutthroat Trout
 Arctic Grayling
 Blue Sucker
 Pallid Sturgeon

Survey and Inventory:
 Mussels group
 Prairie Fish group
 Reptiles group

Bats group
Shorebirds

Conservation and enhancement of high priority or 'Tier 1' community types, increased focus on high priority (Tier 1) species of greatest conservation need, and the collection of expanded distribution and occurrence data for high priority (Tier 1) species groups are all crucial elements for preventing and/or reversing species declines. The projects described in this report demonstrate FWP's commitment to multi-species and habitat conservation efforts and to effective, cooperative partnerships. These efforts help reduce the need to further protect target species under the Endangered Species Act (ESA). Projects implemented or planned during the 2008-09 biennium are described below. Funding totals and sources for these projects are described in Table 1 at the end of this report.

Habitat Conservation and Restoration of the Missouri Coteau and Glaciated Plains of the Milk and Missouri Rivers

FWP determined it was most effective to focus SWG resources in one focus area for a period of several years, and therefore established the Milk River Initiative, with a primary objective to *"Place 10,000 acres within the Milk River Riparian Zone under conservation easements or other appropriate strategies to conserve fish and wildlife communities including game and nongame species groups."* This habitat-focused project protects and restores Tier 1 community types with emphasis on riparian and wetland habitats and sagebrush-grassland complexes along the Milk and Missouri River corridors.

FWP spent considerable effort identifying and negotiating different aspects of conservation easements on four different parcels (Brazil Creek, Sauer, Vandalia, Cornwell) along the Milk River. SWG funding was obligated to the Cornwell easement pending Land Board approval. Unfortunately, that project was unable to be completed. The Brazil Creek easement was completed without use of SWG funds, and Sauer and Vandalia projects are scheduled for completion in FY2010.

FWP is also anticipating completion of the fee-title purchase of the 400 acre Cree Crossing property in early 2009 using SWG funds matched with Habitat Montana dollars.

These habitat conservation measures include stipulations and terms that protect and maintain key vegetation components, and prohibit land management uses that could degrade or fragment important habitat types. In addition, enhancement activities seek to restore and increase cottonwood and riparian shrub communities where feasible, re-establish native grassland communities and restore drained and/or degraded wetland habitats.

Work items for FY2009:

- Conserve 2,000 acres under fee title acquisition, conservation easement or 30-year lease agreements.
- Initiate one or more managed livestock grazing systems to enhance riparian and shrub-grassland habitats, and work with private landowners to implement rest-rotation grazing prescriptions, typically employing a three or four pasture system.

- Restore up to 100 acres of riparian (cottonwood and shrub) and native shrub-grassland habitat. The goal is to convert non-native, introduced hay meadows or cropland back into native plant species zones, which will act as a buffer to adjacent cottonwood galleries. This will be accomplished through deferment of farming activities or livestock grazing in areas subjected to periodic flooding where natural regeneration of cottonwoods, willows and other species would occur, as well as replanting native tree and shrub species in areas subjected to high water tables. The intent would be to allow existing cropland to revert to the native Tier 1 vegetation communities dominated by riparian species.

Project Cooperators and Matching funds: Montana FWP, Upland Game Bird Habitat Enhancement Program, Habitat Montana, NAWCA, Canyon Ferry Trust, Doris Duke Foundation.

Baseline Wildlife Inventories on FWP Lands

Baseline wildlife inventories to document distribution and abundance of key species groups (bats, reptiles, amphibians, small mammals and birds) are conducted on existing FWP wildlife management areas, conservation easements, and 30-year lease properties, as well as on newly acquired properties.

Two technicians were hired to finalize study design and survey methodologies for species diversity assessments on conservation easements and proposed easements. Surveys were conducted on four secured easements and two proposed easement properties. Five avian Species of Concern and one potential Species of Concern were observed on the proposed easements. One avian Species of Concern and three potential Species of Concern were observed on the secured easement properties. Thirty-one great blue heron rookeries, one double-crested cormorant rookery and 54 bald eagles nests were located and surveyed along the Yellowstone, Powder, and Tongue Rivers. Two amphibian Species of Concern were observed during 12 amphibian and reptile surveys on two conservation easements.

Work items for FY2009:

- Complete baseline inventory surveys for species diversity, focusing on designated species groups.

