

Annual Report of Activities & Synopsis of Funding Recipient Projects

For the Period of April 1, 2008 to March 31, 2009





Our Mission

ACA conserves, protects and enhances fish, wildlife and habitat for all Albertans to enjoy, value and use.

Our Vision

An Alberta with an abundance and diversity of fish, wildlife and their habitats, where future generations continue to use, enjoy and value our rich outdoor heritage.

Alberta Conservation Association, 101 -9 Chippewa Road, Sherwood Park, AB, T8A 6J7 <u>www.ab-conservation.com</u>

Amy MacKinven, Grant Eligible Conservation Fund Project Administrator Email: amy.mackinven@ab-conservation.com

Table of Contents

Executive Summary	1
PARTI	
Introduction	2
The Funding Cycle	2
Funding Eligibility	2
Major Funding Goals & Priorities 2008–2009	2
Proposal Review Process	3
Funding Allocations	4
Synopsis of Approved Projects for 2008–2009	4
GECF project contribution to the ACA Strategic Business Plan	6
PART II	
2008-2009 Project summaries	8-40
APPENDICES	
Appendix A Project Submission Guidelines	41
Appendix B Cooperative Project Agreement	45
Appendix C Table Project Results: GECF Projects and the SBP 2008-2011	51

Front Cover Photo: Mountain goats at Caw Ridge Dr S. Côté, Laval University

From the project 'Ecology, population dynamics, and conservation of mountain goats in Alberta' (Laval University; 030-00-90-117)



Executive Summary

Funded by the province's hunters and anglers, ACA's Grant Eligible Conservation Fund supports annually a variety of projects both small and large which benefit Alberta's wildlife and fish populations, as well as the habitat they depend on. Operational since 2002, this Fund has provided more than \$7.5 million to 424 projects carried out in Alberta by the conservation community. Furthermore the funding provided by the GECF has consistently leveraged six times its value in conservation dollars, estimated at \$47 million - money that has been directly used for conservation work in Alberta.

In 2008-2009 this popular grants program received 134 applications, a record number, requesting almost \$2.5 million. A total of \$1,201,354 was granted to 80 projects. The aim of this report is to document the procedures for 2008-2009 and to provide an overview of activities and results of projects financially supported through the GECF in 2008-2009.

KEY PROGRAM HIGHLIGHTS for the GECF 2008-2009:

- 134 funding requests were received requesting a total dollar value of almost \$2.5 million.
- A total of \$1,201,354.00 was granted to 80 projects: 13 small grants and 67 large grants.
- Project budgets ranged from \$600.00 to \$53,421.00.

1. Introduction:

The Alberta Conservation Association (ACA) believes it is our responsibility to join and support the collective effort to conserve, protect and enhance Alberta's biological natural resources. One of the ways in which ACA does this is to make grants to other members of the conservation community. The projects supported by the Grant Eligible Conservation Fund (GECF) are intended to enhance and supplement ACA activities, and aid in the delivery of ACA's Vision, Mission and Strategic Business Plan. ACA has been awarding conservation grants since 1997, with the GECF process starting in 2002-2003. The GECF has granted over \$7.5 million dollars since 2002-2003 to 424 conservation projects implemented in Alberta; these projects have leveraged an estimated \$47 million in conservation work across the province. \$1.2 million dollars were made available for the 2008-2009 GECF funding cycle, after the selection procedure, a total of \$1,201,354.00 was granted to 80 projects. This document provides an overview of GECF activities for the 2008-2009 funding cycle and a brief synopsis for each of the funded projects carried out between April 1, 2008 and March 31, 2009.

2. The Funding Cycle

The funding priorities, guidelines and application forms were made available to the public mid December 2007 via the ACA website, by email to existing contacts and by environmental list servers. Details of the 2008-2009 funding cycle are in the table below:

2008-2009 FUNDING CYCLE DATES

Posting of the Guidelines and Application Forms on ACA's website	December 15, 2007
Window to receive completed applications	January 1-31, 2008
Proposal Review Committee adjudication meeting	Feb ru ary 28, 2008
ACA Board approval and notification of applicants as to funding status	March 2008
Cooperative Project Agreements signed , initial payments made and project work begins	April 1, 2008
Interim reports due & second payments made (if required)	September 1, 2008
Final report due & final payments made (if required)	March 15, 2009
Projects end	March 30, 2009

3. Funding Eligibility:

The GECF supports a wide variety of applicants and project types. Anyone with a suitable project working in Alberta can apply to the GECF for funding, with the exception of ACA staff and ASRD staff. Certain items or project types are not covered by the GECF, for example land acquisition, emergency funding or over-head costs. The eligibility criteria and funding priorities are outlined in the document "Project Submission Guidelines for Funding 2008 - 2009" (see Section 4 Funding Priorities and Appendix A: Project Submission Guidelines for Funding 2008 - 2009). The funding priorities for 2008 – 2009 were taken from the Fisheries, Land Management and Wildlife Programs as outlined in the Strategic Business Plan 2008-2011. The final version of the SBP 2008-2011 was not available to the public at time of the funding deadline, so was not used by applicants. For the first time a new funding priority, "Retention and Recruitment of Hunters, Anglers and Trappers", was added.

The GECF offers small grants for projects with budgets of \$2,500 and under and large grants for projects with budgets over \$2,500. The small grants have a simplified application form; although the eligibility criteria and funding guidelines are the same for both.

The GECF is now widely known amongst the conservation community working in Alberta and applications were received from a diverse cross-section of the population including: individuals, community groups, grassroots organizations, provincial and national institutes, and leading scientific researchers. This year saw the highest number of applications received since the GECF began; 134 applications were submitted to the GECF in January 2009.

4. Major Funding Priorities GECF 2008 – 2009

This text is Section C of the Project Submission Guidelines for Funding 2008 – 2009, which can be found in full in Appendix A:

These grants are intended to aid ACA in the delivery of our mission and contribute to the ACA Strategic Business Plan and should demonstrate value to local to wildlife, fish populations and/or the habitat on which they depend. The following list of funding priorities for the Grant Eligible Conservation Fund is derived from the ACA 2008-2011 Strategic Business Plan.

ACA Fisheries Program Priorities for 2008-2009

ACA's Fisheries Program is designed to implement fish conservation efforts in an effective, credible and collaborative manner that will sustain or improve Alberta's fish populations. The Fisheries Program supports and enhances conservation activities that retain the diversity and abundance of fish populations and communities, and the biological communities and habitats that support them. The program supports fishing as a recreational use in the interest of Alberta anglers.

An essential element for all program components is the monitoring, evaluation, and adaptation of activities. Activities in this program support and inform an adaptive fisheries management program in Alberta.

The following objectives have been outlined:

- Fish stock assessment and monitoring.
- Sport fishery monitoring.
- Stream crossing evaluations (evaluations of watershed fragmentation).

- Lake aeration: developing and maintaining lentic habitats for increase survival of sport fish, creating recreational angling opportunities for Albertans.
- Enhanced fish stocking: providing Alberta anglers with increased opportunities to catch and creel more fish where possible, while maintaining the integrity of Alberta's natural waters and fish populations.
- Riparian conservation planning: enhancing, maintaining and protecting riparian habitats in Alberta.

ACA Land Management Program Priorities for 2008-2009 The Land Management Program (LMP) encompasses activities intended to conserve, protect and enhance fish and wildlife habitat, and to increase consumptive and non-consumptive recreational opportunities including angling and hunting. The three major activities of this program are habitat securement*, maintenance and management of ACA Conservation Sites, and recreational opportunity initiatives.

The following objectives have been outlined:

- Recreational Opportunities: develop and promote stewardship of habitat resources on public and private land that ensures access and recreational opportunities are recognized, developed and enhanced.
- Fisheries access sites: Maintain fisheries access to ensure access to fisheries, and develop new sites at water bodies.

*Please note: Land Acquisition proposals are not reviewed by the Grant Eligible Conservation Fund. Direct all Land Acquisition proposals to the Habitat Securement Fund.

ACA Wildlife Program Priorities for 2008-2009

The Wildlife Program supports and enhances conservation activities that retain the diversity and abundance of populations and communities of wildlife in Alberta. It includes consideration of all non-fish taxa, but has a strong focus on harvested species. The Wildlife Program includes components related to wildlife populations, their habitats and the ecosystems that support them.

Program activities may include, but are not limited to, population enhancement, applied ecological studies, and understanding and facilitation of users' needs and wants. An essential element is the monitoring, evaluation and adaptation of wildlife and habitat conservation activities.

ACA strives to enhance the sustainability of wildlife species through science-based conservation. The Wildlife Team has developed a program that focuses on four thematic areas, including ungulates, upland game birds, waterfowl and species at risk.

The following objectives have been outlined:

- Species and population inventory
- Plan development and implementation; support the development of plans for wildlife species that will assist in species recovery and management
- Species management and enhancement

- Aerial ungulate surveys (proposals should address ACA/ASRD survey priorities)
- Applied ecological studies, specifically on the status, movement patterns and ecology of priority species.
- Status assessment (collect and interpret data that will assist with the designation of legal status for species at risk and collect data on the distribution and abundance of data deficient species to support their management)
- Habitat inventory and enhancement
- Recreational opportunities
- Education and outreach

Retention and Recruitment of Hunters, Anglers and Trappers

It is an objective of the ACA to fund projects which help retain and recruit hunters, anglers and trappers in Alberta.

5. Proposal Review Process

The ACA Board of Directors appointed a Granting Committee comprised of three board members and ten citizens of Alberta, who refereed and assessed the grant applications based on the established funding criteria. The proposal review meeting was held on February 28th, 2008 at the Percy Page Centre, Edmonton, Alberta.

Reviewers were tasked with providing rankings for the respective proposals based on the funding priorities and guidelines provided by ACA and providing funding recommendations for suitable proposals to the ACA Board.

Proposals were evaluated on their merit and content using a threetiered ranking system:

- A: Top proposals; recommend funding in whole or in part.
- **B:** Proposal contains merit, recommend funding in whole or in part If funds available.
- **C:** Do not recommend funding.

The list of funding recommendations made by the Granting Committee was then approved by the ACA Board at the March Board Meeting.

6. Funding Allocations:

For the 2008-2009 funding cycle \$1.2 million dollars were available for project funding via the GECF.

Between the 1st and 31st of January, 134 funding requests (30 small grant requests and 104 large grant requests) were received requesting a total dollar value of \$2,472,639.88. The Granting Committee recommended supporting 80 projects with funding of \$1,201,354.00 and these recommendations were approved by the

ACA Board. 13 small grants and 67 large grants were awarded. The project budgets ranged from \$600 to \$53,421. The funding success for applications was high this year with 60% of applicants receiving partial or full funding (the average success rate of applications since the GECF began is 54%). 48% of the funding requested was granted (the average percentage of funding granted to funding requested is 38%). 24 of these projects (30%) had been funded by the GECF in previous years and 56 projects were new to the GECF. One approved small grant did not proceed due to project planning difficulties. Several projects were granted extensions due to unforeseen circumstances.

All projects approved for funding by the Granting Committee signed the Cooperative Project Agreement with the approved proposal and budget appended, with the exception of the project that did not go ahead. The Cooperative Project Agreement outlines the reporting and payment schedules and other contractual obligations between ACA and the grant recipient. All grant recipients provided interim and final project reports. If the project was completed at the time of the interim report, then this one report was taken as the final project report. For the full copy of the Cooperative Project Agreement used in 2008-2009 see Appendix B.

