

Grant Eligible Conservation Fund Project List 2009-2010

Pronghorn antelope migration corridor fencing enhancement

Alberta Fish and Game Association

Grant: \$25,000

Recent analysis of migration routes and seasonal home ranges has allowed researchers and managers to assess areas where pronghorn move with difficulty due to linear disturbances such as roads, railways, and fences. Fences in particular have been shown to create particular difficulties for pronghorn as they are unwilling to jump fences and are generally unable to go under fences that are less than 16" off the ground. Local knowledge and past experience has shown that fences with smooth bottom wires constructed at least 18" off the ground can facilitate pronghorn movements. While it is impractical that a project of this scope addresses all fences range-wide, it is possible that key fences in strategic locations be adjusted to this standard to facilitate movements for the greatest proportion of the population in times of greatest need (i.e. during forced winter movements). Further, projects such as this one can draw attention to poor fencing practices and more wildlife-friendly approaches to fencing. Accordingly, AFGA will strive to meet the objectives presented below to help facilitate communication of standards and to address areas in immediate need. In particular, AFGA will: 1.) Replace and/or manipulate the bottom strand of wire on existing fences in key locations to pronghorn-friendly standards to facilitate pronghorn movements; 2.) Increase awareness and participation in the ranching community in regards to pronghorn friendly fencing techniques; 3.) Increase awareness in the general public towards the plight of pronghorn in regards to linear disturbance (e.g. fencing) and the importance of movement including migration. Their target is 50 miles of pronghorn friendly fencelines in strategic locations by February 2010.

Martin Sharren
Alberta Fish and Game Association
6924 - 104 St.
Edmonton, AB
T6H 2L7
martin@afga.org 780-437 2342

Volunteer Habitat Lands Stewardship

Alberta Fish and Game Association

Grant: \$27,000

The AFGA through its Wildlife Trust Fund has acquired singularly and in partnership 80 conservation properties across rural Alberta for a total area nearing 33,000 acres. This land is managed and preserved as high-quality wildlife habitat while at the same time providing recreational and educational opportunities for Albertans. In order to maintain this high quality the properties require ongoing inspection and collection of various data to ensure proper management. AFGA staff has identified a great opportunity to involve Albertans in this stewardship activity which will ensure the future of these critical wildlife habitats and will indeed give them a deeper understanding of their place in the ecosystem. Initially, this project was conducted on a trial basis in 2008 on 20 properties to determine the degree of public acceptance and involvement. The end result indicated that the Volunteer stewardship program was extremely well received by other organizations, volunteers and the general public to the point that a waiting list for volunteers was established. It is now time to move forward with the remaining 60 conservation properties. This year the project plan is to: print stewardship manuals; produce DVD for public distribution highlighting participatory opportunities in conservation; identify closest communities to conservation lands; advertise and conduct local meetings; recruit volunteer stewards; train stewards as to their duties; conduct initial property inspection with Volunteer stewards; and provide recognition to Volunteer stewards.

Martin Sharren
Alberta Fish and Game Association

6924 - 104 St.
Edmonton, AB
T6H 2L7
office@afga.org 780-437-2342

Operation Grassland Community **Alberta Fish and Game Association**

Grant: \$35,000

The main objectives for Operation Grassland Community 2009-2010 are: to formalize agreements between OGC and MULTISAR to strengthen the commitment between both agencies and between OGC and DUC to strengthen the commitment to future collaborative upland habitat enhancement projects and develop an additional 1-3 cost-shared projects involving conversion of cropland to native grassland to increase availability of Burrowing Owl, waterfowl and other breeding avian species at risk; to develop and deliver SARC Plans to 8-10 landholders that have one or several OGC target species. As a result, 8-10 Beneficial Management Plans (BMPs) for Burrowing Owl, 5-10 BMPs for Loggerhead shrike, 5-10 BMPs for Sprague's Pipit and 3-5 BMPs for Ferruginous Hawk will be completed ; to re-assess and make adaptive management recommendations on 55 sites where Management Plans were developed in 2004 and 2005 (ACA funded project) for the Burrowing Owl (20-25 sites) and the Loggerhead shrike (25-30 sites); to develop 3-4 additional Burrowing Owl foraging habitat projects consisting of a fenced ephemeral or permanent wetland or dugout (and riparian area) with the addition of a cost-shared off-site watering system (foraging habitat) where appropriate; to install 2-4 Ferruginous Hawk nest platforms at nest sites that are or have recently (< 2 years) been occupied and where the nest has fallen or is about to fall; to monitor a minimum of 15 habitat enhancement projects created in previous years to assess their status and need for maintenance, and implement repairs, and management activities (e.g., grazing, mowing, weed control, etc.) as required; to strategically place cattle oilers or mineral blocks at another 2-3 sites to intensify grazing pressure around existing or high-potential Burrowing Owl nesting sites (short grass). Also, to promote the notion of habitat heterogeneity for grassland wildlife, salt block along with a letter of explanation will be sent to an estimated 300 OGC members who manage grassland habitats. AFGA will continue long-term monitoring of Burrowing Owl (19th year) and Loggerhead Shrike (6th year) populations on members' land through their annual mail census.

Martin Sharren
Alberta Fish and Game Association
6924 - 104 Street
Edmonton, AB
T6H 2L7
susan000@sasktel.net; kerry@afga.org 780-437-2342

Maintaining the Foothills' Natural and Economic Values - Working Cooperatively to Find Balanced Solutions

Alberta Foothills Network

Grant: \$37,000

This project will be part of a larger program aimed at ensuring that industrial activities within the Foothills Natural Region do not preclude sound fish and wildlife conservation practices. This specific project has the following objectives: A.) to work with various stakeholders including first nations, hunting and fishing organizations, recreation organizations, environmental organizations, industry and government agencies to expand existing, and establish new, protected areas in the Foothills Natural Region. Where protected areas expansion is not possible, or feasible, industrial deferrals will be sought. A science-based approach will be used to nominate protected areas and will be done in conjunction with the recommendations of other

ongoing processes such as the Land-use Framework and the Alberta Caribou Committee. B.) Inform Albertans about the values of the Foothills Natural Region using various means including: website updates, video podcasts posted on the internet, a column in the quarterly magazine 'Nature Alberta' entitled 'Focus on the Foothills', public presentations, and media releases. Project deliverables include videos - using a combination of motion capture, and still images, stories that make the Foothills such a unique and important place will be told. Titles to be completed under this project are "*Alberta's Foothills Natural Region – An Opportunity to Balance Economic and Ecological Values*"; "*Maintaining Caribou Habitat – Opportunities to Achieve Values beyond Caribou*"; "*Personal Perspectives and Stories from Alberta's Foothills*". Media releases will be sent throughout the project when warranted.

Glen Semenchuk
Alberta Foothills Network
3rd Floor, Percy Page Centre, 11759 Groat Rd
Edmonton, AB
T5M 3K6
glens@fanweb.ca 780-427-8124

Wild Game for Foodbank Program

Alberta Hunters Who Care

Grant: \$20,000

The objective is to use a renewable food source (wild deer, elk or moose), which is harvested and donated by hunters; this high quality meat is then distributed through the Edmonton Foodbank following a stringent handling and inspection process. This is done in coordination with both the general hunting season and cull hunts to support the CWD management program. Usually between 15 and 20 thousand pounds of wild game is donated annually by hunters to this program. Last year was an exceptional year with over 30,000 pounds donated.

Jim Thomson
Alberta Hunters Who Care
22 Lindsay Cres.
Spruce Grove, AB
T7X 3W8
james_w_thomson@transalta.com 780-962-9452

Weed Wise Alberta

Alberta Invasive Plants Council

Grant: \$31,000

The aim of this project is to raise the awareness of Albertans to the threat of invasive plants in our natural areas and to provide tools to reduce the impact of human-induced disturbances on the natural landscape. AIPC propose to do this by: 1.) Encouraging the protection and stewardship of Alberta's natural capital through the development of invasive plant educational tools aimed at fostering sustainable land use by industries, municipalities, landowners and recreationalists. 2.) Improving communications between environmental stewardship stakeholder groups through the promotion of effective and science-based invasive plant management. Educational tools, such as Weed Wise training kits and best management practices tip sheets, will be designed to complement existing land management guidelines and stewardship activities pertaining to invasive plant issues. The proposed resources are intended to enhance and expand upon information currently available to land use stakeholders. Deliverables will be: AIPC's Weed Wise training kits (a minimum of 3 discrete kits) by Dec 31, 2009. Each training kit will be made freely available to stakeholders and the public by March 31, 2010 on AIPC's website; Stakeholder presentations will be held throughout 2009, with training development, increasing communication and partnership opportunities

between stakeholder groups and promotion of the Weed Wise training resource as key objectives; 3) AIPC's website will be expanded to include pages outlining sustainable land use and stewardship practices in relation to invasive species and habitat management. Best management tip sheets will be included in AIPC's web resources within Weed Wise training kits and as stand-alone online resources by Dec 31, 2009; 4) Media promotions. Two to three articles with a land stewardship focus will be drafted for inclusion in AIPC's e-newsletter, The Invader (fall 2009 and spring 2010 issues). 5) If time and funding allow, additional supporting resources will be developed for inclusion with the Weed Wise training kits (e.g. an adaptive weed management plan template for stakeholder interest groups).

Vanessa Carney
Alberta Invasive Plants Council
PO Box 371, Station Main
Lethbridge, AB
T1J 3Y7
aipc.coordinator@gmail.com 403-317-2286

Adopt-a-Plant Alberta 2009
Alberta Native Plant Council
Grant: \$13,688

The Adopt-a-Plant Alberta (APA) program was initiated in 2005 and between 33 - 43 volunteers have participated in the program each year since 2006. Unfortunately most of the native plant species considered rare and potentially at risk in Alberta lack adequate information on their population sizes and distributions to determine whether they meet the criteria for protection (that is, to verify whether they are truly at risk). The specific objectives of the program in 2009 are to: 1.) Collect population/distribution data on 3 or 4 priority rare plants to allow them to enter the conservation status review process by 2010; 2.) Increase ANHC's database of population/distribution data of other target rare plants that will lead to these species' formal status evaluations, and whose locations ANHC can provide to industrial developers and resource managers to flag these locations during land use development/planning. 3.) Implement on-the-ground restoration activities for Threatened and Endangered species by providing volunteer support to recovery team/programs at no cost to these programs; 4.) Conduct a rare plant survey on at least one NCC owned property to help this organization steward its land; 5.) Produce an information pamphlet on the exotic species, baby's breath, which may be threatening several listed plant species and native grassland habitat, in general. 6.) Produce a report detailing APA's work/results in 2009 and also those from 2005-2008. APA has budgeted for 40 volunteers to take part in APA in 2009, which is consistent with the level of participation over the past two years. In addition to these volunteers surveying for their 'adopted' rare plant and lichen species throughout Alberta, APA are planning several group field events (led by one or more professional botanists) that will provide volunteers with opportunities to assist with other on-the-ground conservation and habitat stewardship initiatives. The deliverables include: rare plant and lichen data to ANHC; a pamphlet on baby's breath; report on APA's activities and results 2005 – 2009 to be published on ASRD's SAR program website.

Dana Bush
Alberta Native Plant Council
Box 52099 Garneau Postal Outlet
Edmonton, AB
T6G 2T5
cdbush@telusplanet.net 403-282-3975

2009 Grassroots Awards for Environmental Stewardship (3rd Annual)
Alberta Stewardship Network Society
Grant: \$1,290

The 3rd annual ASN Grassroots Awards for Environmental Stewardship program will consist of awards in three categories (Project, Group and Individual) and be presented at the 2009 ASN Stewards in Motion Workshop in June. The program recognizes the important contributions of community stewardship groups and passionate individuals in conserving and protecting local habitat. The program will be open to nominations from across Alberta. Each category recipient will be awarded: Use of the 'major award' (glass trophy) with their name engraved for one year; 'Companion' award consisting of a framed certificate and smaller trophy; and a \$250 cheque to a stewardship initiative of their choice.