Prairie Dog, Mountain Plover and Burrowing Owl Population Assessment

Over their range, prairie dogs have declined in abundance and distribution primarily as a result of extensive poisoning, loss of habitat, and disease. The prairie dog is an important native component of the prairie ecosystems, and it provides unique habitat for a variety of species, including mountain plover and burrowing owls. Loss of active prairie dog colonies has impacted habitat availability for these two species. The primary breeding and brood rearing habitat of burrowing owls is prairie dog towns. Mountain plover prefer areas of extremely short vegetation, which is created in many cases by prairie dog grazing patterns.

All of these species are Tier 1 species of greatest conservation need in Montana's CFWCS. Prairie dogs and mountain plovers have been petitioned for listing under the ESA, and US Fish

and Wildlife Service decisions relative to the “not warranted” or “warranted but precluded” status have been challenged by litigation.

Given the continued regional and statewide concern over the status of prairie dogs, the recognized importance of their colonies as habitat for black-footed ferret, plover and owl populations, and the negative consequences of recent plague epizootics and drought conditions, it is important for Montana to assess the current distribution and abundance of prairie dogs. This assessment is based on the most recent and evolving scientific protocols and conducted by qualified FWP staff. Current survey methodologies were reviewed and used as the basis for FY2008 and FY2009 surveys. All necessary equipment was purchased, technicians were hired and all necessary contracts were completed for the aerial flight services. All transects were flown and 10% of identified prairie dog colonies were ground-truthed. Final data analysis and occupied acreage estimation is ongoing. Upon completion, this assessment will provide the basis for developing and implementing a prairie dog monitoring program, and will assist in the development of FWP regional prairie dog management plans.

Once a spatial assessment of prairie dog colonies has been completed, surveys for mountain plover and burrowing owls will be conducted to assess population status and geographic distribution across Montana. Visual surveys for mountain plover will follow US Fish and Wildlife Service guidelines. Burrowing owl methodology will follow techniques used in Montana from 1999-2005 by Atkinson.

Work Items for FY2009:

- Complete assessment of black-tailed and white-tailed prairie dog species range in Montana and update existing tabular and spatial databases.
- Begin visual surveys for mountain plover and burrowing owls in spring of 2009 based on stratified random sampling of prairie dog colonies. All species information will be placed in the statewide Point Observation Database.

Multi-Species Diversity Monitoring

This project is being undertaken to provide a sampling scheme and framework of methodologies that can be combined with those previously developed for small mammals, birds, and amphibians for simultaneous long-term monitoring of wildlife on public and private lands. Completing statewide baseline assessments of the status and distribution of these species will provide the foundation for determining the appropriate steps to be taken to conserve these species groups. The FY2008 segment of funding was used to: (1) design a sampling scheme for the diversity monitoring project; (2) develop initial field protocols and data forms for sampling amphibians, reptiles, small mammals, and bats and receive approval for animal care and use protocols; (3) hire and train field crews; and (4) initiate surveys.

Six field crew members were hired in FY2008 and received ten days of training for amphibian, reptile, bat, and small mammal identification, survey techniques, and preparation of museum voucher specimens. Reptiles and bats were targeted for a large portion of the survey effort

because they are Tier 1 inventory species under the CFWCS. Surveys for reptiles dominated the field efforts in FY2008 with bats being more of the planned focus in FY2009.

Ninety-three quadrangle sites were surveyed in FY2008 and the beginning of FY2009. Acoustic bat recordings were collected at each of the 93 sites plus one incidental site for a total of 321 bat detector nights and 13,970 recordings. Bat-call recordings are being analyzed by Montana Natural Heritage Program staff. Mist nets were deployed for seven nights and resulted in three species records; hoary bat, big brown bat, and western small-footed myotis. Reptile searches were conducted at 76 quadrangle sites. Forty-one reptile species records were documented. Small mammal surveys were conducted at 29 quadrangle sites. A total of 99 trap lines were deployed with a variety of trap types for a total of 11,054 trap nights. A total of 878 captures were recorded. Pre-confirmation results indicate that the average number of species per site was three and the average number of captures per site was 30. All species information will be placed in the Montana Natural Heritage databases.

Work items for FY2009:

- Refine statewide sampling schemes for terrestrial reptiles, bats and small mammals based on surveys begun in FY2008.
- Continue assessment of the distribution and status of terrestrial reptiles, bats and small mammals (statewide).
- Conduct statewide diversity monitoring for small mammals and amphibians on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies.
- Organize monitoring efforts for nongame birds on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies. Plan for FY2010 monitoring implementation.
- Update Montana Natural Heritage Program Point Observation Database with new species status and distribution information and review Species of Concern lists relative to new information.

Project Cooperators and Matching Funds: Montana FWP and Montana Natural Heritage Program.