7. Synopsis of Approved Projects for 2008 – 2009

A summary description of each of the 80 approved project containing the project's objectives, activities and deliverables can be found in Part II of this report. Each section is in alphabetical order by organization.

Small grants \$2,500 and under:

Brooks and District Fish and Game Association; Hunter Education and Youth Shooting Program; \$2,500

Camps for Children Education Association; Riparian area fencing project at Aspen Ranch Outdoor Education Facility; \$2,500

Coaldale 4th Scout Troop; Scout and youth fishing pond; \$2,384 (project cancelled)

Dickson Fish and Game Association; Fiesta Lake dock construction; \$1,500

Dunvegan Fish and Game Association; Waterfowl nestbox project; \$850

Lamont Fish and Game Association; Blue bird house kit building project; \$2,500

Lethbridge College; Lee Creek fisheries and riparian health assessment; \$2,500

Lethbridge Fish and Game Association; Introtofishing - southern Alberta; \$1,200

Lethbridge Fish and Game Association; Project to attract new bird hunters; \$2,310

Onoway & District Fish and Game Association; Bird-house project; \$600

Sandy Cross Conservation Foundation; Conservation Education 2008; \$2,500 Sciensational Sssnakes!!; Reptiles at Risk on the Road 2008 Alberta Phase; \$2,456.24

University of Calgary; Cohesive conservation: Aligning Alberta land use policy with sage grouse (Centrocercus urophasianus) conservation; \$2,500

Large Grants (over \$2,500)

Agriculture and Agri-Foods Canada; Mapping rangeland and rangeland change using remote sensing; \$16,000

Alberta Fish and Game Association; Heritage 100 project / Book Title: Conservation - Pride and Passion; \$10,000

Alberta Fish and Game Association;

Operation Grassland Community; \$53,421

Alberta Game Warden Association; Alberta Game Warden Magazine-Electronic format; \$5,250

Alberta Hunter Education Instructors' Association; Hunter safety and marks manship mobile training units; \$7,000

Alberta Hunters Who Care; Wild Game for the Foodbank Program; \$20,000

Alberta Mycological Society; Biodiversity of fungi in Alberta: A provincial database; \$13,600

Alberta Research Council; From microbes to macrophytes: Assessing major wetland health indicators along a disturbance gradient; \$11,500

Alberta Research Council; Boreal toad habitat use and response to disturbance in the boreal mixed hardwood forest; \$18,500

Alberta Research Council; Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta; \$20,000

Alberta Trappers Association; Biologist workshop 2008; \$5,300

Beaverhill Bird Observatory; Educational bird science events with Beaverhill Bird Observatory; \$6,000

Beaverhill Bird Observatory; Long-term songbird and raptor monitoring in Alberta; \$9,250

Bird Studies Canada; Developing the marsh monitoring program in Alberta's Prairie and Aspen Parklands region; \$19,775

Bow Valley Habitat Development; Millennium Creek stream reclamation and fish habitat enhancement project, Phase 2; \$10,000

Calgary Zoo; Research, conservation and education of amphibians at the Calgary Zoo; \$23,486

Castle-Crown Wilderness Coalition; Castle Wilderness restoration, on the ground and on the Web; \$7,160

 $\label{eq:conservation} Conservation \ Education \ W.I.S.E. \ Foundation; \ Outdoor \ Women's \ Program; \\ \$10,000$

Conservation Education W.I.S.E. Foundation; Youth hunter education camps; \$10,000

Conservation Education W.I.S.E. Foundation; Youth seminar; \$15,000

Conservation Education W.I.S.E. Foundation; Re-print of Conservation and Hunter Education manuals; \$25,000

Cows and Fish; Fish 101 and Biodiversity 101 – Making linkages between healthy populations and management; \$17,000

Crowsnest Pass Quad Squad Association; Deadmans Pass / Allison Creek; \$7,500

Environment Canada, Canadian Wildlife Service; Comparison of grassland bird diversity and abundance in fall- and spring-seeded wheat and planted and native grasslands in south central Alberta; \$5,000

Heart River Watershed Advisory Council; Heart River restoration project; \$5,000

Hunting for Tomorrow Foundation; Fact sheets; \$4,400

Hunting for Tomorrow Foundation; Hunting...Give it a Shotl; \$5,000

Hunting for Tomorrow Foundation; Provincial Hunting Day celebration; \$5,000

Hunting for Tomorrow Foundation; Best Practices Across North America – Workshop; \$7,500

Lac La Biche County; The Red Deer Brook area structure plan; \$8,500

Lac La Nonne Watershed Stewardship Society; Riparian health inventory; \$14,000

Laval University; Ecology, population dynamics, and conservation of mountain goats in Alberta; \$18,813

Lesser Slave Lake Bird Observatory; Migratory and breeding bird research; \$25,000

Lethbridge College; Maximizing the utility of native riparian trees and shrubs for bioengineering projects in prairie ecosystems; \$9,000

Miistakis Institute; Recreation and wildlife in the Rockies in southwestern Alberta: Analysis and recommendations for human use management; \$12,000

Moose Lake Watershed Society; Restoring the future; \$5,500

Mountain View County; Riparian area management improvements; \$25,000

Nature Conservancy of Canada - Alberta region; Stewardship of NCC's Rocky Mountain and Foothills properties; \$30,000

Partners in Habitat Development, Eastern Irrigation District; Partners in Habitat Development; \$50,000

Red Deer County; Assessment of electric fencing as a riparian management tool for agricultural producers; \$10,000

Royal Alberta Museum; Northern Alberta non-game fish status assessment-Year 6; \$26,447

Sarcee Fish and Game Association; Alberta junior pheasant project; \$3,500

Southern Alberta Conservation Cooperative; Factors contributing to, and depredation avoidance methods for reducing carnivore-livestock conflicts during winter in southern Alberta; \$20,000

Trout Unlimited Canada; Late fall fisheries investigation in diversion canals in southern Alberta; \$6,600

Trout Unlimited Canada; Habitat enhancement program for Alberta's east slopes fishery; \$25,600

Trout Unlimited Canada (Bow River Chapter); Bow River riparian fencing project; \$10,000

Trout Unlimited Canada (Oldman River Chapter); Outpost (Police) Lake aeration; \$13,000

Trout Unlimited Canada (Edmonton Chapter); Assessment of riparian health and fish assemblage integrity in the Raven River, Alberta; \$50,800

University of Alberta; Development of biophysical criteria to measure restoration success and enhance best management practices in the Montane and Subalpine Regions of Alberta; \$15,000

University of Alberta; Ecological effects of sportfish stocking and aeration in Boreal Foothills lakes; \$18,100

University of Alberta; Russian thistle (Salsola kali) impact on native ungulate habitat; \$23,000

University of Alberta; Effects of roads and road access management on grizzly bear (Ursus arctos) habitat use and movement; \$24,200

University of Alberta; Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use?; \$25,310

University of Alberta; Effects of access management of elk in southwestern Alberta; \$28,700

University of Alberta; Cougar predation on wild ungulates in a multi-prey, multi-predator system in west-central Alberta; \$30,000

University of Alberta; The role of behavioural ad aptation in safeguarding a species: Grizzly bear (Ursus arctos horribilis) response to encroaching development in the foothills of Alberta; \$30,000

University of Alberta; Long-term vegetation and population monitoring for managing the Ya Ha Tinde elk herd; \$34,500

University of Alberta; Developing alternative wolf management strategies; \$37,200

University of Alberta; Development of a prairie-deer sightability model for aerial surveys; \$39,742

University of Calgary; Mating systems at large spatial scales: breeding migration in Rocky Mountain bighorn sheep; \$21,560

University of Lethbridge; Development of aquatic communities in high altitude mine pit lake systems; \$10,000

University of Lethbridge; Modelling mercury biomagnification in the South Saskatchewan River Basin; \$25,000

University of Montana; Moose habitat models for management in westcentral Alberta; \$38,400

Valley Zoo & John Janzen Nature Centre; Amphibian Education Outreach Program; \$10,440

Watershed Advisory Committee & La La Biche Watershed Steering Committee; Lac La Biche watershed project; \$7,500

Willmore Wilderness Foundation; Willmore Wilderness Park trail clearing partnership; \$5,000

Woodlot Association of Alberta / Woodlot Extension Program; Riparian reforestation and wildlife habitat enhancement of Beaverlod ge Watershed -Phase 1; \$15,000

8. GECF project contribution to the funding priorities and the ACA Strategic Business Plan

In total, 80 projects were approved for funding in 2008-2009 and 79 of these were carried out. Each project contributed to at least one of the main ACA funding priority areas as outlined in Section 4: Fisheries, Land Management, Wildlife, and Recruitment and Retention of Hunters, Anglers and Trappers, and several projects contributed to two of the priority funding areas. 36 projects related to the Wildlife Funding Priorities, 26 projects to the Fisheries Funding Priorities, 16 projects to the Recruitment and Retention of Hunters, Anglers and Trappers, and Several projects contributed to the wildlife Funding Priorities, 26 projects to the Fisheries Funding Priorities, 16 projects to the Recruitment and Retention of Hunters, Anglers and Trappers, and 11 to the Land Management Funding Priorities. For a complete overview of which projects contributed to each of the Funding Priorities, see Appendix C.

Each project was assigned to the most relevant Objective(s) contained in the Strategic Business Plan (SBP) 2008-2011, as specified in the project proposal and based on actual results as reported by the grant recipients. This year a quarter of the projects (20) supported the Fisheries Objective of Riparian Conservation Planning, as many projects had the goal of protecting and/or restoring riparian habitat. Again this year, many projects (18) related to Wildlife Recreational Opportunities for Albertans, augmented by the new funding priority Recruitment and Retention of Hunters, Anglers and Trappers. The most noteworthy GECF contributions to SBP Objectives are discussed below. For the complete overview of which projects contributed to the SBP 2008-2011 Program Objectives, see Appendix C.

Fisheries

Approximately a third of projects (26) related to the general Fisheries Funding Priority; 20 of these contributed to Fisheries Objective #6: Riparian Conservation Planning, as GECF has a growing number of projects that have the goal of improving riparian habitat by fencing (TUC Bow River Chpt 020-00-90-114; Mountain View County 015-00-90-102; Partners in Habitat Development 015-00-90-103; Red Deer County 020-00-90-117). Seven projects contributed to Fisheries Objective #1: Fish Stock Assessment and Monitoring, such as the Northem Alberta non game fish status assessment by the Royal Alberta Museum (020-00-90-115) and the Assessment of riparian health and fish assemblage integrity in the Raven River (TUC Edmonton Chapter 020-00-90-143). A couple of projects deal specifically with lake aeration (Objective #4): Outpost Lake aeration project (TUC Oldman River Chpt 020-00-90-112) and the University of Alberta study looking at the ecological effects of sportfish stocking on communities in Boreal Foothills Lakes (020-00-90-140).

Land Management

11 projects funded in 2008-2009 related to the Land Management Funding Priority, the majority of these (8/11) contributed to Objective #4: Recreational Opportunities. The junior pheasant project of the Sarcee Fish and Game Association (030-00-90-105) for example, set aside productive farmland to provide habitat as pheasant cover for youth and first time pheasant hunting. One project related to Objective #3: Conservation Site Management, as this Objective is specific to management of ACA habitat conservation assets; the Nature Conservancy of Canada (NCC) project (015-00-90-104) monitored NCC properties some of which are co-owned by ACA. One project supported Land Management Objective #5: Fisheries Access Sites by building a dock at Fiesta Lake (Dickson Fish and Game Association 020-00-90-101).