Kevin Wirtanen
Alberta Stewardship Network Society
17503 - 45 Ave
Edmonton, AB
T6M 2N3
asn@landstewardship.org 780-483-5758

2009 Stewards in Motion VII Workshop **Alberta Stewardship Network Society**

Grant: \$2,350

Steward in Motion VII will be the 7th annual ASN's workshop serving to network, celebrate and build capacity among community stewards and stewardship groups. This year's workshop will be held in partnership with southern Alberta community stewardship groups at is tentatively scheduled to be held in Pincher Creek or Granum in early June. The 2009 Stewards in Motion workshop will invigorate, network and build capacity among community stewards from across the province.

Kevin Wirtanen
Alberta Stewardship Network Society
17503 - 45 Ave
Edmonton, AB
T6M 2N3
asn@landstewardship.org 780-483-5758

Conservation Discovery Education 2009 **Ann & Sandy Cross Conservation Area**

Grant: \$3,000

The Conservation Discovery Education Programs 2009 will engage over 6,100 youth in hands-on nature and conservation programming. The program is designed to expand knowledge, awareness and appreciation of conservation issues. It will improve critical thinking skills for creating positive change and contribute to participant action. The following programs are offered: School Programs – Provide on-site outdoor day school programs for 4,500 students that enhance the Alberta Education curriculum in science, social studies, math, art and physical education; Out Reach Programs - bring nature into the classroom for 1,600 students! These hands-on programs bring conservation discovery into the schools. Based on the Alberta Education curriculum, activities from six on-site day school programs are adapted for students to explore nature and conservation issues at school and in their own backyards. Self-guided Programs - Support for 360 participants in self-guided programs and hikes for groups such as Girl Guides, Boy Scouts and hiking groups.

Ann Mercier
Ann & Sandy Cross Conservation Area
Box 20, Site 23, RR # 8
Calgary, AB

T2J 2T9
amercier@crossconservation.org 403-931-1042

Elson's Nestbox Trail and Grid **Beaverhill Bird Observatory**

Grant: \$5,000

Elson's Bluebird and Tree Swallow nestbox trail was established in 1995. Elson passed away in 2002 leaving the trail unattended. BBO would like to re-establish the trail of 300 boxes, repair boxes as needed, clean them, and monitor them in 2009. Further BBO would like to add duck boxes to the Natural Area to monitor waterfowl breeding (designed by Ducks Unlimited). Finally, BBO are collaborating with the Golondrinas de las Americas project to monitoring two grids of 50 Tree Swallow boxes at Beaverhill Lake. These grids at Beaverhill have some of the highest reproductive rates in the North America and are of great interest to researchers (Tree Swallows are associated with wetlands and their presence indicates a healthy wetland complex). Project objectives are: 1.) To repair and replace boxes along Elson's Nestbox trail as needed; 2.) To collect data on 100 nestboxes at Beaverhill Lake and contribute data to the Golondrinas de las Americas project; 3.) To collect data on nesting success, number of eggs, number of young produced, and non-native species use on these trails and grids; 4.) To build and establish a network of duck boxes at the Beaverhill Lake Natural Area 5.) To establish a network of volunteers to collect data in future years and make a video.

Matt Hanneman
Beaverhill Bird Observatory
Box 1418
Edmonton, AB
T5J 2N5
mhanneman@hotmail.com 780-485-4907

Beaverhill Lake Natural Area, Stewardship and Monitoring **Beaverhill Bird Observatory**

Grant: \$6,000

The project objectives are: 1.) to complete fencing around the Natural Area to protect it from cattle that are able to access the area due to low water levels; 2.) to monitor the migrating and breeding birds (including waterfowl, shorebirds, and songbirds) and the habitat at the weir (between Lister and Beaverhill Lakes) to determine the success of the fencing (this is where water is present throughout the summer and where cattle damage to the wetland is most prevalent); 3) to monitor migrating and breeding birds in the Natural Area in 2009; 4) to conduct two major interpretive presentations on-site and at least three off-site to inform the public of the importance of the Natural Area and the presence of birds as an indicator of the health of the ecosystem. The following activities will be carried out: Fencing on the north and northeast sides of the Natural Area; Monitor migrating birds (waterfowl, shorebirds, and songbirds) in the Natural Area and at the weir; Host event 'Big Birding Breakfast' on site highlighting the birds on migration to the boreal forest; Monitor breeding birds in the Natural Area including the weir; Monitor habitat at the weir to determine success of the fencing; Monitor migrating birds in the Natural Area and at the weir; host the 'Steaks and Saw-whets' event on site highlighting the fall migration; report writing and data submission to SRD and public presentations.

Lisa Priestley
Beaverhill Bird Observatory
Box 1418
Edmonton, AB
T5J 2N5
lisa@beaverhillbirds.com 780-918-4804

The Prairie & Parkland Marsh Monitoring Program: years 2-5

Bird Studies Canada

Grant: \$25,000

Among the most urgent management needs for populations of wetland-associated birds is the conservation of wetland habitats. The Prairie Habitat Joint Venture (PHJV) delivery area is identified as the most important waterfowl production area within North America. The myriad wetlands that make this ~ 1.2 million km² region important to waterfowl also make it valuable to a host of other species, especially waterbirds. The project goals are: to gather geographically extensive and statistically-robust data to inform on species-habitat relationships and spatial variation in waterbird distribution for the PHJV delivery area; and to develop spatially-explicit DSS models that will serve efforts to conserve and manage habitats for waterbirds with the PHJV area. Project objectives are: 1) Complete development of a sampling design that incorporates spatial and temporal replication; 2) Establish and ground-check survey station sites; 3) Initiate PHJV-wide waterbird sampling; conduct avian surveys and vegetation/habitat sampling at selected sites over the 3-4 year study period; 4) Begin a volunteer recruitment program; it is expected that combined efforts of paid staff and volunteers (citizen scientists) will deliver the PPMMP, but it is likely that the program will need to rely heavily upon paid staff during the inaugural 3 years. The deliverables include reports including details on the sampling design; an appended copy of an electronic database that includes georeferenced bird survey data; an associated meta database that describes the structure and nature of the data in the database; a section describing field methods employed and data analytical procedures used to analyse project field data; a comprehensive results section that reports the results of analyses; study conclusions and recommendations; appendix of any pertinent project related photographs, and video footages; appendix of MMP promotional material used to communicate the project to partners and public.

Kiel Drake

Bird Studies Canada

115 Perimeter Road

Saskatoon, SK

S7N 0X4

kdrake@bsc-eoc.org 306-249-2894

A comprehensive fisheries study on Bighill Creek

Bow Valley Habitat Development

Grant: \$10,506

The primary objectives of this proposed fisheries study are as follows: 1.) To identify and document any spawning activity by sport fish on Bighill Creek; 2.) Confirm the successful incubation of trout eggs on Bighill Creek and Millennium Creek; 3.) Determine whether juvenile trout are utilizing small feeder springs along the Bighill Creek; 4.) Collect baseline data on water quality on all feeder springs to Bighill Creek and the main stem of Bighill Creek; 5.) Assess the fish habitat and identify any negative impacts on water quality on Bighill Creek; 6.) Conduct a volunteer angling survey to assess the existing sport fishery on the stream; 7.) To outline possible measures to improve fish habitat and water quality along the Bighill Creek; 8.) A thermal logging program of the Bighill Creek annual water temperature range will be completed. A trout trapping program will begin April 2009 on the Bighill Creek to determine the success of the incubation of both brook trout and brown trout eggs from the 2008 fall spawning period. Trapping of all small feeder springs along the creek will also be carried out during the summer months of 2009. Water quality sampling and analysis will also be completed over the summer months. During August 2009, a fish habitat assessment will be completed along the entire reach of the Bighill Creek. Starting in the fall 2009, another spawning survey will be completed, as a follow up to the one that was carried out in 2008. During the open angling season of 2009, a volunteer angling survey, using catch and release methods, will be completed on the Bighill Creek.

Guy Woods
Bow Valley Habitat Development
#5 Glenport Road
Cochrane, AB
T4C 1G8
guywoods@telusplanet.net 403-932-4467

Phase 3 Riparian Area Fencing Project, Riparian Area Brochure Printing and Fish Pond Stocking at Aspen Ranch Outdoor Education Facility

Camps for Children Educational Association

Grant: \$3,000

The objective the Phase 3 riparian area fencing project is to protect the riparian areas on Aspen Ranch and to make them accessible to the general public for the purpose of educating them as to the importance of such areas, as well as, to help them become aware of the flora and fauna of the area. The project activities include printing a riparian area brochure for the self-guided tour for these areas; fencing; and fish pond restocking. The ranch holds a provincial license to stock Rainbow Trout and Grass Carp for recreational fishing at the ponds on the ranch. These are made available free of charge to visitors. Guests are to use barbless hooks and are to practice catch and release.

Dante Muzzo
Camps for Children Educational Association
2609 - 6 Street NE
Calgary, AB
T2E 3Z4
demuzzo@cbe.ab.ca 403-771-0945

SAR in the Castle Wilderness

Castle-Crown Wilderness Coalition

Grant: \$17,000

Castle-Crown Wilderness Coalition's (CCWC) staff, hikers, and volunteer stewards are the largest cohort of eyes on the ground in the Castle Wilderness. CCWC wants to tune those eyes to the possibility of seeing Species-at-Risk, and being aware of likely habitat, reporting their observations to the appropriate agencies, and making the information public in appropriate ways. The specific project objectives are to: - Discover who else is working on SAR in the Castle Wilderness, and collaborate as appropriate; - Train CCWC's staff and interested volunteers as SAR spotters; - Search for, and report sightings of any known species at risk as well as Data Deficient species, reporting to appropriate agencies e.g. Alberta Fish and Wildlife, Fish and Wildlife Management Information System database and/or the Alberta Natural Heritage Information Centre; -Create outreach materials and do public outreach as appropriate. CCWC plan to hire staff in April, recruit volunteers and begin outreach with May AGM; train staff and volunteers; generate with partners a list of prioritized needed tasks by early July; improve damaged areas that our staff and volunteers can appropriately take on, such as, remove invasive species where appropriate; sample algae in Grizzly Lake and possibly elsewhere, as a concern has been reported about algae mats, bioengineer eroded stream banks as appropriate; ensure that debris is removed from old broken bridges. All information will be posted to the website, shared with the media and incorporated into public presentations.

Judy Huntley
Castle-Crown Wilderness Coalition
Box 2621
Pincher Creek, AB

TOK 1W0
office@ccwc.ab.ca 403-627-5059

Big Hill Creek Habitat Enhancement and Interpretive Sign Project **Cochrane Branches and Banks Environmental Fdn**

Grant: \$3,000

Branches and Banks seeks to provide opportunities for the citizens of Cochrane and surrounding communities to enhance the local natural habitat while learning to appreciate the connection between their community and the larger Bow River watershed. The 2009 project will be a two day project. This is a significant expansion for Branches and Banks. The extra day will be directed at developing a sense of stewardship with school age participants drawn from five schools in Cochrane. Working in cooperation with the schools and the many links to curriculums a smaller version of the public event will be held on Friday June 5. Both project days will involve a creek clean-up, removal of invasive species and the planting of a total of 1500 – 2000 native trees and shrubs. There will be an environmental education program on-site on the planting day, where specialists will speak to small groups of the participants during the day to highlight the ecology of the area. In addition, Branches and Banks will use the experience gained during our first sign project to develop a second interpretative sign, which will show many of the species living in the Big Hill Springs Creek.