Amphibian and Aquatic Reptile Surveys

FY2008 represented the third year of this work. Amphibian and aquatic reptile surveys follow standardized methods to collect information on presence/non detection and relative abundance of each life history stage of each species at each site to be used as a measure of current status in relation to various habitat characteristics and for comparison with future monitoring efforts. A single museum voucher specimen of each species encountered in each watershed is collected to document the presence of the species in the area.

Due to the presence in southeastern Montana of species whose breeding efforts may be

dependent on late spring or summer rains (e.g., plains spadefoot, great plains toad), non-random road call surveys were performed during wet weather conditions in May and early June in regions with suitable roads in reasonable proximity to areas where other field work is being carried out. Amphibians and reptiles detected on roads in the course of other field work were also documented. Furthermore, a specific effort is made to drive roads in project areas during May when reptiles are likely to be moving from hibernacula. Documentation of centers of reptile activity during this time period allow for mitigation of road mortalities as a result of increased vehicle traffic associated with fossil fuel or other developments.

Through the 2008 field season, 571 watersheds and more than 8,650 water bodies have been inventoried. This has resulted in >10,373 species records with numerous extensions of known geographic ranges and maximum elevations. The presence of the Idaho giant salamander has been confirmed in Montana for the first time with hundreds of individuals found in 15 tributaries of four watersheds in Mineral County. Western toads have been found breeding at less than 3% of sites surveyed and the deadly chytrid fungus has been detected across Montana. This suggests chytrid fungus may be the cause of declines observed in both western toads and northern leopard frogs. Mass mortalities of tiger salamanders have also been found across eastern Montana, suggesting the widespread presence of *Ambystoma tigrinum* virus. All amphibian and reptile data has been loaded into the statewide Montana Natural Heritage Program Point Observation Database and is used for statewide conservation planning as directed in the CFCWS.

Work Items for FY2009:

- Complete a fourth and final year of data collection, analysis and summary.

Project Cooperators and Matching Funds: Montana FWP, University of Montana and Montana Natural Heritage Program.

Loon Ecology

Montana has the most significant common loon population in the continental United States west of the Mississippi River. Approximately 160-180 adults arrive in Montana each spring. Only 22 to 26 pairs nest successfully each year producing a range of 30-49 chicks as counted in the mid-July Loon Day survey. The common loon is a Species of Concern in Montana due to small population size and sensitivity to activity during the nesting season. Active conservation efforts are deemed necessary to ensure that Montana's small nesting loon population is maintained in the long-term. This cooperative project includes efforts to improve nesting success, monitor population trends and plan for loon management into the future.

Research was initiated in northwest Montana in 2003 and was completed the summer of 2007. Research focused on loon nestling survival, habitat, and nesting success in association with a suite of habitat, predation, and disturbance variables. The results suggested that landscape-scale variables and disturbance variables are significant drivers of loon chick survival. Research continued to explore the probability that a territory will be occupied, the relationships between loon survival and changes in nest occupancy, and how all these parameters influence rates of selection and abandonment of breeding territories of common loons. Published results of this research is available on the University of Montana web site.

In addition to the completion of this research, biologists initiated writing the Common Loon Conservation Plan for Montana. This plan is a cooperative effort among a technical review committee and the Common Loon Working Group and should be completed by March 2009.

Work Items for FY2009:

- Completion of the Common Loon Conservation Plan.

Project Cooperators and Matching Funds: Montana FWP, University of Montana, US Forest Service, Plum Creek Timber Company, Ashley Creek Homeowners Association, Department of Natural Resources Conservation, and the Blackfoot Challenge. Nongame Check-Off funding was also contributed.

Black-backed Woodpecker Population Genetics Study

The black-backed woodpecker is a Species of Concern that primarily inhabits recently burned forests. Populations of this and other woodpecker species increase dramatically in burned forests, then gradually decline as forest succession takes place. It is not known how far these woodpeckers will move to colonize burns. An understanding of what constitutes a viable population unit for this and other fire-dependent species is needed to inform management of burned forestlands. The primary goal of this University of Montana graduate research project is to describe the genetic population structure and dispersal dynamics of black-backed woodpeckers. A pilot field season in 2004 and full field seasons in 2005 and 2006 were completed. By 2006, blood samples had been collected from 147 black-backed woodpeckers and 33 hairy woodpeckers. Genetic analysis of all of the current samples was completed in 2007. Final genetic analysis and project wrap up was scheduled for 2008.

Work Items for FY2009:

- Final data analysis and project summary report.