Wildlife

This year 45% of projects (36/80) related to the Wildlife Funding Priorities. These projects contributed direct results that relate to the Wildlife Objectives of the SBP 2008-2011, in particular, #2: Species and Population Inventory (15 projects), #6: Applied Ecological Studies (14 projects), #8: Habitat Inventory and Enhancement (12 projects) and #10: Education and Outreach (12 projects). Many of the Recruitment and Retention of Hunters, Anglers and Trappers projects also provided recreational opportunities that encourage current and future generations to value, enjoy and use our biological natural resources (Objective #9 18 projects), many of which were implemented by local Fish and Game Associations. The GECF has supported several projects for many years, most of these deal with species and/or population monitoring (Objective #2), such as the Operation Grassland Community project by AFGA (030-00-90-127) which has carried out long-term monitoring of the burrowing owl and loggerhead shrike and Lesser Slave Lake Bird Observatory's migratory and breeding bird research project (030-00-90-128) which has been monitoring bird migration at Lesser Slave Lake with support from the ACA since 1999. The majority of university research projects are applied ecological studies (Objective #6) looking at species such as mountain goats (Laval University, 030-00-90-117), grizzly bears (U of A, 030-00-90-113 & 030-00-90-116) and elk (U of A, 030-00-90-118 & 030-00-90-135).

Recruitment and Retention of Hunters, Anglers and Trappers

16 projects funded in 2008-2009 dealt with the new funding priority Recruitment and Retention of Hunters, Anglers and Trappers. There was a mix of hands on outdoor training projects, e.g. Outdoor Women's Program (Conservation WISE Foundation 002-00-90-105) and Intro to Fishing – Southem Alberta (Lethbridge FGA 020-00-90-107) to name a few, and awareness raising projects, e.g. Hunting...Give it a Shot! (Hunting for Tomorrow Foundation 002-00-90-111) and Heritage 100 project (AFGA 002-00-90-109).

Other Strategic Business Plan Objectives

As in previous years many of the GECF projects (25) have an education and outreach component, which assist or could assist ACA with Communication Objective #2 (Identify strategic alliances to deliver communications, public and education outreach messages and identify opportunities to distribute materials), such as the amphibian education outreach program (Valley Zoo and John Janzen Nature Centre 002-00-90-115), Alberta Game Warden Magazine – Electronic format (002-00-90-103). All the GECF projects contribute to Communications Objectives #1 (Enhance partner relations and increase the understanding of ACA's role in the conservation community) and #4 (Improve the level of interaction, information exchange and collaboration with other conservation specialists), as the GECF encourages local conservation organizations to find out more about ACA and collaboration is an element of almost all GECF projects. A lot of valuable conservation information is generated by GECF projects.

Many of the 2008-2009 GECF projects (37) contribute to the key strategy applicable to all conservation programming: Analyze data to provide a defendable scientific base for conservation actions. For example, the University of Alberta project "Ecological effects of sportfish stocking & aeration on communities in boreal foothills lakes" (020-00-90-140) collected data which contributes to the overall success and effectiveness of ACA's lake aeration and fish stocking program by contributing scientific information to help ensure that it is operated in ways that minimize adverse impacts on the native fauna of small-lake ecosystems. Another project is developing prairie deer sightability model for aerial surveys (U of A 030-00-90-131), which is directly applicable to ACA's aerial ungulate surveys.

Projects that relate to the recruitment and retention of hunters, anglers and trappers are beneficial to ACA financially as hunters, anglers and trappers represent a primary funding source to ACA.

PART II: 2008-2009 GECF Project Summaries

Mapping rangeland and rangeland change using remote sensing

Agriculture and Agri-Foods Canada Project Code: 015-00-90-106 Grant: \$16,000 Project Status: new in 2008-09, Completed

The objectives of this study were: (a) to develop a method to map native grassland at a scale less than guarter-section using optical satellite remote sensing technology; (b) to develop a method of estimating change in rangeland over time as a consequence of natural or anthropogenic activities using historical remote sensing data. In this initial study attention will focus on two mixed dry prairie sites in southern Alberta for which satellite data are already available (Onefour and Newell County). Various classification methods will be tested for identifying rangeland from other vegetation categories and urban development using the most current imagery. The methods were tested using single date and multidate imagery. This was done at the pixel level, the spatial resolution of which varies depending on the sensor from 20 to 30 m. Validation of the classification procedures was conducted using independent data sources supplied by ASRD and ACA. The data was overlaid with quarter section boundaries to provide spatial context. The same techniques were applied to current and historical imagery to provide a measure of change over time. As part of this study the reason for change was looked at e.g. gas and oil well activity or cultivated agriculture.

Deliverables/Results:

Digital database on rangeland locations and changes for the test areas Smith, A., 2009. Mapping rangeland and rangeland change using remote sensing. Final technical report to ACA. 30 pp. Journal article expected in 2009.

Anne Smith Agriculture and Agri-Foods Canada Research Centre, 5403 1st Avenue South Lethbridge, AB T1J4B1 smitha@agr.gc.ca 403-317-2285

Heritage 100 Project / Book Title: Conservation - Pride and Passion

Alberta Fish and Game Association Project Code: 002-00-90-109 Grant: \$10,000 Project Status: new in 2008-09, Completed

The main objective of the project was to document the history of conservation in Alberta. The most diversely distributed conservation organization in Alberta, the AFGA, celebrates 100 years of active conservation work in 2008. Not only is the history of hunting and fishing in our province important to document, but particularly answering "why" the hunters and anglers organized in the first place. The earliest game regulations to the dramatic changes to game and fish populations over the decades are important to document for our current and future citizens. Dedicated volunteers that worked to improve and protect the habitat on which our wildlife depends on made the AFGA a driving force in conservation in Alberta. The book was professionally written by Don Meredith and Duane Radford, former Fish and Wildlife professionals and long-term members of the AFGA. "Conservation – Pride and Passion" makes an outstanding contribution to the history of conservation in Alberta. It is an excellent resource for school students interested in conservation and has been provided to all schools and municipal libraries in Alberta. Outdoor publications, history students and even governments will find the book useful in providing a look at how various issues were handled by the volunteers and professionals of their day. AFGA members, and other conservation minded citizens, will use the history book to inform themselves on what has transpired in the first 100 years of active conservation in Alberta. Perhaps mistakes of the past can be avoided by being aware of our conservation history. The book may inspire more people to take up hunting. This book recently received an award for excellence in outdoor communication at the recently held 2009 Outdoor Writers of Canada.

Deliverables/Results:

Meredith, D. and D. Radford, 2008. Conservation Pride and Passion, The Alberta Fish and Game Association, 1908-2008 (2008, ISBN 978-0-9809772-0-2) 569p

Carol Romaniuk Alberta Fish and Game Association 6924 - 104 St. Ed monton, AB T6H 2L7 office@afga.org 780-437-2342

Operation Grassland Community

Alberta Fish and Game Association Project Code: 030-00-90-127 Grant: \$53,421 Project Status: Funded by ACA since 1999; Completed

The main objectives for the project in 2008-2009 were: to expand the scope of OGC Management Plans from species-specific to multiple species-at-risk (emphasis on burrowing owl, ferruginous hawk, loggerhead shrike, and Sprague's pipit), and broaden its extent of application from site-specific to Farm- or Ranch-wide, building on previous years' experience and landholders knowledge to jointly develop a series of practical and relevant pasture-specific management opportunities based on Beneficial Management Practices for multiple species at risk and to continue our long-term monitoring of burrowing owl (18th year) and loggerhead shrike (5th year) populations on our members' land through our annual mail census; to re-assess and make adaptive management recommendations on 37 sites where Management Plans were developed in 2004 for the burrowing owl and the loggerhead shrike; to develop another 1-2 burrowing owl foraging habitat projects (under 10 year conservation agreement) consisting of a fenced ephemeral or permanent wetland or dug out (and riparian area) with the addition of a cost-shared off-site watering system (foraging habitat) where appropriate; to expand habitat enhancement projects to the Ferruginous Hawk by installing 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 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 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 blocks will be sent along with a letter of explanation to an estimated 300 OGC members who manage grassland habitats.

Deliverables/Results:

4 (10-15 were expected by the end of March) new 5-year voluntary stewardship agreement reached with landholders, protecting > 18,000 acres of native grassland habitat (one new member ranches over 17,000 acres). 10 (expected 12-14 by the end of March) expiring agreements renewed, 2 habitat enhancement projects for the burrowing owl completed (fencing-out a dugout and installed an off-site watering system); 10 mineral blocks have been personally delivered to landowners to help create a patchy grassland landscape. Another 3-4 projects are expected to be finalized by March 31st (1-2 cattle-oiler systems, 1 fencing of dugout and 1 off-site watering system), conversion of cropland to perennial grass, strategic placement of mineral blocks). Status of 6 (of 12) projects developed in previous years were assessed and status reports were completed and delivered to each member, including any management recommendations.

1 ranch assessed and Beneficial Management Plans developed for the burrowing owl, the loggerhead shrike, and the Sprague's Pipit. 3 SARC Plans are planned as soon as weather permits but may not be completed prior to March 31, 2009.

13 – 2004 Burrowing Owl Management Plan sites and 6- Loggerhead Shrikes reassessed and adaptive recommendations made.

Habitat Conservation Strategy for the Sandstone Ranch (in partnership with ACA, AB SRD-MULTISAR and NCC) will be completed by March 31^{s} , 2009.

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

Alberta Game Warden Magazine - Electronic format

Alberta Game Warden Association Project Code: 002-00-90-103 Grant: \$5,250 Project Status: new in 2008-09, extension until Aug 31, 2009

The aim of this project was to take a 20 year-old published magazine which has always promoted the responsible stewardship and conservation of Alberta's Fisheries, Wildlife, and Public Lands, into an electronic format providing more provincial and world-wide exposure to its message and content. Upon completion of the published magazine format, the document was converted into PDF form, and reformatted into EZEE PAGE, after which it was made available on the AGWM website free of charge. The electronic format AGWM was to be produced every three months, beginning with the March 1, 2008 issue. The summer issue (June 08) of the magazine was electronically produced and is available on-line. The project ran into some logistical problems (change of Media Production Company, and staffing issues). The Alberta Game Warden Magazine merged into the Western Canadian Game Warden Magazine; the first issue of this magazine has been published on-line.

Deliverables/Results:

Summer 2008 issue Alberta Game Warden magazine on-line http://www.qisley.redearthcreek.com/Summer2008/alberta_magazine.php Western Canadian Game Warden magazine: http://www.westerncanadiangamewarden.com/index.html

Jason Hanson Alberta Game Warden Association 3105 Red Fox Drive Cold Lake, AB T9M 1N9 ag wapresident@telus.net 780-639-3377

Hunter Safety and Marksmanship Mobile Training Units

Alberta Hunter Education Instructors' Association (AHEIA) Project Code: 002-00-90-108 Grant: \$7,000 Project Status: new in 2008-09, Completed

The project objective was to construct mobile training units to travel to sport shows, local communities, schools and events throughout the Province. Trailers provide opportunity for 1 on 1 coaching in the safety and marksmanship for rifle shooters and archers. This introductory experience is in many cases the inaugural experience with a firearm (pellet and rifle) and a bow (compound and re-curve). This opportunity was provided as part of the curriculum to every registrant of the Conservation and Hunter Education program and was made available at numerous Sportsmen's Shows in Alberta (Calgary, Red Deer, and Edmonton) reaching approximately 75,000 Albertans. Through travel to schools in communities province wide, approximately another 25,000 Albertans will be exposed to the program.