Tim Giese
Cochrane Branches and Banks Environmental Fdn
c/o 20 West Copithorne Place
Cochrane, AB
T4C 1J3
gieset@telus.net 403-932-5640; 403-250-4762

2010 Alberta Environmental Stewardship Calendar **Cows and Fish**

Grant: \$3,000

The objectives of this calendar are: 1.) to engage environmental stewards in Alberta to implement environmentally sustainable land management practices in order to enhance wildlife and fisheries habitat; and 2.) to distribute calendars to stewards, landowners, conservation agencies and stakeholders as an environmental education and outreach tool. A committee consisting of numerous environmental agencies will collaborate to: 1.) solicit funding from environmental agencies to fund the calendar; 2.) organize a photo contest, wherein photos are submitted to the committee in the following categories: grazing management, integrated crop management, nutrient management, people in agriculture, rural landscapes, soil conservation, water bodies and riparian management, wildlife and habitat conservation, winter scenes and woodlot management; 3.) write educational and environmentally inspiring facts to accompany each photograph; 4.) hire a publisher to print the calendar; and 5.) distribute calendars.

Norine Ambrose
Cows and Fish
2nd Floor, YPM Place, 530 8th Street South
Lethbridge, AB
T1J 2J8
nambrose@cowSandfish.org 403-381-5538

Developing urban fisheries improvements and enhancing riparian sites
through stewardship

Cows and Fish

Grant: \$20,000

The project objectives are to: 1.) Engage and work with riparian landowners within residential areas; 2.) Identify issues from residential riparian areas; 3.) Provide suggested improvements to all landowners and their groups to target riparian issues, including through 20 follow up requests; 4.) Provide learning and hands-on opportunities to understand how to address identified issues at 3 knowledge and management enhancement events. 5.) Provide urban riparian and fisheries related enhancement information to urban naturalists. 6.) Evaluate and share results of urban riparian enhancement project with broad audience. In order to develop and improve the urban fisheries opportunities, Cows and Fish will focus on improving riparian habitat within urban and developed areas, through several activities. One key activity will be identifying issues and evaluating the current status of health, followed by providing management techniques information to the landowner and the group. As part of this process, individual landowner visits will help identify current management, concerns and areas to focus on that promote urban fisheries and riparian stewardship. To support the promotion of an urban fishery within the community as well as specific riparian landowners, Cows and Fish will provide educational learning and hands-on training to better understand the riparian area, including its value for fish habitat. In the coming year, they will work with individual residents who are riparian homeowners along the Elbow and Bow Rivers, with support from the City of Calgary. Cows and Fish will promote improvement in the urban fishery through several local community events like the Branches and Banks event in Cochrane.

Norine Ambrose
Cows and Fish
2nd Floor, YPM Place, 530 8th Street South
Lethbridge, AB
T1J 2J8
nambrose@cow sandfish.org 403-381-5538

Ecology and Population Affiliations of Moulting and Fall Staging Barrow's Goldeneye at Cardinal Lake, Alberta

Ducks Unlimited Canada

Grant: \$18,000

Barrow's Goldeneye (BAGO), a relatively uncommon diving duck with a world population estimated at less than 200,000 birds, spend up to four months per year on moulting and fall staging habitats, yet we have very little understanding about the ecology of this species during this period. As a result of recent satellite telemetry research on BAGO by Environment Canada and Simon Fraser University, and post-breeding waterfowl surveys in the Boreal Transition Zone by DUC, approximately 4-5,000 moulting and fall staging BAGO were discovered on Cardinal Lake in the Peace Parklands of northern Alberta. This number of birds is roughly equivalent to the entire eastern North American BAGO population, placing it among the most important sites currently recognized for this species. The discovery of this significant post-breeding site provides an important and readily accessible opportunity to investigate the poorly understood moulting and fall staging ecology of this species. Furthermore, the ability to capture and mark large numbers of BAGO at this site will help advance recent efforts to develop a better understanding of population structure and cross-seasonal habitat affiliations within the Pacific population of BAGO. Finally, it is also important to recognize that an area on the northeast shore of Cardinal Lake and an alternative site on the outlet river from Cardinal Lake (i.e., Whitemud River) are currently being considered as potential locations for western Canada's first nuclear power plant. It is essential to better understand the ecology of moulting and fall staging BAGO at Cardinal Lake to accurately predict the impacts of this proposed development on this species. This study will help accomplish that objective in addition to providing a much greater understanding of BAGO moulting ecology and subpopulation units within the Pacific BAGO population.

Jonathan Thompson
Ducks Unlimited Canada

#200, 10720- 178 Street
Edmonton, AB
T5S 1J3
j_thompson@ducks.ca 780-930-1249

Stewards Network for Alberta's Important Bird Areas

Federation of Alberta Naturalists

Grant: \$15,000

The overall goals are to preserve critical bird habitat in the province. Important Bird Areas (IBAs) are priority areas where threatened, restricted-range, biome-restricted and congregatory birds occur. The IBA program has been developed to recognize, monitor and protect these critical areas. The program is a cooperative initiative among individuals and local, provincial, national and international organizations that recognize the importance of birds. Together, these people and organizations are working to ensure that bird 'hot spots' are maintained. In Alberta the majority of IBAs are associated with water bodies and as such will help ensure that recreational opportunities are maintained and enhanced. This project has the following objectives: 1) Develop material that will be used to attract more local individuals and groups into taking on stewardship activities at IBAs across Alberta. 2) Compile a user friendly information collection package for IBA stewards, ensuring that stewards look for and collect similar information when they visit their IBA. 3) Obtain stewardship coverage at 50% of Alberta's IBAs (24 sites). In principle, FAN will be looking for at least a 5-year commitment from stewards. Even though some stewards will be active during the 2009 season, the focus in 2009 will be on getting stewards in place for the 2010 season. During 2009 the resources will be created that will be used to build partnerships among groups and organizations that are active at IBAs in Alberta and to attract stewards. Deliverables include: A pamphlet to showcase the IBA Stewards Network; two short videos of Alberta's IBAs, which will be posted on the FAN website and used for education & outreach; Media releases; A project summary article will be written for the fall issue of Nature Alberta.

Glen Semenchuk
Federation of Alberta Naturalists
3rd Floor, Percy Page Centre, 11759 Groat Rd
Edmonton, AB
T5M 3K6
glens@fanweb.ca 780-427 8124

Riparian Water Quality Improvement Project

Federation of Alberta Naturalists

Grant: \$20,000

For a number of years FAN has conducted projects focusing on the relationship between natural shorelines and shoreline communities by ensuring that permanent and seasonal residents have the knowledge and tools necessary to understand their effect on fisheries, habitat or wildlife resources and water quality in their communities. This three year project is intended to build on this base and focus on the users of the shorelines to engage them as stewards of that landscape. The ultimate goal is to have shoreline residents achieve sustained behavioural change resulting in improved water quality, and fish and wildlife habitat along natural lakes. The FAN strategy incorporates the delivery of the following project tools to Alberta's lake-shore communities thus building local capacity for positive stewardship of fisheries, habitat and wildlife resources: The Shoreline Resident Consultation is a component of the project that teaches residents about the positive actions they can make to maintain healthy shorelines; The Workshop-in-a-box is a tool developed to educate local citizens and community groups, such as cottage associations, municipalities, and land owner associations and others so that they may be strategic in their local shoreline efforts; The Shoreline Action Challenge acts as a catalyst and documentation tool for actual on-the-ground changes.

Deliverables include: delivering this project to the communities of Wabamun Lake, Moose Lake, Pigeon Lake, and Sylvan lake. 15+ trained community volunteers in Shoreline resident consultations and taking the Shoreline Action Challenge door to door. 5+ community groups in promoting shoreline values and shoreline-friendly lifestyle with tools such as the book, poster and Workshop in a Box modules will be supported; 20 presentations to target communities; 3 trained summer interns in Shoreline Consultations; 2 volunteer appreciation events per year; 60+ new households participating in the project and seeking to undertake at least one action to improve local stewardship; Shoreline Living Handouts topics such as septic systems and riparian areas and native plants.

Glen Semenchuk
Federation of Alberta Naturalists
11759 Groat Road
Edmonton, AB
T5M 3K6
glens@fanweb.ca 780-427-8124

Nature walking trails and birdhouse placement **Fort Saskatchewan Fish and Game Association**

Grant: \$2,000

Ft Saskatchewan Fish and Game Association wants to expand the trail system at their clubhouse/cabin located on approx 80 acres off of Range Rd 205 between Twp Rds 540 & 542. This property is located adjacent to the west boundary of Elk Island Park. Ft Saskatchewan FGA currently has a pond which will eventually be stocked with trout, some walking trails which need improvements. In addition to expanding the trail system, they want to install various bird houses along the trails & install informative signage regarding the diversity of wildlife found in this area for those people using the trail system. By expanding the trail system they feel more people will visit the site and enjoy nature and the wildlife. The trails will no doubt be used by wildlife, making travel in the area easier for them, especially in winter.

Jim Rowlett
Fort Saskatchewan Fish and Game Association
Box 3038
Fort Saskatchewan, AB
T8L 2T1
jarowlett@shaw.ca 780-992-2930 (work) 780-467-8711 (home)

Baseline Study of Amphibians in Fish Creek Provincial Park **Friends of Fish Creek Provincial Park Society**

Grant: \$3,000

This Amphibian baseline inventory is a continuation of an effort that began in 2008, in order to evaluate the current amphibian species status and distribution within Fish Creek Provincial Park (FCPP). Basically the Friends of Fish Creek are determining what identified species of amphibians inhabit FCPP, and where they exist within FCPP. Since Amphibians are an indicator species of the health of wetland ecosystems, the inventory of these animals across FCPP will help determine the state of the water and environment that sustains them. Volunteer Amphibian Monitors will continue to aid in the collection of data for this program as they did with the start of this program in 2008. In 2009, water quality testing in some of FCPP's natural and engineered wetlands will be applied to this ongoing Amphibian Monitoring Program. Six of 27 pre-determined and GPS recorded wetland sites within FCPP (where amphibian monitoring was conducted in the 2008 season), will be tested once in the spring, and once again in the early fall. In 2009, another 3-5 engineered wetland sites will be added to the program. Specific parameters will be tested for in order to determine the water quality of these six chosen wetland sites. This will be compared to the acceptable water

quality levels that sustain wetland ecosystems in Alberta. The acquired data and information will assist in the development of management and conservation strategies in compliance with the FCPP Management Plan, and support the Friends' of Fish Creek Provincial Park Societies mission to protect, preserve and enhance the diverse natural and human heritage found in FCPP.

Vaughn Hauser
Friends of Fish Creek Provincial Park Society
PO Box 2780
Calgary, AB
T2P 0Y8
vaughn@friendsoffishcreek.org 403-238-3841

Maintaining and operating of existing aeration system **Friends of Kerbes Pond Society**

Grant: \$1,200

Friends of the Kerbes Pond Society (with funds donated & raised) were able to install an aeration system. With membership help the power and aeration system were installed and operating by June 2008. The monthly power bill varies from 70 to 100 dollars and the pump will not last forever. With ACA support they can keep this system operating and possibly look to installing some windmills.

Friends of Kerbes Pond Society
Box 418
Erskine, AB
T0C 1G0
circle4@telusplanet.net 403-740-2627

Rattlers, People & Parks: Lethbridge Rattlesnake Conservation Program **Helen Schuler Nature Centre**

Grant: \$1,500

The objectives of this project are: to increase awareness and appreciation by city residents for the population of Western Prairie Rattlesnake living within the city limits; to raise awareness in residents living in and around Western Prairie Rattlesnake habitat that this species is "Blue-listed" in Alberta and therefore may be at risk. Three distinct interpretive signs will be designed. 1000 information brochures will be distributed to residences in Lethbridge where there is a high level of Western Prairie Rattlesnake/ human contact. Four interpretive programs ("point of contact") will be developed and delivered in areas of Western Prairie Rattlesnake habitat in 2009 and there will be a guest speaker at the Helen Schuler Nature Centre on the topic of the Western Prairie Rattlesnake. It is anticipated that, due to this project, local residents will be able to list at least 2 ways in which they can contribute positively to the successful conservation of the Western Prairie Rattlesnake and will be able to list at least 3 ways in which they can decrease their own encounters with the Western Prairie Rattlesnakes. A sample of residents will be surveyed about their opinions and knowledge of the Western Prairie Rattlesnake in late spring and again in early fall to see if awareness has increased as a result of this program.