Project Cooperators and Matching Funds: Montana FWP and University of Montana. Glacier National Park and US Forest Service contributed in-kind personnel time to collect genetic samples. Nongame Check-Off funding was also contributed.

FY2009 New Projects

University of Montana: Aspen Utilization by Songbirds

In Montana, aspen galleries provide unique and critical habitat for a diversity of species including several Tier I and Species of Concern such as flammulated owl and olive-sided flycatcher. On a broad scale, aspen habitats provide for seasonal movements of large carnivores such as grizzly bears and food sources for a variety of smaller species including Tier I bat species.

The effects of aspen loss and restoration are being considered in most western forests. In a 2008 study proposal Tom Martin (USGS Montana Cooperative Wildlife Research Unit, University of Montana) notes 'Aspen decline is also considered a critical issue in the Custer and Gallatin National Forests, where some small (15-30 acres) aspen restoration projects have been

implemented every year since 1991 to enhance habitat for ruffed grouse.’ Responses of aspen and wildlife to the efforts have not been evaluated. Aspen loss is considered an important issue in the Bitterroot Valley and National Forest, as well as forests in Idaho. Finally, aspen loss and restoration is considered a critical issue in the Lewis and Clark National Forest, where aspen restoration projects are currently being implemented in the White Sulphur Springs area. These ongoing projects provide opportunity for post restoration monitoring, comparisons of wildlife diversity and abundance among different quality aspen stands and exploration of adaptive management approaches that best protect biodiversity.

Research findings and actions taken to restore aspen communities will benefit many more species than just those with special classifications.

Work items for FY2009:

- Complete baseline inventory surveys for species diversity within aspen galleries.
- Assess aspen galleries within focus areas for habitat quality and identify prescriptive measures needed to improve habitat quality.
- Pursue adaptive management guidelines for aspen restoration programs that benefit the greatest number of wildlife species.

Project Cooperators and Matching Funds: Montana FWP, University of Montana, US Geological Survey, and the Bair Foundation.

Trumpeter Swan Restoration

Trumpeter swans are classified as Tier 1 species of greatest conservation need. The habitat needed by nesting trumpeter swans includes the Tier 1 community types of wetland and riparian. In an effort to conserve trumpeter swans and their habitat the *Blackfoot Valley Trumpeter Swan Implementation and Evaluation Plan* was written. Work towards the plan goal of seven established breeding pairs began in 2005 with the release of ten birds and has continued in the following years with the most recent release of 42 yearling trumpeters in 2008. Swans are to be released into suitable habitats until natality exceeds mortality and wild nesting, without augmentation, sustains the flock. It is anticipated that since trumpeters have now begun to molt in the Blackfoot during the summer months that breeding pairs in the valley may establish soon. This program has been approved by the Pacific Flyway Council and will be implemented in accordance with the Pacific Flyway Plan for the Rocky Mountain Population of Trumpeter Swans and the associated Trumpeter Swan Implementation Plan

Work Items for FY2009:

- Obtain and release 10 to 20 genetically suitable trumpeter swans in the Blackfoot Valley annually in 2009 and 2010.

Project Cooperators and Matching Funds: Montana FWP, Blackfoot Challenge and the Montana Wetlands Legacy project.

Peregrine Falcon Post Delisting Monitoring

The peregrine falcon is a Species of Concern that was once widespread throughout Montana. The crash of peregrines nationwide led to an intense recovery program and today there are more than 60 occupied sites in Montana.

The peregrine falcon was declared recovered and removed from the endangered species list in 1999. Peregrine falcon productivity surveys are mandated under post de-listing ESA rules. Montana's long-term monitoring program includes the survey of known eyries every 3rd year beginning in 2003 and ending in 2015. 2009 is a mandatory survey year. The survey utilizes personnel with long-term expertise in locating peregrines in a concerted, coordinated effort checking all historical eyries and determining productivity at all occupied sites.

Work Items for FY2009:

- Collect occupancy and productivity data at historical and new peregrine falcon eyries statewide.

Project Cooperators and Matching Funds: Montana FWP, Montana Peregrine Institute, US Fish and Wildlife Service, US Forest Service, and Bureau of Land Management.

Avian Conservation Coordinator

Sixty-one (51%) of the 119 vertebrate species on the Montana Species of Concern list are birds. Of the top 20 common birds that show the steepest continental declines, 13 species (65%) breed in Montana. Montana has no focal entity for promoting the conservation of all of Montana's avian fauna. A statewide all-bird conservation coordinator will significantly and rapidly help advance the goals of the CFWCS, facilitate and rejuvenate cooperation among partners, and catalyze and prioritize conservation implementation of Montana's native birds.