Deliverables/Results:

2 mobile training units constructed An estimated 100,000 people exposed to these units

Dave Paplawski Alberta Hunter Education Instructors' Association (AHEIA) 911 Sylvester Crescent SW Calgary, AB T2W 0R8 dave@aheia 403-319-2277

Alberta Hunters Who Care "Wild game for the foodbank program"

Alberta Hunters Who Care Project Code: 030-00-90-110 Grant: \$20,000 Project Status: previously funded 2002-03 & 2003-04; Completed The project's objective was to use a renewable food source, wild game, harvested and donated by hunters. This high quality meat was 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. Financial support was needed to help with the cost of meat processing.

Deliverables/Results:

21,000 pounds of wild game (elk, moose and deer) were donated by hunters and processed in 2008.

Jim Thomson Alberta Hunters Who Care 22 Lindsay Crescent Spruce Grove, AB T7X 3W8 James_W_Thomson@Transalta.com 780-962-9452

Biodiversity of Fungi in Alberta: a provincial database

Alberta Mycological Society Project Code: 030-00-90-119 Grant: \$13,600 Project Status: funded since 2006-07, extended until June 30, 2009

The aim is to increase the knowledge of fungal biodiversity in Alberta and to gain a better understanding of the importance of fungi to Alberta's ecosystems. This is being achieved via the: continued development of a searchable fungal database with digital images and distribution maps; identification of fungi of economic, gourmet, industrial, and medicinal values; education of Albertans about the values of fungivia the development and dissemination of educational materials (poster about medicinal mushrooms of Alberta); and identification of difficult to identify fungi. Alberta Mycological Society (formerly known as the Edmonton Mycological Society) is in the process of producing the first searchable database of fungi in Alberta. This database contains as many fungi as possible that have been collected and officially recorded in this province along with complete curatorial information (e.g., fungus names, collection location, date, images, etc.). In addition to this information, distribution maps are produced for each fungus and indicate its frequency of occurrence in Alberta. Compiling information of fungiin Alberta has been ongoing since spring 2006. The database currently has about 6,800 records of fungiin it. The 2008-09 project continued the databasing effort, particularly continuing to compile existing information about fungi in Alberta from mycological collections and the scientific literature, designed the web interface for the database, and produced additional educational material.

Deliverables/Results:

A searchable database of the Fungi of Alberta (<u>http://wildmushrooms.ws/shrooms/</u>) A brochure about edible mushrooms of Alberta and a poster about poisonous fungi of Alberta

Markus Thormann Alberta Mycological Society 1507 - 76 Street SW Edmonton, AB T6X 1M1 mthorman@hotmail.com 780-440-9509

From microbes to macrophytes: assessing major wetland health indicators along a disturbance gradient

Alberta Research Council Project Code: 020-00-90-130 Grant: \$11,500 Project Status: new in 2008-09, Completed

Knowledge of wetland health in the aspen parkland of Alberta is poor, and comprehensive sampling program to measure wetland health at meaningful temporal and spatial scales is lacking. The main objective of this project is to test potential indicators and sampling protocols that can be used to estimate the health of individual wetlands; this was done in wetlands which represent a range of disturbance conditions to determine how the indicators respond to perturbations. A secondary objective is to collect baseline data on wetland health to provide a benchmark for use in wetland remediation and restoration. A range of potential indicators have been sampled, including biological, chemical, and physical parameters, in 20 to 30 wetlands representing a range of conditions from relatively pristine to heavily impacted. Data from separate indicators have been analysed to determine if they respond in a predictable way across the disturbance gradient. Those that do respond across the gradient will be combined to form a multimetric index of wetland health. In addition, this project has generated data on wetland-association taxa, including invertebrates and plants, and relative abundance and community structure of these groups to physical and landscapelevel data derived from GIS layers (e.g. land use in the area around each wetland).

Deliverables/Results:

Presentations to: Research & Monitoring committee of Beaver Hills Initiative (Apr 29, 2008); Alberta Lake Management Society Annual Conference (Sept. 20, 2008); Alberta Chpt of Wildlife Society conference (Mar. 7, 2009) Expected deliverables include a report and publications (2010).

Brian Eaton Alberta Research Council P.O. Bag 4000 Vegreville, AB T9C 1T4 brian.eaton@arc.ab.ca 780-632-8307

Boreal Toad Habitat Use and Response to Disturbance in the Boreal Mixed Hardwood Forest

Alberta Research Council Project Code: 030-00-90-121 Grant: \$18,500 Project Status: new in 2008-09, Completed

This project focused on the boreal toad, which is listed as "sensitive" in Alberta, and has been placed on the International Union for the Conservation of Nature's (IUCN) Red List because of declines over much of its range in the USA. This project

aims to (1) determine if boreal toads use habitatin a non-random fashion in the boreal mixed wood, and how habitat use is related to industrial activity; (2) used ataon toad movement to construct and test a GIS-based model of boreal toad habitat use and response to disturbance; (3) determine if borrow pits are viable breeding and rearing habitats for boreal toads, and therefore suitable as mitigation tools for industrial disturbance, or if they are actually ecological traps; (4) contribute to our general knowledge of amphibian populations in northern Alberta, where little amphibian inventory and research has occurred. Boreal toads were captured at wetlands and man-made structures (e.g. borrow pits) using visual surveys. Radio transmitters were attached to a subset of captured animals. These toads were located every 2-4days throughout the field season; at each re-location of a radiocollared toad, a series of habitat measurements were taken to determine if individuals are non-randomly selecting habitat. These data are being used to model toad movement, habitat selection, and response to disturbance in a boreal mixed wood forest landscape. In addition, the value of borrow pits as mitigation tools for habitat disturbance is being evaluated by comparing the quality of metamorphic toads emerging from anthropogenic wetlands with those from natural wetlands.

Deliverables/Results:

29 boreal toads radiocollared; 5 tracked until hibernation Presentations to Boreal Forest Centre's Boreal Nature Series (general public); Daishowa-Marubeni Int'l Ltd. & Manning Diversified Forest Products Ltd. Article for Manning Forestry Research Fund Newsletter. Report expected (Mar 31, 2010), journal publication (Sept 2010)

Brian Eaton Alberta Research Council P.O. Bag 4000 Vegreville, AB T9C 1T4 brian.eaton@arc.ab.ca 780-632-8307

Wolverine abundance and habitat use in the Rocky Mountain Parks of Central Alberta, Canada

Alberta Research Council Project Code: 030-00-90-111 Grant: \$20,000 Project Status: Funded since 2006-07; Completed

The wolverine (Gulo gulo) has experienced considerable range reduction over the last two centuries. Wolverines inhabit the mountains, foothills and boreal plain of Alberta, with the foothills and boreal plain being areas of increasingly rapid development from forest harvesting and oil and gas activities. Wolverines are currently May be at Risk in Alberta and Special Concern in Canada. Preliminary information from the Alberta Wolverine Experimental Monitoring Project suggest that wolverines occur in very low densities in Alberta - lower than in other jurisdictions to the south, west, and north. In an era of unprecedented economic growth, and concomitant habitat loss to fuel this growth, few areas in Alberta remain sufficiently remote and undisturbed to support and protect wolverines. The notable exception is Alberta's network of Parks and Protected Areas. This project's objective is to answer two main questions: 1) What is the current population estimate of wolverines in west central Alberta's Willmore Wilderness Park (WWPark); and 2) Will the area and habitat represented in the WWPark be sufficiently value and and the population of wolverines? This project is set to make

unprecedented strides in wolverine conservation in Alberta. By the end of the field season wolverine had been detected at 29 of 30 sites, and DNA from 12 individual wolverines had been collected – an unparalleled detection success rate. Excitement over this early success was heightened by the knowledge that wolverine have been identified as important predators of caribou calves. Thus, the continuation of this project not only contributes to wolverine conservation, but also has broad-reaching influence on other species-at-risk in Alberta. The current project allowed for completion of: 1) the DNA analysis of hair collected during the final year of field sampling; 2) analysis of all DNA, remote camera detection, and GIS-habitat data; and, 3) preparation of a final project report (including manuscripts for submission to scientific journals).

Deliverables/Results:

Report expected August 2009 and journal publication Fall 09.

Jason Fisher Alberta Research Council Bag 4000 Vegreville, AB T9C 1T4 jason.fisher@arc.ab.ca

Biologist workshop 2008

Alberta Trappers Association Project Code: 002-00-90-114 Grant: \$5,300 Project Status: new in 2008-2009; Completed

The main goal of the workshop was to serve as a gathering session for wildlife managers and trappers where ideas and trends can be discussed in an open forum facilitated in a structured agenda. Specific objectives were: to introduce the trapping profession to wildlife managers; examining the tools and strategies trappers use to manage the resource; viewing and discussing the latest on trap standards and research; to have an opportunity to visit trap sets and examine how fur is handled; to discuss fur bearer and animal management and the role trappers can play in assisting researchers; to give an overview of fur bearer biology and management concerns, population dynamics and the role forestry can have on habitat alteration. The workshop took place in Debolt, Alberta, May 20 & 21st 2008. 12Alberta biologists attended, as well as one representative from BC and two from the Yukon. Including instructors, students and trapper education instructors a total of 30 participated in this workshop.

Deliverables/Results:

The workshop was written up in an issue of the Alberta Trapper Association's magazine and in the ATA e-newsletter.

Jim Mitchell Alberta Trappers Association #2 9910 106 St. Westlock, AB T7P 2K1 info@albertatrappers.com 780-349-6626

Educational Bird Science Events with Beaverhill Bird Observatory

Beaverhill Bird Observatory Project Code: 002-00-90-116 Grant: \$6,000 Project Status: Funded since 2006-2007; Completed

The main objectives of this project were to: bridge the gap between science and the general public by inviting members of the public to witness science firsthand, to increase awareness and appreciation natural history & local conservation designations; and highlight spring and fall migration, a critical aspect of the life of many birds that breed in the north. The Beaverhill Bird Observatory (BBO) held two 'on-site' public events: the 'Big Birding Breakfast' a spring songbird migration event (40 participants, May 31, 2008) and 'Steaks and Saw-whets' a fall owl and waterfowl migration event (104 participants, Oct 3 & 4, 2008), 'on-site' events for structured groups such as school groups and youth groups, and 'out-trip' public events, events were held at various locations around central Alberta, such as the Camrose Greenspace Program (75kids), Manning (Forest Explorers for 9 high schools), and on site. Events were advertized on the BBO's website and through posters in public libraries, announcements in naturalist newsletters, and through the media. Evaluation forms were filled in by participants of this project to provide a tangible measure of effectiveness and provide direct feedback about the project.

Deliverables/Results:

This project had direct interaction with approximately 1500 Albertans. Two articles summarizing the events for the BBO's newsletter 'The Willet' and article in an Edmonton Seniors newspaper.