Becky Little
Helen Schuler Nature Centre
C/o City Hall, 910 - 4th Avenue South
Lethbridge, AB
T1J 0P6
blittle@lethbridge.ca 403-320-3064

2nd Annual City-Wide Coulee Clean-Up

Helen Schuler Nature Centre

Grant: \$2,500

The Lethbridge river valley is home to hundreds of species of birds, animals and flowering plants. Each year garbage and debris gets caught in the coulees turning these unique, naturally formed features into unsightly spots that have the potential to injure the wildlife species that call them home. By cleaning the coulees through garbage removal, and the inclusion of invasive weed removal in 2009, this clean-up initiative demonstrates positive action in protecting our natural landscape. Through the coordination and training of volunteers the Helen Schuler Nature Centre teach the community the values of habitat protection and environmental stewardship by enhancing their awareness of nature and by giving them the educational tools to recognize and incorporate these values into their day to day lives. The specific objectives are: to increase the number of volunteers from 350 participants to 450 participants; to increase the amount of coulee square footage cleaned by 25%; to train 100% of volunteers about the risks of invasive plant species; to train 25% of volunteers to identify at least 3 invasive plant species to Southern Alberta; to train 25% of volunteers to identify 3 plants native to the mixed grass prairies of Southern Alberta; and to increase public awareness of the project using 1 new media source. Deliverables include: a series of media advertisements, Public Service Announcements and public presentations; Clean-up kits, including an information package; Results will be displayed in the Exhibit Room; Photographs will document various groups and material collected; and a celebration event for volunteers.

Becky Little
Helen Schuler Nature Centre
C/o City Hall, 910 - 4th Avenue South
Lethbridge, AB
T1J 0P6
blittle@lethbridge.ca 403-320-3064

Nest Box deployment with youth to inspire stewardship

Andrew Stiles

Grant: \$2,500

This is a habitat enhancement project aimed at giving youth a chance to take a positive role in preserving wildlife close to home (Calgary to Canmore area). This project will be an intro point with rural citizens and First Nations youth to guide them towards other stewardship activities within their reach. While the birdhouses themselves are a benefit to the environment, it is the culture of stewardship they hope to build and leverage for long-term results. They will: Build and deploy 300 bluebird nest boxes with rural youth; Build and deploy 30 duck boxes on First Nations Land and NCC properties; Build and deploy 2 Osprey platforms.

Andres Stiles
Individual
8840 33 Ave NW
Calgary, AB
T3B 1M5
andrewprestonstiles@yahoo.ca 403-288-0733

Bat Hibernacula Monitoring in Alberta Caves - A Volunteer Monitoring Program

Chuck Pristley

Grant: \$5,289.90

The project objectives are to: 1) conduct a winter hibernating bat survey in Wapiabi Cave during the 2009/2010 season and 2) determine whether hibernating bats in Wapiabi Cave have the fungal pathogen, White-nose Syndrome. Sections of the cave (65% of the cave) were surveyed during the winters of 1999 and 2008. In addition to re-sampling those sections, bats will be counted in the 'French Extension' portion of the cave. Wapiabi Cave is located 25km west of Nordegg along the boundary between the Foothills and Rocky Mountain Natural Regions. This cave will be visited during October 2010. An article will be submitted to "Nature Alberta".

Chuck Priestley
PO Box 1013
Tofield, AB
T0B 4J0
chuckp@strixenvironmental.ca 780-984-6957

Reproductive ecology of endangered populations of limber and whitebark pine in Alberta

King's University College

Grant: \$15,000

In December 2008, limber and whitebark pine were listed provincially as endangered, in light of ongoing infestations of mountain pine beetle and white pine blister rust (WPBR) that are preventing seed production and killing recent regeneration in many infected populations. Conserving these species will require rapidly identifying populations where the capacity for natural population growth exists, and targeting populations that are declining for mitigation measures. Key aspects of the reproductive biology are poorly understood in these species, particularly relating to interannual variation in cone production, the synchronous production of large cone crops (masting), and the role of seed predators in limiting the availability of seed; collectively these factors determine the success of natural regeneration. The number of cones remaining on trees after squirrel cone harvesting (after mid-August) is a highly visible indicator that may reflect populations with the capacity to grow. Cone predation is however subject to a variety of stand composition factors, that likely influence squirrel use and interannual fluctuations in squirrel populations. Identifying stands that require mitigation measures, primarily by percent mortality of pines, and by tree species composition, would greatly accelerate recovery planning. The project objectives are: 1.) To determine whether cone predation and regeneration differs in limber and whitebark pine forests that occur in single species stands versus stands with two or more conifer species; 2.) To determine whether cone predation and regeneration declines with white pine blister rust (WPBR) infestation levels in limber and whitebark pine forests; 3.) To examine recent cone production trends in limber and whitebark pine populations relative to WPBR infestation levels to guide recovery efforts (planting disease resistant seedlings). Deliverables include: Population viability assessments for a minimum of 16 Limber Pine populations, including a first estimate for Alberta of cone predation by red squirrels in limber pine, recent cone production trends (1998-2010) in endangered conifers of the foothills, 2010 seedling regeneration trends in limber pine of the foothills, and an updated WPBR infestation census for 16 populations. An Annual Report to the Whitebark and Limber Pine Working Group, and Provincial Recovery Team on project status will be produced.

Vernon Peters
King's University College
9125 50th Street
Edmonton, AB
T6B 2H3
vern.peters@kingsu.ca 780-465-3500 ext. 8127

Ecology, conservation, and populations dynamics of mountain goats in Alberta

Laval University

Grant: \$18,683

Based on the long-term study of mountain goats at Caw Ridge and aerial surveys of several populations that have been subjected to different management regimes throughout Alberta, project objectives are to: a) measure variation in individual survival and reproductive success in both sexes using marked animals; b) identify the causes of this variation (linked to density dependence, individual quality, climate, fecal crude protein, Normalized Difference Vegetation Index (NDVI)); c) quantify variation in mortality and population sex-age structure among years; d) document for the first time the reproductive strategies and reproductive success of males using genetic markers; e) identify the factors (including hunting) that affect population size and that are therefore important for management; f) monitor the dispersal of juvenile mountain goats; g) examine whether mountain goats can habituate to helicopter and all-terrain-vehicle traffic. They have documented many cases of male dispersal off the study area, and will continue to monitor radiocollared young males for evidence of dispersal. 4 new radiocollars will be installed on 2-year-old males in 2009. During aerial surveys, telemetry will be used to search for radiocollared goats that may have emigrated from Caw Ridge. This project has direct applications for the mountain goat management strategy in Alberta, and has general applications for the conservation and management of other large mammals. Their approach is unique because it combines two types of long-term data bases: one on individuals within a population, the other on different populations subjected to different management regimes.

Steeve Côté
Laval University
1045, ave de la Médecine
Quebec, QC
G1V 0A6
steeve.cote@bio.ulaval.ca 418-656-2131 ext. 3490

Migratory and Breeding Bird Research in Northern Alberta

Lesser Slave Lake Bird Observatory

Grant: \$22,000

The research objectives are: 1.) To document population status and trends of migratory and breeding avian species within the Slave Lake Area; 2.) To maintain the ongoing core avian monitoring programs of the LSLBO including spring and fall migration monitoring program (12 nets), MAPS Program – the study of local breeding bird populations including productivity and survivorship (4 sites), and the Northern Saw-whet Owl Fall migration monitoring program; 3.) Continuation of the Canada Warbler Research project, a species identified as threatened by COSEWIC; and 4.) Completion of the second peer reviewed paper by the LSLBO on the Feather Molt project. The education and stewardship objectives are: 1) To increase public awareness of conservation issues regarding migratory & resident birds in the Boreal Forest; 2.) To increase public understanding of the importance of the boreal forest ecosystem for avian breeding populations; 3.) To improve the LSLBO and Boreal Centre websites to provide better information on the LSLBO research programs and conservation issues. 4.) Development of new environmental education programs for regional schools and local community that highlight the social, environmental and economic values of birds and animals in Alberta. The project deliverables include: the LSLBO Annual report; a list of any reports where the LSLBO data is cited; a list of education programming developed and delivered by the LSLBO educators; monitoring data; LSLBO newsletters; journal publications; and promotional materials developed for the LSLBO research programs.

Patti Campsall
Lesser Slave Lake Bird Observatory
Box 1076

Slave Lake, AB
TOG 2A0
executive.director@borealbirdcentre.ca 780-849-8240

Soil bioengineering and bank enhancement along the Oldman River

Lethbridge College

Grant: \$3,000

The project objectives are: 1.) to enhance and stabilize streambanks in key areas along the Oldman River, within the Helen Schuler Coulee Centre, Lethbridge, AB.; 2.) to mitigate soil erosion that is occurring at these key locations with native vegetation planting; 3.) to utilize these activities as a means to encourage public participation and awareness (urban setting); 4.) to utilize the site(s) as a hands-on, educational experience in bioengineering for college students in Environmental Science; 5.) to enhance cooperation between government and non-government organizations. The project will receive local advertisement to encourage public awareness and support. Bioengineering methods employed will be documented and site(s) will be monitored in subsequent years to determine success of project. Signage at the site will be erected to educate public and advertise project contributors.

John Derksen
Lethbridge College
3000 College Drive South
Lethbridge, AB
T1K 1L6
j.derksen@lethbridgecollege.ab.ca 403-320-3202 ext 5241

Developing a private land conservation strategy for the Crowsnest Pass

Miistakis Institute

Grant: \$20,907

The Crowsnest Pass is fragmented by Highway 3, a major transportation corridor with a local population of 6,000 people living within five principal settlements spread out along the highway. The region is also facing future developments that may further complicate wildlife movement through the region. The high percentage of private land along the Hwy 3 corridor highlights the important role of private land conservation initiatives within this region. A number of groups and individuals are currently active in the Crowsnest Pass region, targeting various geographic areas and conservation issues. Several of those have a mandate to conserve private lands. However, progress in private land securement over the past 10 years, while seeming promising, has been limited. The project objectives are: 1.) to understand the role of private land conservation within the region in relation to the broader conservation goals and associated government agency mandates; 2.) to understand different land trust mandates, roles and interest in securing land in the Crowsnest Pass; 3.) to review private land conservation tools appropriate to the region (fee simple land acquisition, conservation easements, land swaps and transfer of development credits); 4.) to identify land parcels with opportunity for securement; 5.) to identify potential cost of private land conservation through land securement; 6.) to provide recommendations for a comprehensive securement strategy for the Crowsnest Pass region. The project deliverables include: 1.) A report containing a summary of interview results with land trusts & land management agencies, identified opportunities and gaps in relation to development of a land securement strategy, potential securement tools for the region, land parcels where potential securement opportunities exist, recommendations for moving forward with a comprehensive securement strategy. 2.) An understanding by different stakeholders of their role within the broader landscape of maintaining healthy wildlife populations within the region. 3.) Partnerships between land trusts working in the region. 4.) An understanding of the cost associated with private land securement within the region. 5.) Workshop with stakeholders to present recommendations for moving toward a comprehensive securement strategy.

Guy Greenaway
Miistakis Institute
2500 University Drive NW
Calgary, AB
T2N 1N4
guy@rockies.ca 403-220-8968

Riparian Area Management Improvements **Mountain View County**

Grant: \$25,000

The project objectives are: to improve the health of the riparian areas and wildlife habitat in Mountain View County and local watersheds; to improve riparian health to increase opportunities for anglers; to increase awareness of sustainable agriculture and new rules & regulations; to increase the number of livestock producers that have taken steps to protect riparian areas and waterways, amongst others. Areas targeted will be lotic riparian areas where bull trout are present. A call for project proposals will be given to producers. Once applications are received the projects will be presented to our Agricultural Service Board for review and for approval for funding. The riparian projects that will be approved shall be ones that will improve the health and management of the area. A contract will be made between MVC and the landowner. The landowner will have to meet contract deadlines in order to receive the funding. Upon completion of the projects a project inspection will take place prior to the landowner being paid. Project profile sheets will be done for each project which will be made available and the results from the riparian health assessments will be made available. Tours of projects can be arranged.