An all-bird conservation coordinator will oversee the development and implementation of a statewide strategy to protect and conserve Montana's native birds and their habitats. The coordinator will act as a liaison between FWP and the Montana Bird Conservation Partnership to help partners prioritize and implement on-the-ground conservation, education, monitoring and research efforts.

Work Items for FY2009:

- Employ an All-Bird Conservation Coordinator to prioritize and implement partnerships and on-the-ground conservation projects.
- Organize statewide monitoring effort for nongame birds on state-owned and managed properties, as well as other private lands as available, and utilize new survey information to support potential conservation actions and assess on-going strategies. Plan for FY2010 monitoring implementation.

Project Cooperators and Matching Funds: Montana Audubon contributes office space.

Prairie Dog Literature Review

A literature review of existing scientific and technical reports on prairie dogs (black and white-tailed) is timely considering current debate regarding population stability and litigation for listing under the ESA. Identifying the weaknesses and gaps in existing literature and research efforts could provide guidance for future management oriented research. Research efforts and findings on certain key issues need to be addressed including; 1) Effects of sport shooting, 2) Effects of disease including sylvatic plague, 3) Effects of parasite control on prairie dogs and non-target species, 4) Efficacy and cost of population control efforts, 5) Efficacy and cost of translocation attempts, 6) Methods to encourage colony expansion, 6) Natural dispersal, and 7) Methods to estimate occupied acreage.

Work Items for FY2009:

- Evaluate and summarize existing prairie dog research efforts to guide future management direction.

Project	SWG		Gen License		Gen Fund		Other*		Total	
	FY08	FY09	FY08	FY09	FY08	FY09	FY08	FY09	FY08	FY09
HB 2 Authority										
Conservation and Restoration of the Missouri Coteau and Glaciated Plains of the Milk and Missouri Rivers										
Cornwell	NA	\$500,000	NA	\$0	NA	\$0	NA	\$4,000,000	NA	\$4,500,000
Cree Crossing	NA	\$219,000	NA	\$0	NA	\$0	NA	\$500,000	NA	\$719,000
Baseline Wildlife Inventories on FWP Lands	\$20,269	\$52,582	\$3,384	\$26,291	\$14,065	\$26,291			\$37,718	\$105,164
Prairie Dog, Mountain Plover and Burrowing Owl Population Assessment	\$13,512	\$68,663	\$6,430	\$34,331	\$7,082	\$34,331			\$27,024	\$137,325
Multi-Species Diversity Monitoring	\$27,671	\$139,270	\$5,365	\$69,636	\$9,371	\$69,636	\$12,479	\$61,213	\$54,886	\$339,755
Aspen Utilization by Songbirds	NA	\$22,500	NA	\$11,250	NA	\$11,250	NA	\$85,000	NA	\$130,000
Trumpeter Swan Restoration	NA	\$6,000	NA	\$3,000	NA	\$3,000	NA	\$12,000	NA	\$24,000
Peregrine Falcons – Post Delisting Monitoring	NA	\$7,500	NA	\$3,750	NA	\$3,750	NA	\$38,000+	NA	\$53,000+
Avian Conservation Coordinator	NA	\$35,540	NA	\$17,771	NA	\$17,771	NA	\$0	NA	\$71,082
Prairie Dog Literature Review	NA	\$5,000	NA	\$2,500	NA	\$2,500	NA	\$0	NA	\$10,000
HB4 Authority										
Amphibian and Aquatic Reptile Surveys	\$36,044	\$73,241	\$0	\$0	\$0	\$0	\$19,178	\$ 23,240	\$55,222	\$96,481
Loon Ecology	\$12,898	\$11,502	\$0	\$0	\$0	\$0	\$14,300	\$14,300	\$27,198	\$25,802
Black-backed Woodpecker Population Genetics Study	\$22,862	\$1,243	\$0	\$0	\$0	\$0	\$16,236	\$0	\$39,098	\$1,243
Trumpeter Swan Restoration	\$8,282	\$0	\$0	\$0	\$0	\$0	\$8,282	\$0	\$16,564	\$0
Prairie Dog Assessment	\$39,480	\$9,466	\$39,480	\$9,466	\$0	\$0	\$0	\$0	\$78,960	\$18,932
Small Mammal Survey	\$1,233	NA	\$0	NA	\$0	NA	\$0	NA	\$1,233	NA

*Other includes: Cost share partners, Universities, non-government organizations, other agencies, etc.