Bryn Spence Beaverhill Bird Observatory Box 1418 Edmonton, AB TSJ 2N5 bryn.spence@ualberta.net 780-619-9261

Long-term songbird and raptor monitoring in Alberta

Beaverhill Bird Observatory Project Code: 030-00-90-124 Grant: \$9,250 Project Status: Funded since 2006-2007; Completed

The Beaverhill Bird Observatory (BBO) was established in 1985. Since that time, many bird studies have been conducted, with most of them being long-term standardized monitoring initiatives. The objectives of this project are: to continue migration monitoring of songbirds and saw-whet owls; to publish papers on BBO's bird monitoring data; to continue coordinating our three major volunteerbased programs (Alberta Nocturnal Owl Survey, Alberta Raptor Nest Card Program, BBO Nestbox Program); to submit all data from BBO's bird monitoring programs to ASRD for their database and which will assist with bird status determination. The BBO still have large amounts of data that need to be analyzed. This project continued long-term monitoring efforts (spring and fall) and with analyzing the various data that has been collected in the past 20 years, and disseminating the information through scientific publications and natural history journals.

Deliverables/Results:

All data files on all banding data submitted to province; data from nocturnal owl survey submitted to province;

Journal paper on phenology of nesting and occupancy rates/number of young of American kestrels in boxes; presentation of data at the annual Raptor Research Conference in Missoula, Montana

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

Developing the marsh monitoring program in Alberta's Prairie and Aspen Parklands region

Bird Studies Canada Project Code: 030-00-90-132 Grant: \$19,775.00 Project Status: New in 2008-2009; Completed

This project's goal is to design a monitoring and assessment program for nonwaterfowl wetland birds to be initially piloted in selected study plots in the Prairie and Aspen Parklands Region (PAPR) of Alberta. The specific objectives were to: 1) design a spatial sampling framework taking into account existing wetland classification information and other available spatial land cover datasets; 2) design and implement wetland-associated bird survey protocols for Alberta's PAPR based on continental standards but adapted to meet conditions unique to this region, including focal species, wetland habitat types, and timing of surveys; 3) design habitat description and measurement protocols to meet conditions required for an Alberta PAPR region-wide wetland-associated bird monitoring program that will include all applicable wetland-dependent migratory birds (e.g., rails, grebes, bitterns, shorebirds, and passerines); 4) examine alternate program delivery systems and strategies, including both technical and administrative/social factors; 5) develop training programs and strategies for survey participants (volunteers and contracted personnel); 6) implement the MMP in selected pilot study plots in Alberta. This entailed beginning the process to establish a network of trained volunteers who will be able to carry the project forward beyond the year-one pilot project period, as well as hiring, training and deploying a field crew to ensure adequate data are collected during the first year of this two-year pilot project; 7) consolidate and evaluate all operational information from project activities into a final project report to guide efforts to achieve long-term program sustainability and expansion to the entire PAPR of Alberta; 8) ultimately, contribute resulting monitoring and assessment information to benefit various conservation planning initiatives in Alberta (e.g., Alberta NAWMP, PHJV), as well as bird conservation planning and status assessments for waterbirds, shorebirds and applicable passerines that depend on wetland habitats in the PAPR of Alberta.

Deliverables/Results:

A final report with an appended copy of an electronic database including the species, habitat and associated data collected during this Phase I pilot project

and an associated meta-database describing the structure and nature of the data in the database.

Kiel Drake Bird Studies Canada 115 Perimeter Rd. Saskatoon, SK, S7N 0X4 kdrake@bsc-eoc.org 306-249-2894

Millennium creek stream reclamation and fish habitat enhancement project, Phase 2

Bow Valley Habitat Development Project Code: 020-00-90-111 Grant: \$10,000 Project Status: Funded since 2005-2006; Completed

The primary objective of the reclamation and enhancement project is to reclaim the stream channel back to its natural state, with the channel width being adequate to create a self cleaning result, if any future silt loading occurs. The other primary benefit or objective is to create a suitable environment for trout and the aquatic invertebrates that they depend on for a source of food. Finally, the use of a site for environmental education, which is already being used by the Rockyview School Division, the Town of Cochrane and other educational groups. This project is now complete. In May 2008, in-stream activities were directed at completing the balance of the original enhancement work and design; The project team installed 10 concrete baffles (velocity breaks) in the Griffin Road Culvert; enhanced aquatic invertebrate habitat on 40 metres of creek channel; constructed a rock deflector and pool habitat on Bighill Creek, just upstream of the existing one at the mouth of Millennium Creek; elevated the primary spring pond water levels to pre-2005 levels; maintained silt containment pools and remove silt; modified the channel gradient below the Griffin Road culvert pool; removed invasive thistle weeds from the stream channel by hand; deepened 4v-weir pools that were constructed in 2006; and installed cover habitat in the primary silt trap pool.

Deliverables/Results:

5log and 6rock v-wier pools were constructed 10 concrete baffles (velocity breaks) installed in the Griffin Road Culvert. 45 lateral margin cover habitats created. 275m of invertebrate habitat enhanced, fish spawning habitat enhanced. Thistles removed from 100m of stream channel. Brook trout spawning activity noted in Fall 2008. Report: Woods, G., 2008. Millennium Creek Stream Reclamation and Fish Habitat Enhancement Project – Phase Two 2008. Project report for donors. Bow Valley Habitat development. November 1, 2008 pp. 27 Articles and acknowledgement ad in local newspapers.

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

Hunter Education and Youth Shooting Program

Brooks and District Fish and Game Association Project Code: 002-00-90-102 Grant: \$2,500 Project Status: New in 2008-2009; Completed

The objective of this project was to introduce new participants to hunting and the shooting sports. This project conducted the Alberta Conservation and Hunter Education program for 39 new hunters, included was a field day which involved trap shooting, archery and rifle shooting. Seven youth trap shooting evenings (203 participants); one youth sporting clay shoot (19 participants) and a novice pheasant hunt (25 first-time pheasant hunters) were held.

Deliverables/Results:

280 novice shooters participated in the program.

Rick Martin Brooks and District Fish and Game Association P.O. Box817 Brooks, AB T1R 1B7 rick.martin@eid.ab.ca 403-362-1414 home 403-378-2352

Research, Conservationa and Education of Amphibians at the Calgary Zoo

Calgary Zoo Project Code: 030-00-90-126 Grant: \$23,486.00 Project Status: New in 2008-2009; Completed

Worldwide, amphibian populations are in decline. Chytrid fungus and ranavirus are two emerging pathogens of amphibians that have been implicated in a series of global declines. Scientists believe many more species may go extinct before we are able to act. Here in Alberta, the northern leopard frog (Ranapipiens) has disappeared from much of its historical range in west central and southern Alberta and is currently listed as Threatened under Alberta's Wildlife Act. An amphibian census was conducted at the DWCC wetlands between April and July 2008. Frog monitoring included weekly evening call surveys, and presence/absencesurveys in 50m x 50m transects along the water's edge. Cover boards were placed in each transect and checked weekly for presence/absence. It was determined that the transect method of survey was not an effective technique for this habitat – the majority of frog species in this area are quite small and very difficult to find in long grass. They also assessed local population for disease and water quality. Staff received training in amphibian conservation/breeding programs and obtained the necessary equipment to begin a breeding program. An educational display was developed promoting research and conservation of local amphibian species.

Deliverables/Results:

A press release was issued at the beginning of the project (May 2008) A report for shareholders describing the results of this project- a CD powerpoint presentation is available. Terrariums have been completed and are on display in Cequel Energy Lodge. Two of Alberta's amphibians are on display: the long-toed salam and er, and the western toad.

A CAZA Amphibian husbandry workshop/symposium was held at Calgary Zoo (May 2008)

Project findings published in the newsletters of the Calgary Zoological Society, the CAZA and the Calgary Field Naturalists Society

Findings were presented in a presentation at the 2008 CAZA conference in Granby, Quebec (Oct. 2008)

A presentation for the community of Carstairs was held on April 2nd, 2009

Robert Peel Calgary Zoo 1300 Zoo Road NE Calgary, AB T2E 7V6 bobp@calgaryzoo.ab.ca 403-232-9304

Riparian area fencing project at Aspen Ranch Outdoor Education Facility

Camps for Children Education Association Project Code: 020-00-90-105 Grant: \$2,500 Project Status: Related project funded in 2007-2008; Completed

The project objective is to protect the riparian area on Aspen Ranch. In addition to keeping livestock out, this area has been put aside for the purpose of educating the public as to the importance of such an area and raise awareness of the flora and fauna of the area. A fence has been installed to keep livestock out of the riparian area. This fenced in area contains the Riparian Area Interpretive Trail.

Deliverables/Results:

Fence protecting riparian area has been constructed.

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

Castle Wilderness Restoration, on the Ground and on othe Web

Castle-Crown Wilderness Coalition Project Code: 015-00-90-105 Grant: \$7,160 Project Status: New in 2008-2009; Completed

The objectives of this project are to: observe as many of the trails as possible, especially stream crossings in the 1000 sq km of the Castle Wilderness; record what improvements are needed; prioritize those needs in consultation with staff of Cows and Fish, SRD, DFO, and appropriate consultants; improve damaged areas, for instance remove invasive species where appropriate; and do significant outreach so that the public understands the impacts that have been taking place, and how to avoid, minimize and restore them. This outreach included posting information on CCWC's nearly completed new website, which will have a map section for posting this information. Activities included: contacting partners, compiling a list of needed information and how our tasks support their work most appropriately; plan and implement the outreach program; travelling (by bike, foot or horse) the hundreds of miles of trails of the Castle Wilderness observing and recording changes from previous years and determine top priority tasks; carrying out restoration tasks (such as removing invasive weeds where appropriate, bioengineering eroded stream banks, remove debris from old broken bridges). Outreach materials (leaflets and a display) were developed and distributed widely at face-to-face events. Stewardship reports and final report are to be posted on the CCWC website.

Deliverables/Results:

Observations were made by four categories of CCWC people: staff, volunteer stewards, hike leaders, and recreational hikers. Staff traveled (by foot, bike, or horse) several thousand km of trails, and observed more than 100 stream crossings. Volunteer stewards visited their chosen valleys and they reported their findings, such as wildlife, bird, and flower sightings, cattle impacts, recreational vehicle impacts and infractions, erosion, and other points of interest or concern, and how these differ from previous years. Significant outreach was done, both face-to-face, by conventional media (nearly weekly coverage in the Pincher Creek Echo and the Waterton Boundary), and electronically.

Judy Huntley Castle-Crown Wilderness Coalition P.O. Box 2621 Pincher Creek, AB, TOK 1W0 office@ccwc.ab.ca 403-627-5059 www.ccwc.ab.ca

Scout and Youth Fishing Pond

Coaldale 4th Scout Troop Project Code: 020-00-90-104 Grant: \$2,384 Project Status: CANCELLED, money not transferred

The objectives of the project was: to establish a youth fishing pond; create awareness of fish and their habitant; to create a safe environment for fishing and provide opportunities for youth to learn how to fish, within minutes of their home. This project did not proceed.