Lesley Lovell
Mountain View County
bag 100
Didsbury, AB
TOM OWO
lesley.lovell@mountainviewcounty.com 403-335-3311 ext 163

Effectiveness and compliance monitoring of Nature Conservancy of Canada Properties in Alberta

Nature Conservancy of Canada - Alberta Region

Grant: \$44,000

The objective is to support and enhance NCC's conservation activities through annual monitoring of NCC properties. In 2009, NCC will be monitoring 209 properties that conserve approximately 155,000 acres (62,700 ha). To effectively monitor all these properties, NCC requires 16 Summer Conservation Interns across Alberta. NCC has confirmed funding for 12 intern positions. Under this specific project, NCC proposes to utilize four Summer Conservation Interns for monitoring NCC properties in landscapes of Bow Natural Area, Porcupine Hills Natural Area, Castle Crown Natural Area and Crowsnest Pass Natural Area for 44 properties totalling 31,600 acres (12,800 ha). Monitoring each property is done in reference to the Baseline Inventory that is completed for each property after it is conserved by NCC. The biodiversity present on each property is monitored, including wildlife and plant species inventories, range and riparian health and other effectiveness measures. A monitoring report is produced for each property monitored. Utilizing the baseline inventory and subsequent monitoring reports, NCC is able to establish effectiveness of the conservation work in terms of securement activities (targeting critical conservation targets) and ongoing stewardship of the properties for its conservation targets. Management plans are created from the information collected in the Baseline Inventory, with annual updates with the data collected during the monitoring process. Management plans are implemented by full-time Conservation staff as necessary. NCC

proposes native grassland and riparian habitat enhancement, as identified in property management plans. Habitat for Species at Risk and other wildlife will be enhanced through riparian and native grassland fencing. This fencing will remove livestock from riparian areas and will aid in native grassland management through better livestock distribution and providing adequate rest to the grasslands. NCC will install 8 km of fence on 3 properties. Data collected on species occurrence from the monitoring reports will be forwarded to the ANHIC and ASRD's FWMS database. Finalized monitoring reports and revised management plans will be available by spring 2010. Landowner toolkit will be distributed and website revised to include these documents and up-dates on the summer interns.

Renny Grilz
Nature Conservancy of Canada - Alberta Region
#830, 1202 Centre St SE
Calgary, AB
T2G 5A5
renny.grilz@natureconservancy.ca 403-262-1253

Blue-bird house project **Onoway and District Fish and Game Assoc** *Grant: \$700*

The project objective is to involve as many young people as possible in the construction and location of bird house, to make them more aware of the need for habitat for both birds and wildlife. The grant will be used to purchase the plywood and screws to construct approximately 160 birdhouses. Members volunteer their time and the tools needed to complete the job. The demand is high for the bird houses. All bird-houses are given out, as soon as construction is completed.

Ron Johnson
Onoway and District Fish and Game Assoc
Box 231
Onoway, AB
T0E 1V0
mjjohns@xplornet.com 780-9675236

Partners in Habitat Development **Partners in Habitat Development c/o Eastern Irrigation District** *Grant: \$18,000*

The PHD program is an initiative developed to mitigate for the loss of wildlife habitat in Southern Alberta agricultural regions. Degradation of wildlife habitat within the region can be attributed to many factors including urbanization, more intensive agricultural practices, upgrading of irrigation infrastructure and increases in industrial activities. The PHD program works with private landowners, watershed groups and other organizations to create, preserve and restore critical wildlife habitat areas. The emphasis of the PHD program is placed on creating habitat to benefit upland game birds. However other species also benefit from the positive increase in wildlife habitat. Important side benefits to the development and maintenance of wildlife habitat are improvements in water quality and an increase in carbon sinks which help combat the build up of greenhouse gases linked to global warming. Deliverables include: In excess of 75,000 trees and shrubs will be planted; A minimum of 15 kilometres of fencing will be installed; Creation of buffer strip vegetation adjacent to irrigation conveyance canals on a number of project sites; Reseed areas of marginal land to permanent grass cover; Distribution of Public Access signage and completion of Public Access Questionnaires; Youth planting days: Planting of habitat sites with Southern Alberta Scouts and local school classes; Establishing food plots in conjunction with participating landowners to leave standing grain through the winter for uses as an alternate food source for wildlife.

Margo Jarvis Redelback
Partners in Habitat Development c/o Eastern Irrigation District
PO Bag 8, 550 Industrial Road
Brooks, AB
T1R 1B2
margo.redelback@eid.ab.ca 403-362-1413

Invasive alien plant education, Alberta **Prairie Conservation Forum**

Grant: \$2,500

Invasive weeds are a growing concern in Alberta, with many species well established and taking over native ecosystems. The objective of this project is to make Albertans (the general public, educators, landowners, etc.) aware of this growing problem by providing information about what invasive weeds are, and what a person can do to help prevent the spread of invasive species. To this end, an invasive weeds display will be taken to events throughout Alberta (mainly environment week expos). Within the timeframe of this year's project, we wish to get the current invasive plants display to as many local events throughout Alberta as possible. The display will consist of a combination of Alberta weed posters, Alberta Invasive Plant Council banners and placemats, as well as real weed bouquets.

Don Watson
Prairie Conservation Forum
c/o Alberta Environment Southern Region, 2nd Floor, Provincial Building, 200 5th Avenue
South
Lethbridge, AB
T1J 4L1
d_watson@ducks.ca 403-328-3529

Small Mammal Wildlife Habitat Enhancement Berms: Wildlife Movement Across Pipeline Rights-of-way **Rangeland Conservation Service Ltd**

Grant: \$10,000

The purpose of this project is to determine if construction of small mammal wildlife enhancement berms provides a means of connectivity across newly cleared linear development features (e.g. pipeline or powerline rights-of-way). The specific objectives are to: Assess physical use of small mammal wildlife enhancement berms using animal tracking; Determine which species are using wildlife enhancement berms (species or family); Compare use of berms to other rights-of-way without berms; make recommendations to development industry for future clean-up activities; and evaluate whether future study should occur to include larger animals or other habitat enhancements (e.g. plantings). Deliverables include: A report summarizing the preliminary findings of the study and statistical analysis will be completed after the trial study. This report will propose ideas for future monitoring studies and recommendations for other types of berm designs that could be considered and studies in the future. This report should be made available to other industry members, government and consultant to contribute to improved understanding of this topic and best management practises.

Kalina Noel
Rangeland Conservation Service Ltd
502, 2903 Kingsview Boulevard SE
Airdrie, AB
T4A 0C4
knoel@rcsltd.ca 403-912-3940

Off the Creek Program **Red Deer County**

Grant: \$25,000

The Off the Creek Program will: 1) support Red Deer County (RDC) landowners in protecting and/or restoring riparian habitat on their land, by providing financial and technical resources for their on-the-ground projects; 2) protect and/or restore riparian habitat in RDC. This protection and/or restoration of the habitat will come about through fencing, off-stream watering, establishing buffer zones, and other riparian management projects, completed by participating landowners; 3) assist in the development of a riparian management plan for each of the completed projects. A "Call for Participants" will be issued to promote the Off the Creek Program (via articles and adverts, local watershed groups, etc.) asking interested landowners to contact the County's Conservation Coordinator. Detailed implementation plans will be developed with each of the interested landowners for each project, and will also involve ongoing riparian management plans for each project. RDC's Agricultural Services Board will review the individual project plans submitted by the landowner to provide an independent landowner perspective and experience to the projects, and to make final decisions regarding what funding will go to what project(s). Off the Creek Program Guidelines will be followed in their decision making. RDC and other partners, as appropriate, will contribute technical expertise to planning the projects, developing ongoing riparian management plans, etc. The projects will be monitored. RDC, and the landowners whenever possible, will conduct Riparian Health Assessments at the beginning of each on-the-ground project. Follow-up assessments will be done in later years, to compare to the baseline condition. Deliverables include: approximately 20 riparian habitat protection and/or restoration projects in RDC (by March 31, 2010), each with an associated Riparian Management Plan; at least 3 ads about the project and at least two articles; at least 5 "live" communications events (e.g. presentations) describing the Off the Creek Program; other presentations about the Off the Creek Program, in various formats, depending on the intended audience(s).

Ken Lewis
Red Deer County
38106 Raneg Road #275
Red Deer County, AB
T4S 2L9
klewis@reddeercounty.ab.ca 403-342-8653

Moths and Butterflies of Medicine Hat and Area **Society of Grassland Naturalists - Medicine Hat Interpretive Program**

Grant: \$8,000

The project objectives are: to coordinate a one year survey of the Lepidoptera of the Medicine Hat region; To include volunteers from experts and the public in the survey and events; to submit information to the Provincial collection, providing data which is presently lacking about the south east portion of the province; To present three public programs during 2009; to plant flowerbeds around the Nature Centre and develop backyard habitat attitudes and information; and to develop plans for interpretation beyond the end of this project. The Medicine Hat Interpretive Program (MHIP), as the non-profit group which provides programming for schools, special groups, and the public, is in the position to coordinate this survey and make use of the material for future programs. The survey and development of resources will be done by part time staff and volunteers. MHIP will host at least three events for the public during 2009: one will be a children's butterfly program, and the others will be sugaring for moths, and setting up lights to attract moths. The events will increase the understanding, appreciation, and acceptance of moths and butterflies. MHIP will redevelop the flower beds and planters with native species to promote backyard habitat. There will be a public event about this in 2010. MHIP will use the data collected in school programs.

Corlaine Gardner

Society of Grassland Naturalists - Medicine Hat Interpretive Program
Box 2491
Medicine Hat, AB
T1A 8G8
corlaine.mhip@natureline.info 403-529-6225

McLennan Pond Fishery Enhancement Project (Dock structure installation)

Town of McLennan

Grant: \$5,000

The main objectives of this project are: to promote utilization for angler harvest of the annually stocked rainbow trout (stocked annually by ACA/Province) in McLennan Pond (aerated since 2003); to meet the growing demand for a sustainable 'put and take' fishery; and to alleviate some of the fishing pressure on some of the neighbouring fishing lakes and rivers. The installation of dock structures will improve accessibility of the pond, improve safety, and permit a more enjoyable angling experience (especially for fly fishing since the banks are steep and/or impeded by shoreline willows).

Tammy Stout
Town of McLennan
Box 356
McLennan, AB
T0H 2L0
twmcl@serbnet.com 780-324-3065

Late Fall Fisheries Investigation in Diversion Canals of Southern Alberta

Trout Unlimited Canada

Grant: \$7,000

Numerous irrigation diversion structures exist on river systems and on-stream reservoirs in southern Alberta. However, most of these structures do not have operable fish exclusion devices to keep wild sportfish in our rivers from entering diversion canals. Wild sportfish that enter irrigation canals are generally lost to the fishery when canal structures prevent fish from returning to the river system. Until Trout Unlimited Canada's (TUC) Fish Rescues began in 1996, the extent of the problem was very poorly documented and received little attention. The 2008 effort included six different canals across southern Alberta. These canals utilize water and remove fish from the Belly, Oldman, Highwood and Bow rivers, Waterton Reservoirs. 22 different species were collected from these canals including bull trout, lake trout, northern pike, burbot, mountain whitefish, lake whitefish, rainbow trout, and brook trout. To date TUC has rescued over 624,000 fish from certain death. The project objective is to safely remove fish from these canal systems by use of various collection techniques, and then replace them into their home waters. A small staff of junior biologists is hired and trained in how to properly capture, identify and work with a variety of species. Training includes various sampling methods such as electroshocking, seine netting and dip netting. Another objective that has evolved over the course of this project is to educate volunteers of all ages about issues facing these species. It also provides a teaching opportunity to engage these volunteers and allows us to show them a wide variety of species, how to properly handle them and explain each species' role in the ecosystem. TUC plans to complete the same six canals in 2009.