Glen Roelofs Coaldale 4th Scout Troop 2216 - 21st A Avenue Coaldale, AB T1M 1H6 mo-tires@mo-tires.com 403-329-4533

Outdoor Women's Program

Conservation Education W.I.S.E. Foundation Project Code: 002-00-90-105 Grant: \$10,000

Project Status: New in 2008-2009; Completed

The goal of this project is to increase numbers of outdoors women. This seminar hosted hundreds of women for a 5-day weekend of learning, camaraderie, fun and an opportunity to begin to master the outdoors. This year's seminar took place August 6th - 10th at the Alford Lake Conservation Education Center for Excellence. Women of all ages (average age of the participants was 40 years old; the youngest attendee was 13 years old and the oldest was 76) were encouraged to experience, explore, and develop an understanding of the natural world through 22 different hands-on programs. They could try their hand at everything from fly fishing, shooting, backing up a trailer, to using a digital camera. Topics covered include GPS, outdoor survival, how to handle a canoe, outdoor cooking, building a diamond willow walking stick, edible plants, and of course, firing a gun. Patient and knowledgeable instructors encouraged each woman towards her own level of confidence and competence with each new skill.

Deliverables/Results:

Over 152 participants and 60 instructors gathered together for the 5 day event. Over 22 different hands on programs were held, combined with 10 bonus evening sessions.

Robert Gruszecki Conservation Education W.I.S.E. Foundation 911 Sylvester Crescent SW Calgary, AB T2W 0R8 robert_gruszecki@ezpost.com 403-319-2275

Youth Hunter Education Camps

Conservation Education W.I.S.E. Foundation Project Code: 002-00-90-107 Grant: \$10,000 Project Status: New in 2008-2009; Completed

The future of hunting and fishing in Albertalies with our youth. If the youth of today don't take an interest in these outdoor activities then the number of hunters and fishermen will continue to decline. Therefore seminars and fun activity days such as the "Youth Hunter Education Camp" target and attract youth to these activities which in turn provide introductory opportunities to become hunters, anglers and responsible outdoors men and women. The Youth Hunter Education Camps provide a safe, responsible and fun introductory opportunity to introduce young people to the outdoors that will nurture and develop their interest in outdoor pursuits. Three weeklong camps were held in July, 2008, each offering a one-week full immersion Hunter Education to meet the requirements and also receive certification in the CFSC (Canadian Firearms Safety Course) to meet the Federal requirements. Students covered topics, such as: canoeing, fishing, legal responsibilities, bowhunter education, First Aid, to name a few.

Deliverables/Results:

Three Youth Hunter Education Camps were held at the Alford Lake facility (July 7-12, 2008, 60 youths attended, 23 Volunteers/Instructors; July 14-19, 2008, 58 youths attended, 21 Volunteers/Instructors; July 21-26, 2008, 61 youths attended, 24 Volunteers/Instructors)

Robert Gruszecki Conservation Education W.I.S.E. Foundation 911 Sylvester Crescent SW Calgary, AB T2W 0R8 robert_gruszecki@ezpost.com 403-319-2275

Youth Seminar

Conservation Education W.I.S.E. Foundation Project Code: 002-00-90-106 Grant: \$15,000 Project Status: New in 2008-2009; Completed

The purpose of this project was to provide a fun, hands-on, low cost, education event for young Albertans. The future of hunting and fishing in Alberta lies with our youth. If the youth of today don't take an interest in these outdooractivities then the number of hunters and fishermen will continue to decline. Therefore seminars and fun activity days such as the "Youth Seminar" target and attract youth to these activities which in turn provides introductory opportunities to become hunters, anglers and responsible outdoorsmen and women. The seminar focused on the pursuits of hunting and fishing by providing opportunity to gain confidence, increase competence, acquire experience and promote personal growth. This two-day seminar was designed to help young people develop basic skills that will help them use the outdoors with confidence. They practiced archery, shooting, map and compass, survival skills, wildlife identification and fishing, amongst other things.

Deliverables/Results:

The Youth Seminar was held August 23-24, 2008 at the Alford Lake Camp facilities. 74 youths & 23 volunteers/instructors participated.

Robert Gruszecki Conservation Education W.I.S.E. Foundation 911 Sylvester Crescent SW Calgary, AB T2W 0R8 robert_gruszecki@ezpost.com 403-319-2275

Re-print of Conservation and Hunter Education Manuals

Conservation Education W.I.S.E. Foundation Project Code: 002-00-90-104 Grant: \$30,000 Project Status: Funded since 2004-2005; Completed

The project re-printed 15,000 copies of the Alberta Conservation and Hunter Education program manuals, certificates and wallet cards. The International Association of Fish and Wildlife Agencies have recognized this manual as the most outstanding of its kind in North America. The Alberta Conservation and Hunter Education program was approved in 1986 for use and for credit in Alberta Junior and Senior High School curriculum. 15,000 students take the program each year. Numerous Alberta teachers use a classroom set each year for several years. This program has been available to Albertans for over 40 years.

Deliverables/Results:

15,000 copies of the Conservation and Hunter Education Manuals, Certificates, and the Wallet Cards have been printed.

Robert Gruszecki Conservation Education W.I.S.E. Foundation 911 Sylvester Crescent SW Calgary, AB T2W 0R8 robert_gruszecki@ezpost.com 403-319-2275

Fish 101 and Biodiversity 101 - Making linkages between healthy populations and management

Cows and Fish - Alberta Riparian Habitat Management Society Project Code: 020-00-90-145 Grant: \$17,000 Project Status: New in 2008-2009; Completed

The objective of this project was to work with landowners, riparian land managers and others, delivering new targeted outreach messages related to fish ecology, fish habitat and biological diversity. These awareness presentations improve understanding for the general public, but also can used to assist natural resource conservation professionals to increase their professional skills in working with the public and designing programs. Results from recent surveys on fish ecology/ management and biodiversity were used to modify presentations Cows and Fish and others use, because they identify knowledge gaps and areas for improvement in program design and delivery, based on the perceptions and attitudes of Albertans. In addition, key land owner-useful results from fish habitat management improvement projects are factored into presentations. Ultimately, these presentations and training opportunities enable people to makemore informed, responsible decisions and choices, improving riparian areas and fish and wildlife resources.

Deliverables/Results:

26 events (presentations and activities) were delivered that relate to reducing knowledge gaps and improving program delivery related to fish and wildlife habitat and improving riparian stewardship.

A new website was launched which now includes the Cows & Fish technical report series. Both reports, related to biodiversity and fish, respectively, are now available to the public and natural resource managers. See:

http://www.cowsandfish.org/publications/reports.html

No. 036 - Determining Biodiversity Knowledge and Effective Program Messaging. Evaluation Report. 2008.

No. 037 - The Magic and Mystery of Fish Survey: A Survey of Albertans. 2008. No. 039 - Fisheries Biodiversity: Understanding the Link to Riparian Health. Palliser Environmental Services Ltd. for Alberta Riparian Habitat Management Society - Cows and Fish. Report No. 039. March 2009. 57 pp.

Identified key indicators linking fish and fish/riparian habitat, which will be valuable in future research planning and monitoring.

Norine Ambrose

Cows and Fish - Alberta Riparian Habitat Management Society 2nd floor, YPMPlace, 5308th Street South Lethbridge, AB T1J2J8 nambrose@cowsandfish.org 403-381-5538

Deadmans Pass / Allison Creek

Crowsnest Pass Quad Squad Association Project Code: 015-00-90-109 Grant: \$7,500 Project Status: New in 2008-2009; Completed

The trails along Allison Creek are easily accessed and heavily used by ATV's, motorcycles, hikers and equestrian traffic. The project goal was to replace an old washed out wooden structure with a 50' engineered bridge to provide users with a creek crossing that would eliminate the need for users to ford the creek thus mitigating the damage to the creek and watershed. Signage identifies sensitive areas and encourages users to stay on existing trail systems and out of the creek. There is an educational/interpretive component including increasing awareness and responsibility of users. Assessment and evaluation of water crossing was done involving representatives from Alberta Sustainable Resource Development. The project itself has created opportunities to partner with other stakeholders to increase awareness and reduce cumulative damage on the watercourse and natural habitat in the area.

Deliverables/Results:

The installation of the 50' engineered bridge was completed on Sept 22, 2008 and has enhanced the accessibility for all users of the trail system along Allison Creek by providing a way to cross the creek without fording it as has been the case in the past.

Signage was installed spring 2009 at the bridge as a way to identify project partners and remind users to use the bridge and protect the stream A media release about the project has been posted on their website See: www.quadsquad.ca/?q=node/643.

A media release has been prepared to be released directly to our partner stakeholders.

Glen French Crowsnest Pass Quad Squad Association Box 308 Bellevue, AB TOC 0C0 office@quadsquad.ca 403-562-8686

Fiesta Lake dock construction

Dickson Fish and Game Project Code: 020-00-90-101 Grant: \$1,500 Project Status: New in 2008-2009; Completed

The Dickson Fish and Game Association built a dock on Fiesta Lake allowing fisherman, birdwatchers and the general public to gain access to this new fishery

and beautiful lake. Fiesta Lake is located 10km south of Caroline. Alberta on provincial lands and was stocked by the province of Alberta (fall 2007) to create a new trophy trout fishery. ACA is currently developing aeration on this water body to allow these fish to over winter. The lake is virtually an undeveloped lake with no access to wade or shore fisherman and has no boat launching areas. The dock will only allow personal water craft to be launched thus limiting motor boats keeping the lake free of two-stroke engine exhaust; therefore there will be no hydrocarbons entering the water and disturbing local wildlife. The dock is 50 ft long and extends past the cattail margin around the lake. The dock has been constructed with treated lumber and spray foam insulation (a proven dock construction technique). This combination makes for a safe, durable long lasting dock maintaining access to the lake for years to come. This type of floating construction is deemed a temporary structure and falls outside of the scope of a beds and shore development outlined in the Federal Fisheries Act. The dock is anchored and can be removed and repaired if needed. The club will place signs indicating that swimming and diving from the dock is not a recommended activity.

Deliverables/Results:

The dock was built in April and deployed in May 2008.

Kelsey Kure Dickson Fish and Game Box 29 Spruce View, AB TOM 1V0 kelsey@kureoutdoors.com 403 638-6213

Duvegan Fish and Game Association waterfowl nestbox project

Dunvegan Fish and Game Association Project Code: 030-00-90-107 Grant: \$850 Project Status: New in 2008-2009; Completed

The Little Burnt River property has good wetlands and water resources, but few dead mature trees are available for nesting bufflehead and goldeneye. DFGA invited Whitelaw school to help build nest boxes and then to install the boxes along the Little Burnt River. Building and installing nest boxes with students was a fun way to educate students on the importance of habitat and wildlife conservation, and to involve students with enhancement of bird nesting opportunities. DFGA club members cut and prepared the materials for 74 duck nest boxes (and an additional 85 tree swallow boxes) and assembled them at Whitelaw and Fairview area schools. Club members took students on field trips: to install the boxes, to maintain the boxes and to monitor occupancy. DFGA club members volunteered time, labour, mileage and wood working tool usage to make the project successful. DFGA club members also gave wetland presentations to students.

Deliverables/Results:

DFGA built a total of 74 duck nest boxes. Whitelaw students went on a field trip in March 2008 to install the boxes (24) on ACA Little Burnt River property in SW 20-82-1, W6. The students went on another field trip in June, 2008 to monitor nesting activity and again in Sept, 2008 to clean out boxes. The occupancy rate for the duck boxes in spring 2008 was 25%, with the majority being buffleheads. One unexpected nesting duck was a gadwall. Students learned about duck nesting behaviour, nesting cover, and wetland plants and animals. As material costs had decreased since the project was proposed, an additional 85 tree swallow nest boxes were constructed. The Fairview Post published a photo and brief article on the field trips.