Brian Meagher
Trout Unlimited Canada
160 6712 Fisher St SE
Calgary, AB
T2H 2A7
bmeagher@tucanada.org 403-209-5185

East Slopes Fishery Enhancement Program **Trout Unlimited Canada**

Grant: \$31,000

The project objective is to protect intact habitats, restore areas impacted by specific land use activities by optimizing cattle management activities in critical areas (with fencing projects), and engage locals with education programs (focused towards youth) that provides them the tools to have a positive impact in their watershed. This project will carry out work in several areas: Drywood Creek: re-establish the river's connectivity thereby permitting bull trout and other fish species passage into the Drywood Creek headwaters for spawning and rearing purposes; improve the water quality of the creek by enhancing the adjacent riparian habitat, carrying out education activities and working with landowners and the county to inventory and repair or modify other artificial barriers including hanging culverts. This will also involve the introduction of off-site watering technologies, innovative riparian management and educational activities; To monitor current populations in an attempt to collect baseline data to measure changes in the watershed over the course of the project. Bill Griffiths Creek: Improving fish holding, rearing and spawning habitat in a former side channel of the Bow River; Increasing awareness of local conservation issues as they relate to freshwater habitat through community based involvement and outreach with various volunteer efforts and educational opportunities; Developing proactive partnerships that establish worthwhile community conservation activities. Several other opportunities will be included e.g. bioengineering on Bearberry Creek. The project deliverables include: Reports on population estimates completed in the Drywood Creek watershed; Reports document all fencing projects along the Drywood Creek watershed; A report documenting the enhancement efforts along Bill Griffiths Creek including updated inventory work & a photo log of the 2009 work; A report of the Quirk Creek surface water quality monitoring project. Reports will be produced by partnership agencies detailing the brook trout removal efforts for 2009.

Brian Meagher
Trout Unlimited Canada
160 6712 Fisher St SE
Calgary, AB
T2H 2A7
bmeagher@tucanada.org 403-209-5185

Bow River Riparian Fencing Project **Trout Unlimited Canada - Bow River Chpt**

Grant: \$10,000

This project seeks to address the severe bank degradation, soil compaction, and slumping caused by cattle throughout much of the Bow River watershed, but specifically between Calgary and Carseland. In response, the Bow River Chapter of Trout Unlimited has devised a project that will manage cattle grazing activities along the river for the benefit of the river's ecosystem, recreational users, and landowners alike. TU Bow River Chapter's (TU BRC) goal with this project is to work with each landowner to help develop and implement the best grazing management strategy for each specific property. Following the completion of their first two projects, TU BRC has continued to approach landowners who are currently grazing livestock along the Bow River with this project and their response has been very positive. They realize that revitalizing the riparian part of their property will increase the yield and value of their land, as well as preserve the health of the river for future generations. TU BRC has two landowners who are potential participants in this project for the coming year. Given the success of this project, TU BRC will attempt to complete one or both of these projects, should adequate funding be made available. On these properties (as with the first two projects), exclusion fencing will be employed that will provide an ample buffer along the river. Further, TU BRC will ensure that an off-stream watering site is available for the owner's cattle, which will provide a supply of fresh water even in the absence of river access. Photographic documentation of the project as it is completed (including the recovery that has occurred since the project's completion).

Progress of the riparian area will be monitored, documenting the changes periodically. Finally, as both of project sites are in visible locations, informational signs will be posted which will include a list of project partners, providing excellent visibility for the project and its supporters.

Jeff Petersen
Trout Unlimited Canada - Bow River Chpt
Suite 160, 6712 Fisher St. SE
Calgary, AB
T2H 2A7
jeff_petersen@shaw.ca 403-923-3556

Urban Deer project
UACTWS (University of Alberta Chapter of the Wildlife Society)
Grant: \$1,500

The project goal is to study deer living in an urban environment, and seek ways to mitigate negative human-wildlife encounters. In particular, UACTWS is studying deer movements within an urban landscape with the aim of reducing deer-vehicle collisions. To this end, the main activity is a radio-telemetry program, in which deer are captured, collared, and radio-tracked within the city limits. These activities not only further our knowledge of deer, but provide the students that run the project with valuable research experience and training. The Urban Deer Project also has secondary projects such as a 2007 study of deer population density in Edmonton's river valley, and an ongoing experiment to gauge the effectiveness of deer-crossing signs in reducing deer-vehicle collisions. Deliverables include: annual public seminars on the Urban Deer Project in January, 2010; poster presentations at meetings & conferences. An annual report of the telemetry results is provided to ASRD in April of every year, and submitted to the FWMIS database.

Rob Found
UACTWS (University of Alberta Chapter of the Wildlife Society)
#8, 2-900 Student's Union Building, 8900 114 St
Edmonton, AB
T6G 2J7
found@ualberta.ca; uactws@ualberta.ca 780-479-7919 (home)

Evaluating the abundance of the Western Grebe (*Aechmophorus occidentalis*)
in Alberta
University of Alberta
Grant: \$3,000

Not only is the Western Grebe in decline in the province of Alberta, but their listing as a Species of Concern warrants special attention. Continued research can help provide the necessary basis for appropriate conservation strategies. Research has been done already to assess where the Western Grebe is likely to occur in Alberta's NE Boreal region, but further evaluation is needed to validate these models and to assess what changes in habitat may be responsible for this decline in abundance, and in some cases, total loss of colonies. Knowledge of these factors can aid in steering management efforts towards habitats that support critical Western Grebe populations, and those that are in danger of losing them. This project will address the following questions: 1) What factors influence Western Grebe abundance on a specific lake? How have these attributes changed in the past years on breeding, foraging, and historical breeding lakes? 2) Do the same factors determine both Western Grebe abundance and occurrence? (and if not) What combination of factors best predicts occurrence and abundance? 3) Are there any noted differences in the occurrence or abundance of grebes relative to habitat characteristics across different regions of Alberta? 4) At what scale is the decline of Western Grebe most critical? Activities include: ground-truthing aerial photos for 43 study lakes for emergent vegetation and current shoreline development; data compilation and

entry; continuation of model development; presence/absence surveys for Western Grebe (late April-July 2009). Analysis of orthorectified aerial photographs of study lakes for shoreline development, compare to historical photos to characterize changes; finalize predictions for detectability between August-October 2009. Final data analysis and model development; prepare final reports, and submit results for publication (Nov 2009). Results will be made available to appropriate agencies (i.e. ASRD) for the purpose of management recommendations as well as submitted for publication in journals and in presentations.

Mark Boyce
University of Alberta
CW405, Department of Biological Sciences
Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Management of earthworm invasions in Alberta

University of Alberta

Grant: \$3,000

Although considered beneficial in agriculture, earthworms can have significant negative impacts on forest structure and function when introduced to systems previously devoid of earthworms, as is the case in most of Canada. Some of the changes that have occurred following earthworm invasions of forests include reductions in thickness of organic layers, changes in carbon and nitrogen cycling, and decreased abundance and diversity of understory plants. The researcher's previous research has identified bait abandonment by anglers as a key pathway by which earthworms are introduced to forested systems. Because earthworms are extremely difficult to remove once they invade, prevention of invasions via awareness programs is believed to be the most effective method of control. Therefore, the primary objective of this project is to develop and implement a public awareness/education program to discourage anglers from dumping earthworm bait. Posters and FAQ sheets containing information on earthworm effects and proper bait disposal will be created and distributed. A website will also be developed to provide additional information. These measures should help to reduce bait abandonment and earthworm spread. An assessment of the program's effectiveness is planned, in collaboration with Dr. Michael Sullivan of ASRD by conducting before- and after-surveys of anglers which will include questions about bait abandonment and awareness of earthworm invasions. A secondary objective of this project is to examine their impacts on leaf litter decomposition and white spruce growth by conducting a greenhouse experiment. Effects will be investigated, both individually and as a group, of four earthworm species that are currently invading forests across Alberta.

Erin Bayne
University of Alberta
CW 405 Biological Sciences Centre
Edmonton, AB
T6G 2E9
bayne@ualberta.ca 780-492-4165

Russian Thistle (*Salsola kali*) impact on ungulate habitat in the montane grasslands of Jasper National Park

University of Alberta

Grant: \$8,500

The objective is to determine the effect of Russian thistle (*Salsola kali*) on native montane grassland habitat for wildlife. Specifically, this study will address how Russian thistle impacts wildlife forage by altering

native plant communities, methods to manage Russian thistle, and the role wildlife grazing has on Russian thistle establishment and persistence. Montane grassland ecosystems found within the foothills of the eastern Rocky Mountains provides critical winter range habitat for a number of ungulate species, such as elk and bighorn sheep. Invasion of non-native plant species can have a significant impact on the function and integrity of natural ecosystems. In Jasper National Park, large areas of Russian thistle have been observed in native montane grassland communities used for winter grazing by bighorn sheep and other ungulates. These areas of invasion have been increasing in size. Due to a large sheep population, it is believed that critical areas may be overgrazed. This reduced range condition may be permitting Russian thistle to become established and compete with already stressed native plant species, potentially reducing wildlife forage. Four study sites were established last year consisting of replicate plots of 7 treatments including a control. Vegetation assessments of the treatment plots will be repeated in June & August 2009. Deliverables include: Quantitative data on habitat impact, loss and recovery from Russian thistle invasion; Permanent monitoring plots for long term assessment of habitat recovery and use; Publication in a peer reviewed scientific journal (2010); Presentations at scientific and management meetings and annual reports to Parks Canada.

Anne Naeth
University of Alberta
Dep't of Renewable Resources, 855B General Services Building
Edmonton, AB
T6G 2H1
anne.naeth@ualberta.ca 780-492-9539

Floristic survey of Kootenay Plains and Coyote Lake Nature Sanctuary

University of Alberta

Grant: \$13,400

The main objective of this study is to conduct thorough floristic surveys of two important areas in Alberta: Kootenay Plains including the Kootenay Plains Ecological Reserve, the Thompson Creek and Crescent Falls provincial recreation areas, as well as selected areas outside these parks; and Coyote Lake Nature Sanctuary, a Nature Conservancy of Canada Property in Central Alberta. The specific objectives for each area are as follow: 1.) collect specimens of all vascular plant species surveyed, including introduced and rare species; 2.) identify collections to species; 3.) generate species lists for each locality; 4.) add collection information to their existing, searchable and online database; and 5.) deposit specimens in ALTA and with Nature Conservancy. At least four trips will be conducted to each of the two major areas throughout the growing season. Upon return from the field, all specimens will be identified to species, processed, mounted on archival-quality herbarium paper, and stored in our collections. Finally, specimen and collection information will be data based. Project deliverables will be: 1.) permanent records of all reproductive vascular plants from the two target regions, which will be housed in the Vascular Plant Herbarium; 2.) Data-based specimen information for all collections, which will be added to their on-going, publically available database; 3.) Documentation of rare plants, which includes a report to the Alberta Natural Heritage Information Centre ; 4.) Report of survey and species lists to the Provincial Government Parks and Protected Areas Central Region; 5.) A student trained in plant collecting, herbarium specimen processing, data basing and plant identification.