Ken Jones Dunvegan Fish and Game Association Box1626 Fairview, AB TOH 1L0 kjones@roynorthern.com 780-835-7504 home 780-835-2796

Comparison of grassland bird diversity and abundance in fall- and spring-seeded wheat and planted and native grasslands in south central Alberta

Environment Canada, Canadian Wildlife Service (CWS) Project Code: 030-00-90-125 Grant: \$5,000 Project Status: New in 2008-2009; Completed

The project objectives are: to determine the relative value of winter wheat crops for priority land- and wetland- associated birds and whether the amount of cultivation in the landscape influences bird use; to record Species At Risk (SAR) locations and general breeding behaviours of birds in cultivated fields and grassland habitat: to provide information collected in this study to conservation partners. Survey sites were visited twice in May and June and once in July, 2008 to document the temporal change in bird abundance throughout the cropping season. Vegetation structure was measured in each point-count. In total, CWS conducted 192 point-count surveys on winter-wheat fields, 189 on spring-wheat fields, 139 on fallow fields, 210 on native pastures and 123 counts on planted grassland and recorded the abundance of priority landbirds (e.g., Sprague's pipit, McCown's longspur, and Baird's sparrow) and avian species known to use cultivated lands (e.g. killdeer, vesper sparrow, and horned lark). Habitat selection data have been analyzed and landscape analyses are on-going. Surveyors recorded the locations of Species At Risk such as ferruginous hawk (n=8), burrowing owl (n=2), short-eared owl (n=1), loggerhead shrike (n=11), peregrine falcon (n=2), long-billed curlews (n=18), and McCown's long spur (n=2). All behavioural observations and incidental nests were recorded with a GPS unit. Abundance and occurrence data of SAR collected for this study have been shared with provincial and federal conservation agencies along with location coordinates. Deliverables include a database, reports and scientific publication.

Deliverables/Results:

The database is complete. Scientific publication expected Feb 2010.

Stephen Davis Environment Canada, Canadian Wildlife Service (CWS) 2365 Albert Street, Rm 300 Regina, Saskatchwan S4P 4K1 stephen.davis@ec.gc.ca 306-780-534

Heart River Restoration Project

Heart River Watershed Advisory Council Project Code: 020-00-90-118 Grant: \$5,000 Project Status: New in 2008-2009; Completed

The main objective of this riparian restoration project was to restore an unhealthy riparian area along the shores of the Heart River, thereby enhancing wildlife, waterfowl and fish habitat. The second objective of this project was to designate the restored/enhanced riparian area as a riparian demonstration area that can be used for educational purposes. The project activities included: conducting a Riparian Health Assessment for the Heart River, and/or a reach near Nampa; choosing a suitable site for restoration; identification of extent and method of restoration (type and number of plants, bank stabilization, etc.); carrying out restoration activities; and installing educational signage.

Deliverables/Results:

A restoration site was chosen late fall; the site was split into two separate locations, where approx. 7-8 acres were interspersed with spruce seedlings. One site used to have an over-abundance of cattle pastured adjacent to the Heart River which were always watered directly out of the river. Now cattle numbers have been reduced, the fence moved back from the very edge of the river, water access is provided without the cattle accessing the river and trees have been planted in the riparian area. The current landowner is looking into planting more shrubs in 2009. The second site is adjacent to primary highway #2 in Myrtle Creek where the existing stand of dying and decadent poplar has been replaced by white spruce. A brochure was produced as well as educational signage.

Robert Miles Heart River Watershed Advisory Council Bag 1300 Peace River, AB T8S 1Y9 ramiles@northernsunrise.net 780-624-0013

Fact Sheets

Hunting for Tomorrow Foundation Project Code: 002-00-90-113 Grant: \$4,400 Project Status: New — funded previously as part of HFTF work program; Completed

The Hunting For Tomorrow Foundation has developed 20Fact Sheets to date, including the following: 1. Hunting For Tomorrow; 2. Adult First Time Hunter; 3. Youth First Time Hunter; 4. Spring Black Bear Hunting; 5. Alberta's Hunting License System; 6. The Draw System; 7. Hunting With Firearms; 8. Subsistence Hunting; 9. Alberta's Outfitted Hunting Industry; 10. About Alberta Hunters; 11. Hunters Who Care; 12. Disabled Hunter – The Facts about Mobility Impaired Hunters; 13. Understanding the Hunt; 14. Ladies – Let's GoHunting; 15. From The Field Tothe Table – The Benefits of Eating Wild Game; 16. Hunting – Good Recreational Value For Your Dollar; 17. Wildlife Diseases - What's Bugging Wild Critters?; 18. Métis Harvest Agreement; 19. Field Dressing and Meat Care; 20. Inventory of Available Fact Sheets. These documents are intended to inform both the hunting and non-hunting audiences about specific issues. They are written in "easy to read", plain language. The Fact Sheets are posted on the HFTF web-site and distributed through Sportsman Shows, public presentations and through the major licensing vendors across the Province. Annually these documents are updated with new information, which is necessary to ensure that all information is timely and accurate. Presently, the majority of topics suitable for the Fact Sheets have been completed. It is estimated that 4 to 5 additional / new topics will be added annually. Annual distribution is approximately 7,500 copies per fact sheet. It is necessary to re-print all of the existing Fact Sheets, in order to meet the existing demands. Each fact sheet were reviewed and updated as appropriate.

Deliverables/Results:

Fact sheets were edited and up-loaded to the website (See:<u>www.huntingfortomorrow.com/HFTF_Home/Facts%20or%20Fiction.htm</u>). 10,000 copies were made for distribution. Kelly Semple Hunting for Tomorrow Foundation #87, 4003 - 98th St. Edmonton, AB T6E 6M8 ksemple@huntingfortomorrow.com 780-462-2444

Hunting...Give it a Shot!

Hunting for Tomorrow Foundation Project Code: 002-00-90-111 Grant: \$5,000 Project Status: New in 2008-2009; Completed

The focus of this program is to create a positive public relations and promotional campaign around hunting. This theme "Hunting... Give it a Shot!" would be used in all promotional material produced and it is intended to reach a broader audience. Endorsements from popular public figures or celebrities were utilized in posters, public service announcements and other media promoting this theme. The phrase "Hunting...Give it a Shot!" is similar to the development of the "GoFish" programs and is intended to catch people's interest and invite them to contact us. Documents supporting this "catch phrase" include information about hunting in general, the safety of hunting (compared to other recreational activities), the contributions of hunters and how to get started. HFTF's ongoing and active promotion of hunting, including: brochures, advertisements, radio, internet and television are all necessary tools to maintain public support and encourage new or return participation. Materials were distributed at all events attended.

Deliverables/Results:

A 60 second television vignette: the scheduled air dates were Sept 15–26, 2008 on CTV Edmonton for a total of 19 occasions, Sept 15–26, 2008 on CTV Calgary and CTV Lethbridge for a total of 18 occasions. Exposure also includes regular coverage on WILD TV commencing in Sept 2008 and is still being aired. Total estimated occasions is 350+. The vignette can be viewed on the HFTF website. Weekly radio (20 second spots) with "Let's Go Hunting" x 26 weeks

Kelly Semple Hunting for Tomorrow Foundation #87, 4003 - 98th St. Edmonton, AB T6E 6M8 ksemple@huntingfortomorrow.com 780-462-2444

Provincial Hunting Day Celebration

Hunting for Tomorrow Foundation Project Code: 002-00-90-136 Grant: \$10,000 Project Status: New in 2008-2009; Completed

In 2007, Alberta declared the first Provincial Hunting Day for the province on September 22. The day promoted hunting as an important wildlife management tool, as well as a healthy outdoor activity that fosters strong connections to and awareness about nature and the environment. A number of organizations provided opportunities, for committed hunting enthusiasts and those who might be in hunting, to learn more about this activity. The success and support of Alberta's first Provincial Hunting Day led to the Alberta government announcing this special day as an annual event on the fourth Saturday in September. In addition to promoting the strong tradition of hunting, an additional opportunity has been provided for resident youth to experience recreational hunting for upland game birds on Provincial Hunting Day. Hunting for Tomorrow undertook several initiatives to promote Provincial Hunting Day in Alberta, including hosting specific events as well as various media and promotion al activities (TV, radio, magazine, brochure, electronic network promotion and web-site).

Deliverables/Results:

The main tool used to reach this market was television and included a 60 second TV Vignette that featured the "Hunting...Give It a Shot!" theme. The scheduled air dates were Sept 15 - 26 on CTV Edmonton for a total of 19 occasions, Sept 15 - 26 on CTV Calgary and CTV Lethbridge for a total of 18 occasions. Exposure also included concentrated coverage on WILD TV during the month of September with an estimated 125 occasions. This vignette is also available on the HFTF website. A special area was also created on the <u>www.huntingfortomorrow.com</u> website to profile Provincial Hunting Day and to celebrate photos from many of the events that took place. An inventory of all participants was created and each participant received a Celebration package in the mail, with a letter of thanks for participating along with various complimentary items.

Kelly Semple Hunting for Tomorrow Foundation #87, 4003 - 98th St. Edmonton, AB T6E 6M8 ksemple@hunting fortomorrow.com 780-462-2444

Best Practices Across North America - Workshop

Hunting for Tomorrow Foundation Project Code: 002-00-90-110 Grant: \$7,500 Project Status: New in 2008-2009; Completed

HFTF was to host a 1-2 day workshop with participation from across the USA and Canada to discuss Best Practices related to recruitment and retention of hunters. Specifically the objectives were to focus on: increase the recruitment rate of youth; increase the recruitment rate of adults; increase the retention rate of current hunters; and reintegrate former hunters. Best Practices discussions will look at current programs in place and their effectiveness in the various jurisdictions

including: Shooting Opportunities; Outdoor Mentorship programs; Hunting Access; Marketing and Promotion of hunting; Education and awareness about hunting and hunters; and Special hunt opportunities. A summary from the discussions was to be compiled and distributed amongst the members in attendance and to other organizations or jurisdictions that have an interest in this data. The second part of this initiative focused specifically on Alberta and involved a careful review of the current hunter participation numbers and the demographics associated with the various segments. This information is available through the RELMI censing system, but requires ASRD, Fish & Wildlife Division to formally request the data. Ultimately "armed" with a series of Best Practice initiatives and accurate data about the characteristics of our Alberta hunters, future programming will continue to be developed that will specifically target this audience utilizing programs with a history of success.

Deliverables/Results:

In June, 2008 ACA convened a meeting of various organizations across the province to review and discuss Hunter, Trapper and Angler Retention, Recruitment and Education Strategies in Alberta. As a result of this process and the various meetings that took place, a comprehensive literature review was done to compile information regarding successful programs already implemented across Canada and the United States. Key documents that have been reviewed and provide meaningful direction to Alberta initiatives include: National Shooting Sports Foundation – 2008 Annual Review; Strengthening America's Hunting Heritage and Wildlife Conservation in the 21st Century: Challenges and Opportunities; Facilitation of Hunting Heritage and Wildlife Conservation.