Jocelyn Hall
University of Alberta
Dep't of Biological Sciences, CW 405 Biological Sciences Building
Edmonton, AB
T6G 2E9
jocelyn.hall@ualberta.ca 780-492-8611

Predicting the spread of CWD from Saskatchewan into Southern Alberta **University of Alberta**

Grant: \$16,357

Chronic wasting disease (CWD) is a fatal transmissible spongiform encephalopathy (TSE) occurring naturally in North American mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*) and elk (*Cervus elaphus nelsoni*). CWD can cause ecological, recreational, and economic impacts from loss of ungulate species. The project's overall goal is to build a CWD-spread model using data from Saskatchewan (a similar region) to make preliminary projections on the rate and pattern of CWD spread in Southern Alberta where CWD currently exists. The specific objectives are to 1.) determine the factors that most influence probability of occurrence of finding CWD-infected deer in the ungulate harvest of 3x3-km² grid; 2.) to find the best model for predicting the probability of detecting CWD in the harvested deer over time; and 3.) to use that model to predict the rate and pattern of spread of CWD into southern Alberta from Saskatchewan. Once a model is built that predicts the temporal occurrence of CWD in harvested deer from spatial units over time based on data from similar habitats in SK, the researcher will use the model to predict the detection of CWD over time in grid cells within southern Alberta and compare these predictions to more limited data available for this region overtime. The deliverables include: reports on the results of the assessment of future occurrence and spread of CWD southern Alberta where no current analyses are available; data framework for updating this assessment over time; publications in local resource magazines; and inclusion in the Border Deer Study newsletter.

Evelyn Merrill
University of Alberta
Department of Biological Sciences
Edmonton, AB
T6G 1Z8
emerrill@ualberta.ca 780-492-2842

Effects of roads and road access management on grizzly bear (*Ursus arctos*) habitat use and movement.

University of Alberta

Grant: \$18,500

Because grizzly bear populations in Alberta have been declining, the provincial government is implementing access management restrictions to protect habitats, and reduce human-caused bear mortalities. The main objective of this project is to determine the effects of access management on grizzly bear habitat use and movement and thus assess its utility as a conservation tool. To reach this goal the specific objectives will be to: 1) examine grizzly bear habitat selection and movement near roads; 2) examine these relationships during times of different road access; 3) investigate the effects of scale on these relationships; 4) evaluate the effectiveness of gating roads on seasonal human use of the roads; and 5) develop predictive models that will aid managers and planners. Results of the work outlined in this proposal will provide valuable information on the general effects of roads on grizzly bear habitat use and movement. The relationship between bears and roads is confounded by the habitats surrounding roads. Therefore, this study allows for control of as many factors as possible, and thus better determines the effects of roads and access management on grizzly bear habitat use and movement. Furthermore, the design of this study will test the efficacy of using gates to control motorized access, necessary for future access management. With the information gained from this project, managers will be able to target roads whose closure will have the greatest positive impact on grizzly bears, and thus not unnecessarily limit access to hunters and anglers.

Mark Boyce
University of Alberta
CW405, Department of Biological Sciences

Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Ecology and behaviour of grizzly bears (*Ursus arctos horribilis*) in response to open-pit mining, and implications for management and conservation

University of Alberta

Grant: \$20,000

The purpose of this study is to assess grizzly bear response to open-pit mining by acquiring a holistic understanding of bear foraging, movement, habitat ecology and behaviour, on and around coal mine sites. Particular emphasis of this study is on grizzly bear predation on ungulates which concentrate on reclaimed mines sites. Indeed, because of the high quality of forage for bighorns on the reclaimed mine sites, growing conditions are exceptional resulting in some of the largest trophy bighorns in the world. The focus is on mines located around the Hamlet of Cadomin, south of Hinton, at the interface between the Eastern Slopes of the Rocky Mountains and Foothills. Effects of mining on grizzly bear behaviour will be analyzed during different mining phases: *before* vs. *during* active mining (Cheviot), and separately for reclaimed mines (Luscar and Gregg River), because bears are likely to respond differently to these different stages of development. The specific objectives are to look at bear movement, future response to mining (through modeling), foraging (in particular predation on ungulates), and space use in relation to human access.

Mark Boyce
University of Alberta
CW405, Department of Biological Sciences
Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Lynx Cycles and Barriers: Evaluating dispersal versus climate change in flatlining populations

University of Alberta

Grant: \$20,000

This proposal focuses on mechanisms driving the 10-year population cycles of the Canada lynx (*Lynx canadensis*) in southern portions of their range by evaluating the predator dispersal versus the seasonal-forcing hypothesis. The objectives are to: 1) document quantitatively using trapping records the details of how the 10-year cycle breaks down at southern latitudes; 2) evaluate barriers to gene flow (hence dispersal) on a latitudinal gradient using genetic data from harvested pelts and tissue samples from live captures; 3) use radiocollared lynx in Nordegg, AB, together with the lynx movement datasets in 2 concurrent U.S. lynx projects on the Washington and Montana border to create a GIS-based model of habitats that facilitate dispersal into the southern portions of the species' range; and 4) examine fur harvest records relative to climate data over 50 years to evaluate the seasonal-forcing hypothesis. The results stemming from these objectives will be primarily targeted towards trappers and the Alberta Trappers Association who are keenly interested in maintaining this species' ecosystem requirements. The ASRD Fish and Wildlife Division is also part of the target audience due to their management of lynx harvest quotas.

Mark Boyce
University of Alberta
CW405, Department of Biological Sciences
Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd

University of Alberta

Grant: \$20,000

Since 2001, Drs. Hebblewhite and Merrill in collaboration with project partners have monitored 169 radiocollared adult female elk and one-two wolves in two-three wolf packs/yr to determine how changes in adult elk population dynamics are affected by human (harvest, habitat management), natural factors (predation, climate), and natural vegetation dynamics. Alberta Fish & Wildlife also have collected long-term population data since 1972 on population size and calf recruitment. In these efforts, focus was on understanding the changing migratory behaviour of elk. Combined, these studies of elk population dynamics at Ya Ha Tinda represent one of the longest-term population studies of elk in a system with intact natural predators. The long-term objective is to continue the past population monitoring while assessing short-term management actions on vegetation and elk responses. Project objectives are: 1.) to determine vegetation and elk summer distribution in response to the on-going burning program of forested areas adjacent to the Ya Ha Tinda winter range complex; 2.) to assess long-term trends in forest encroachment in fescue grasslands in and around YHT from historical photography and relate these to fire history and climatic trends in the area; 3.) to continue past efforts to determine remotely sensed vegetation production, elk distribution, migratory behaviour, seasonal abundance on YHT winter range, and demography (survival, pregnancy rates, age structure) of individually marked elk in the Ya Ha Tinda elk population; 4.) in the long-term, conduct both annual and periodic long-term demographic analyses that will guide population and harvest management of elk in this predator-prey system under spatial and temporal variation in forage resources influenced by climatic variation. The project activities include: continued photo interpretation; spring pellet group plots; long-term grassland productivity sampling, grassland encroachment transects sample, summer elk telemetry & aerial survey flights; fall pellet group counts; photo interpretation and vegetation data analysis; vegetation data analysis; helicopter capture of 8 elk to replace GPS collars; winter telemetry and survey flights. Project deliverables include: reports, student theses, newsletters, and scientific publications.

Evelyn Merrill
University of Alberta
Department of Biological Sciences
Edmonton, AB
T6G 2E9
emerrill@ualberta.ca 780-492-2842

Does Petroleum Development Affect Burrowing Owl Nest-Site Selection, Reproductive Success or Nocturnal Space Use?

University of Alberta

Grant: \$23,520

The project objectives are: 1) to determine the impacts of energy –sector footprint on burrowing owl reproduction; 2) to determine whether burrowing owls are avoiding, attracted to, or neutral with respect to each component of industrial infrastructure; 3) with respect to gas & oil infrastructure and activities, communicate recommendations for i) modifying management of burrowing owls, ii) defining & effectively protecting critical habitat from destruction, and iii) outlining any additional data needs for future work. Approximately 20 burrowing owl nests will be located by visiting known sites, and an additional 30 nests will be discovered during surveys. By monitoring nesting activities at each of 50 burrowing owl locations in 2009, they will be able to correlate reproductive success with degree of energy-sector footprint. A total of 15 male owls will be fitted with GPS dataloggers in the 2009 breeding season. Detailed GIS layers, which quantify industrial footprint, will be constructed from satellite-based remote sensing and ground-

truthed aerial photography. The deliverables include: data and resulting reports and map products that highlight the threshold value of energy sector activity that should be used in environmental impact assessment to minimize ecological risk to burrowing owls; thresholds will be evaluated in terms of established setback distances and will be used to provide advice on what appropriate distances are; Report preliminary findings at National Burrowing Owl Recovery Team meeting and AB Recovery Team Meeting; presentation of preliminary results; publication of scientific papers; annual report outlining progress and preliminary findings; a final report; and two newsletters to all energy sector companies in the prairie region as well as appropriate government and conservation orgs.

Erin Bayne
University of Alberta
CW 405 Biological Sciences Centre
Edmonton, AB
T6G 2E9
bayne@ualberta.ca 780-492-4165

Habitat and prey selection of a re-established cougar (*Puma concolor*) population

University of Alberta

Grant: \$25,750

This research study is aimed at documenting the habitat and prey selection of the cougars in Cypress Hills Interprovincial Park. Specifically, the following questions will be answered: 1) What is the composition and distribution of the population of cougars in Cypress Hills and the adjacent area? 2) What are the seasonal and human effects on movement and range of the cougars? 3) What is the composition of prey, including livestock, killed by cougars? The researchers hope that the information gained will assist in creating a management and conservation plan for cougars that will alleviate landowners' concern over livestock depredation, inform tourists and cottagers about important safety messages, and may culminate in a quota hunt in the region around the park. In April 2008, collars were placed on two cougars, an 82kg adult male and a 43kg adult female. Their movements and kill sites have been monitored over the past 8 months. In mid-July the female's densite was discovered, where she had four kittens; their survival will be assessed this winter through snowtracking. The goal for 2009 is to catch another four cougars, which will give us information about a good proportion of the population of which is estimated to be between 8 and 12 resident adults. Along with radiocollars, motion-activated remote cameras are also being used to monitor wildlife populations in the park. Project deliverables include: scientific journal articles, presentations at scientific conferences, a brochure about the Cypress Hills cougars for distribution for public education purposes. Data will be shared with SRD, park and regional managers, leaving behind a database that can be maintained by the provincial government after completion of this project.

Mark Boyce
University of Alberta
CW405, Department of Biological Sciences
Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Ecological effects of sportfish stocking and aeration in Boreal Foothills lakes

University of Alberta

Grant: \$28,370

The central goal of this study is to apply principles of impact assessment to the basic question: what are the consequences of trout stocking and lake aeration on invertebrate, fish, and amphibian communities in small boreal foothills lakes? Because of the popularity of the stocking-and-aeration program, and plans to continue and expand it, there is a need to examine how these management actions impact the lakes' native communities. The current paucity of information is unsettling, but the flip-side is that the management program is essentially a whole-lake experiment, for which impact-assessment protocols are available. 2009, the second year of a BACI experiment, builds upon our multi-lake Control-Impact comparative design of 2005-2007, and also features several new aspects. The specific objectives for the 2009 field season are to continue: 1) collection of trout tissue, forage fish, and invertebrate samples for stable isotope analysis; from 10 lakes (4 stocked, 4 unstocked but fish-bearing, 2 fishless); 2) collection of trout stomach contents for diet documentation in the 6 stocked lakes; 3) mark/recapture sampling to estimate forage fish populations in 3 stocked and 3 unstocked lakes; 4) 24-hour forage fish sampling in 2 stocked and 2 unstocked lakes to determine daily feeding, activity and habitat use of forage fishes; 5) collection of quantitative invertebrate samples (littoral and limnetic) from all 10 study lakes (same as #1); 6) collection of epilimnetic water samples from all 13 study lakes; 7) visual transect surveys for amphibians at all lakes, with a particular focus on Fiesta Lake. Two new initiatives will also be introduced in 2009. The study will be expanded by initiating studies on (a) effects of stocked trout on pelagic invertebrates, and (b) a comparison of trout effects with those of native forage fish on pelagic and littoral invertebrates. As well, ACA has recently announced that, starting next winter (2009-2010), they will begin aerating Birch Lake that is currently stocked but not aerated. Birch Lake has been sampled irregularly since 2005, but ACA's announcement offers another opportunity for a new BACI-designed experiment that focuses on aeration only. As the final year in the "Before aeration" era, thorough sampling of all components in 2009 becomes critical. Project deliverables include: articles for peer-reviewed scientific journals; annual reports to ACA/ASRD; annual presentations to ACA/ASRD staff and public at outreach meetings in RMH; presentations at provincial, regional, national, and international conferences.

William Tonn
University of Alberta
Department of Biological Sciences
Edmonton, AB
T6G 2E9
bill.tonn@ualberta.ca 780-492-4162

Effects of Access Management on Elk in Southwestern Alberta **University of Alberta**

Grant: \$32,200

Few studies have rigorously quantified the role of linear features such as roads and their effect on movement, habitat selection, and ultimately demographics of wildlife populations. Even fewer studies have experimentally manipulated motorized access to differentiate the effects of linear disturbances on the landscape versus the role of motorized industrial and recreational activity on those linear features. The ability to control and manage industrial and recreational motorized access on the landscape could have important implications for both harvestable and non-game wildlife populations. This is especially true in light of rapid industrial development in Alberta that is creating greater access to the landscape than previously existed. This project will evaluate the usefulness and ability of access management to positively influence elk populations in SW Alberta. This will be done through a series of manipulations where motorized access is regulated across the landscape and then subsequently assess elk response through habitat selection, movement, survival, and reproduction. An effective and rigorous demonstration of the principles of access management in Alberta is required to solidify and legitimize the use of this management tool. This research will have direct management and conservation implications for elk as well as other game and non-game species. WIN-card holders will benefit through enhanced hunting opportunities and a sound framework for better managing elk populations.

Mark Boyce

University of Alberta
CW405, Department of Biological Sciences
Edmonton, AB
T6G 2E9
boyce@ualberta.ca 780-492-0081

Restoration of rough fescue grassland on oil and gas sites in Central Alberta **University of Alberta**

Grant: \$33,800

The main objective of this research program is the restoration of native rough fescue grassland following oil and gas disturbance, focusing on the Rumsey Natural Area (Rumsey). Vegetation assessments in Rumsey and other rough fescue grasslands have shown that once disturbed, rough fescue (*Festuca hallii*) does not easily recover. With continual grazing and over 200 natural gas wells and pipelines, does the Rumsey Natural Area still warrant the title of largest remaining tract of rough fescue grassland? Experiments on natural recovery, nitrogen reduction and native hay will help determine best practices for restoring rough fescue grassland. Experiments at field sites focused on recovery of *F. hallii* and understanding its ecology will provide evidence for predicting successional trends following disturbance. The deliverables include: Cumulative Effects Assessment of the Rumsey Natural Area for use by Alberta SRD Land Managers; peer-reviewed journal articles on the results of all the experiments; technical reports for reclamation practice recommendations for the oil and gas industry; PhD Dissertation; annual reports to industry and ABSRD; and presentations at scientific conferences and industry meetings

Anne Naeth
University of Alberta
Dep't of Renewable Resources, 855B General Services Building
Edmonton, AB
T6G 2H1
anne.naeth@ualberta.ca 780-492-9539

Genetic Diversity Analysis of Southern Alberta Plains Sharp-Tailed Grouse (*Tympanuchus phasianellus jamesi*), Endangered Sage-Grouse (*Centrocercus urophasianus*), and their Hybrids

University of Idaho

Grant: \$20,000

The following research topics will be addressed over the next year: 1.) Perform a fine scale genetic analysis of diversity and population structure for southern AB Plains Sharp-tailed Grouse using 13 microsatellites; 2.) Analyze AB Sage-Grouse samples collected in 2008 and 2009, including one new lek discovered in 2008, using 13 microsatellites. This data will be added to the current data set (1998-2007) to determine the genetic diversity and structure of the species and whether genetic diversity has decreased over time with the decline. 3.) Use microsatellites and mitochondrial DNA to determine the level of genetic introgression between Sharp-tailed Grouse and Sage-Grouse to determine the impact on the endangered AB Sage-Grouse population. Both species are genetically very similar so new allele frequency based methods need to be developed. 4.) Develop new analysis methods for examining genetics & habitat fragmentation, to identify areas requiring habitat enhancement/restoration for both Sharp-tailed Grouse and endangered Sage-Grouse. One of the knowledge gaps for Sage-Grouse is what habitat areas are no longer suitable for Sage-Grouse. This analysis will address that issue and provide the information necessary to identify areas so that they can be included in the next recovery plan. The project deliverables include: laboratory work (DNA extraction, microsatellite genotyping, mtDNA sequencing); data analysis and development of new analysis techniques; education (Public talks given by K.L. Bush); Synthesis/reporting– Scientific Papers.

Kerry Reese
University of Idaho
PO Box 441136
Moscow, ID
83844-1136
kreese@uidaho.edu 208-885-6435

Examining resiliency of bull trout populations to brook trout invasives
University of Lethbridge

Grant: \$20,000

Brook trout invasiveness has been identified as one of the main threats to native fish assemblages in Alberta mountain streams. By examining the root causes of this invasiveness and how native fishes may naturally resist such invasion, we may be able to better predict or manage the spread of this exotic species; as well as strategically restore areas already invaded. The specific objectives of this project will therefore be to compare areas of low and high invasiveness of brook trout in the South Saskatchewan River basin in order to: a) determine if a suite of measurable habitat features can be associated with streams containing brook trout resistant populations of bull trout, and b) examine whether migratory populations of bull trout are more resistant to brook trout invasion and hybridization compared to resident populations. Results from this project may outline ways in which Alberta's provincial fish, the bull trout, may naturally resist non-native brook trout invasion. Identification of these factors may support a strategic management plan to bolster native bull trout populations experiencing or under threat of brook trout invasion, as well as identify areas of high risk for brook trout invasiveness. Results of this study will be published in a peer reviewed scientific journal, likely the *Canadian Journal of Fisheries and Aquatic Science*. Results of this study will also be presented at the Canadian Conference for Fisheries Research (CCFFR).

Joseph Rasmussen
University of Lethbridge
4401 University Drive
Lethbridge, AB
T1K 3M4
joseph.rasmussen@uleth.ca 403-382-7182

Land and Water - Connecting Science, Stewardship and Public Awareness
Water Matters Society of Alberta

Grant: \$5,000

This project is ultimately about increasing land stewardship by Albertans. Water Matters knows that as people better understand the scientific connection between land and water, they are more likely to support and personally commit to the adoption of land stewardship activities. This project begins by building the case for land stewardship to protect water resources for fish and aquatic ecosystems. Support is sought from the ACA to complete a science-based paper on the linkage between land and water in Alberta. With support from other resources Water Matters will also complete a survey of opinion leaders to determine what opportunities there are to increase land stewardship activities in this critical region. The primary work of this project will be to gather and amalgamate existing science on the linkage between land and water. They will draw not only from sources specific to Alberta but also general sources outlining the current state of the science. Most importantly, the results of this report will be communicated to a broad audience including land owners, watershed groups, recreational users, and decision-makers. Peer reviewers with expertise to assure our information is accurate and reliable will review the paper. The project deliverable is Land and water science background paper.

Danielle Droitsch
Water Matters Society of Alberta

PO Box 8386
Canmore, AB
T1W 2V2
danielle@water-matters.org 403-609-9414

Invasive plant project at the Weaselhead Natural Environment Park
Weaselhead/Glenmore Park Preservation Society

Grant: \$3,000

Over the years Weaselhead/Glenmore Park Preservation Society members and staff have observed the progressive encroachment of a whole suite of woody and herbaceous non-native plants into the Weaselhead Natural Environment Park with concern. A riparian health inventory conducted by Cows and Fish in 2007 gave a vegetation health-rating borderline between 'healthy' and 'healthy, but with problems' – the 'unhealthy' issues all relating to the presence of invasive plants. This project is aimed at preventing further colonization of the Park by invasive species and on controlling or eradicating those that are already there. To prevent further colonization the Society wishes to change the choices people make (e.g. in selection of garden plants) by raising awareness of the way invasive plants are introduced and why they are damaging; and it wishes to set up a volunteer team of 'early detection' stewards, to actively look for new invasive species in the Park in order that they can be eradicated before they become established. To control/eradicate existing infestations the Society wishes to organize yearly volunteer weeding workshops. The Park is owned by the City of Calgary therefore measures undertaken by the Society will be carried out in partnership with the City under its Adopt-a-Park Scheme, and will compliment any action undertaken by City employees under its *Invasive Plant Strategic Management Plan*. Project deliverables include: a prioritised list of invasive plants (and likely potentially invasive plants) already present in the Park for control or removal; 3 one-day pilot weeding workshops (including training) for volunteers targeted at three different species; 10,000 identification cards describing targeted species and the problems they cause; Updated education programs incorporating invasive species component; new section on the Society's website promoting the project and presenting information about invasive plants and issues associated with them; Evaluation of data collected and revision of priorities; preparation of weed management plan for 2010.

Lisa Flaman
Weaselhead/Glenmore Park Preservation Society
7343 35 Aven NW
Calgary, AB
T3B 1T2
lisaf laman@yahoo.ca 403-200-7111

The Bow and Beyond
Western Sky Land Trust Society

Grant: \$14,000

Western Sky Land Trust's Agrium-Nodwell Nature Preserve is located within an Environmentally Significant Area of International Importance along the Bow River. The project objectives are: to complete the final stages of land improvements, and to carry out outreach by research, working with existing and new contacts. The following Land Improvements will be undertaken: a management plan needs to be completed to outline how the project site will be used and managed (in the final stages of completion); a survey will be undertaken to understand site boundaries so that posts/signage may be erected; Fencing/Boundary Posts to outline the site's boundaries and indicate that this property has been conserved; Signage-Boundary signs require design, production and installation. A Weed & Riparian Assessment survey will assist in determining what type of weed control and riparian rehabilitation is required on the property. Landowner research will assist in strategizing which adjacent landowners to make contact with

regarding their interest in conservation options. The Society will carry out awareness campaigns and information forums with Landowners and Watershed Groups along the Bow.

Tracy Tarves
Western Sky Land Trust Society
225 13 Avenue SW
Calgary, AB
T2R 1N8
tracyt@westernskylandtrust.ca 403-974-0756

Riparian reforestation and wildlife enhancement of Beaverlodge Watershed - Phase II

Woodlot Extension Program/Woodlot Association of Alberta

Grant: \$36,000

The Beaverlodge River Watershed's riparian areas bordering woodlands and wetlands have experienced extensive deforestation and habitat degradation that has led to poor water quality, significant bank erosion, higher water temperatures and the loss of many native fish and wildlife species such as Arctic Grayling and Northern Pintails. This project hopes to build awareness by demonstrating how habitat adjacent to the river can be restored through reforestation to improve riparian health and wildlife habitat. The project aims to work with landowners in this watershed to reforest degraded riparian and buffer zones. Overgrazed pastures and cultivated farmland with no trees along the waterways are the primary focus of this work. In phase I, 23,000 trees were planted on 50 acres along the Beaverlodge River and its tributaries. For land to be eligible for replanting, access of livestock must be controlled and cultivation must be managed appropriately while trees become established. Land within riparian and buffer areas that are fenced off or under some sort of protection will be given consideration over those that are not protected. In 2009, a total area of 50 acres will be planted with ~ 23,000 trees. Deliverables for 2009-2010 also include: project signage at each site and media coverage of the project activities; production of a project factsheet and newsletter; mapping of project area showing location of participants and areas reforested; and final report evaluating activities and discussing results.

Doug Macaulay
Woodlot Extension Program/Woodlot Association of Alberta
18008 107 Ave
Edmonton, AB
T5S 2J7
office@woodlot.org 780-489-9473