The Executive Director from Hunting for Tomorrow attended the White House Conference on North American Wildlife Policy that was held in October, 2008 in Reno, Nevada. Attendance at this workshop provided outstanding networking opportunities and allowed for the collection of key data to be used in the Alberta model.

A national Foundation has been organized in Canada that meets on a monthly basis via conference call to share information about strategies, issues and areas of opportunity related to hunting, fishing and trapping rights within Canada. Again, key contacts and data have been secured through this process.

Kelly Semple Hunting for Tomorrow Foundation #87, 4003 - 98th St. Edmonton, AB T6E 6M8 ksemple@huntingfortomorrow.com 780-462-2444

The Red Deer Brook Area Structure Plan

Lac La Biche County Project Code: 015-00-90-110 Grant: \$8,500 Project Status: New in 2008-2009; Completed

An economic evaluation of the Red Deer Brook area was completed in 2006 through a partnership with Simon Fraser University. Through this study, it was discovered that approximately \$1,000,000 worth of environmental goods and services are provided to the community per year by this tract of wetland. As the Red Deer Brook provides the community with these services, Lac La Biche County is taking the next required steps to protect the area. Lac La Biche County enlisted the services of Tarin Resources, Urban Systems and Aquality Environmental Consulting to complete the Red Deer Brook Area Structure Plan. To determine developable lands and un-developable lands within the Area Structure Plan, the Riparian Setback Matrix Model will be used. The Riparian Setback Matrix Model is a legally defensible tool used to determine Environmental Reserve dedication under the Municipal Government Act. By using photo interpretation to apply the matrix (Tarin Resources), policy and planning (Urban Systems), as well as environmental sustainability (Aquality Environmental Consulting) the resulting Area Structure Plan for Red Deer Brook will ensure protection of this environmentally sensitive area. Once the matrix is applied, environmentally sensitive lands will be deemed un-developable and dedicated as Environmental Reserve while the remaining land required for conservation will experience controlled development.

Deliverables/Results:

The aerial interpretation has been completed by Tarin Resources Ltd. Urban Systems, 2009. The Red Deer Brook Area Structure Plan. Document commissioned by Lac La Biche County 45pp.

Duane Coleman Lac La Biche County Box 1679 Lac La Biche, AB TOA 2C0 krystle.fedoretz@laclabichecounty.com 780-623-4323

Riparian health inventory done by Cows and Fish

Lac La Nonne Watershed Stewardship Society Project Code: 020-00-90-144 Grant: \$14,000 Project Status: New in 2008-2009; Completed

Through this riparian health inventory, the LWSS aims to achieve the following objectives: to create awareness among people around the lakes about riparian areas, why they are important and how what we do impacts them either positively or negatively; be proactive and show that a willingness to identify and face any issues they might have; find examples of good riparian management so these can be demonstrated to others; get baseline data of current conditions so changes in the riparian health over time can be monitored; integrate riparian areas and health intolonger term watershed planning and update the current state of the watershed report. Community meetings were held including follow up meetings with all community members invited to attend. A Riparian Workshop was held with all land owners invited to attend. Data collection and field work included: project area stratification/aerial photointerpretation, land owner contacts/on-site visits; and completion of lentic riparian health inventories. A Community Report for the LWSS plus participating land owner reports has been prepared and delivered.

Deliverables/Results:

A riparian health inventory was completed by Cows and Fish on representative samples of lakeshore on Nakamun Lake and Majeau Lake in 2008. The average health rating of these sites is in the 'healthy, but with problems' category meaning that there are some issues with riparian health. The health for the two lakes together (n=16) is: 38% of sites are healthy, 12% healthy but with problems

and 50% unhealthy. Some of the common issues on the two lakes are high presence and distribution of invasive plant species (noxious weeds) and a moderate to high severity of human-caused alterations to site physical structure. All of the landowners, who volunteered the shoreline in front of their property and who attended the summer information sessions and field days, were cooperative and interested in the project. Many of them already knew or had heard about the LWSS and were willing to learn more about the group and initiatives being planned.

Lorna McFadzen Lac La Nonne Watershed Stewardship Society Site 17, Box 10, RR 1 Gunn, AB TOE 1A0 macshac@xplornet.com 780-436-8280

Blue Bird House kit building projects

Lamont Fish and Game Association Project Code: 030-00-90-101 Grant: \$2,500 Project Status: New in 2008-2009; Completed

The goal of this project was to buy the materials to construct 500 bird house kits for the children around Lamont and Lamont County. This has been done in conjunction with Lamont High School Industrial Class. Preschool children, elementary school children and club members have constructed bird houses and have put them up throughout the County. Lamont FGA also had a bird house building station at the Lamont Fair days and other suitable locations.

Deliverables/Results:

Lamont Fish and Game Association constructed approximately 500 bird house kits which have been given away to the youth of Lamont and surrounding area over the 2008 and 2009 nesting periods. Children are learning the needs of the song birds in the area.

Robyn Butler Lamont Fish and Game Association Box 750 Lamont, AB TOB 2RO r.butler@primus.ca 780-895-7799

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

Laval University Project Code: 030-00-90-117 Grant: \$18,813 Project Status: Funded since 2004-2005; Completed

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, the 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 sexage structure among years; d) assess the effects of current reproduction on foraging behaviour, survival, growth, and future reproductive success in adult females; e) document for the first time the reproductive strategies and reproductive success of males using genetic markers; f) identify the factors (including hunting) that affect population size and that are therefore important for management; g) monitor the dispersal of juvenile mountain goats; h) examine whether mountain goats can habituate to helicopter and all-terrainvehicle traffic. This research project involves the continued monitoring of survival and individual reproductive success of goats on Caw Ridge and the marking of juveniles to provide accurate information on population size and recruitment. Fieldwork started on May, 13th, 2008 and was completed on Sept 16th, 2008. In 2008, 9 previously unmarked goats (all yearlings) were caught, marked and released and 32 marked goats were recaptured, for a total of 41 captures. In total, 408 mountain goats have been marked since 1988. In Sept 2008, there were 144 goats in the population of which 120 (83%) were marked. If kids are excluded because they are only marked when they are at least 1-year-old, the proportion of marked goats was 98%. They continued to monitor radiocollared young males for evidence of dispersal. 5 new radiocollars were installed on 2-year-old males in 2008. During captures, an ear punch from each individual are collected to conduct genetic analyses. They continued collections of fecal samples at biweekly intervals. To assess whether mountain goats have habituated to helicopter traffic over the last 10 years, mountain goat responses to helicopter flights, as well as ATVs were monitored. No study has ever assessed the effects of ATVs on the behaviour of mountain ungulates. The team presented many reports, scientific articles and conferences throughout the year (see deliverables list below).

Deliverables/Results:

The Caw Ridge study is the leading research project on mountain goats in North America, as demonstrated by the number and quality of publications that have resulted from this work, by its value in training graduate students and by the frequent references to this study found in the Management Plan for mountain goats in Alberta. The results of this work provide important biological information to manage mountain goat hunting and conservation in Alberta and elsewhere.

Scientific publications from the Caw Ridge research published or submitted in 2008-2009:

Ezard, T. H. G., S. D. Côté and F. Pelletier. 2009. Eco-evolutionary dynamics: disentangling phenotypic, environmental and population fluctuations. Philosophical Transactions of the Royal Society Series B, in press.

Hamel, S. and S. D. Côté. 2009. Maternal defensive behaviour and golden eagle predation in mountain goats. Western North American Naturalist, in press.

Hamel, S., S. D. Côté, J.-M. Gaillard and M. Festa-Bianchet. 2009. Individual variation in reproductive costs of reproduction: high quality females always do better. Journal of Animal Ecology 78: 143-151.

Hamel, S., J.-M. Gaillard, M. Festa-Bianchet and S. D. Côté. 2009. Individual heterogeneity in quality and reproductive success in three contrasted populations of large herbivores. Ecology, in press.

Hamel, S., M. Garel, M. Festa-Bianchet, J.-M. Gaillard and S. D. Côté. 2009. Spring normal iz ed difference vegetation index (NDVI) predicts annual variation in timing of peak faecal crude protein in mountain ungulates. Journal of Applied Ecology, in press.
Pelletier, F., J. Mainguy and S. D. Côté. 2009. Rut-induced hypophagia in male bighorn sheep and mountain goats: foraging under time budget constraints. Ethology 115: 141-151.
Poissant, J., A. B. A. Shafer, C. S. Davis, J. Mainguy, J. T. Hogg, S. D. Côté and D. W. Coltman.
2009. Genome-wide cross-amplification of domestic sheep microsatel lites in bighorn sheep and mountain goats. Molecular Ecology Resources, in press. Festa-Bianchet, M., and S. D. Côté. 2008. Mountain goats: ecology, behavior, and conservation of an al pine ungulate. Isl and Press. 265 pp.

Hamel, S. 2008. Les compromis à court et à long terme associés à la reproduction chez les ongulés femelles: l'exemple de la chèvre de montagne. Ph.D. thesis, Université Laval, Québec.

Hamel, S and S. D. Côté. 2008. Trade-offs in activity budget in an al pine ungulate: contrasting lactating and non-lactating females. Animal Behaviour 75: 217-227.

Mainguy, J. 2008. Variabilité génétique et reproduction des mâles chez la chèvre de montagne. Ph.D. thesis, Université Laval, Québec.

Mainguy, J. and S. D. Côté. 2008. Age- and state-dependent reproductive effort in male mountain goats, Oreamnos americanus. Behavioral Ecology and Sociobiology 62: 935-943. Mainguy, J., S. D. Côté, É. Cardinal and M. Houle. 2008. Mating tactics and mate choice in relation to age and social rank in male mountain goats. Journal of Mammalogy 89: 626-635. Hamel, S. and S. D. Côté. Foraging decisions in a capital breeder: trade-offs between mass gain and lactation. Oecologia, invited revision submitted February 2009.

Hamel, S., S. D. Côté and M. Festa-Bianchet. Maternal characteristics, environment, and costs of reproduction in femal e mountain goats. Journal of Animal Ecology, invited revision submitted March 2009.

Mainguy, J., S. D. Côté, M. Festa-Bianchet and D. W. Coltman. Siring success and gender dependent paternal effects in a sexually dimorphic ungulate, the mountain goat. Proceedings of the Royal Society B, invited revision submitted January 2009.

Mainguy, J., S. D. Côté and D. W. Coltman. Multilocus heterozygosity, parental relatedness and individual fitness components in a wild mountain goat Oreamnos americanus population. Molecular Ecology, invited revision submitted March 2009.

Steeve Cote Laval University Department of Biology, 1045 ave. de la Medicine Quebec, Quebec G1V 0A6 steeve.cote@bio.ulaval.ca 418-656-2131

Migratory and breeding bird research

Lesser Slave Lake Bird Observatory Project Code: 030-00-90-128 Grant: \$25,000 Project Status: Funded by ACA since 1999; Completed

The vision for the Lesser Slave Lake Bird Observatory is to promote bird conservation through education and research. The LSLBO has been monitoring bird migration in the Slave Lake area since 1994 and to date they have banded over 46,000 birds as a full member of the Canadian Migration Monitoring Network. The primary research objectives are to document population status and trends of avian species. Changes in distribution, status, productivity and survivorship serve as an "earlywarning system" for environmental problems and as an indication of general trends in biological diversity. While initial research programs focused on migration monitoring of song birds, the LSLBO has since expanded their research to include the Monitoring Avian Productivity and Survivorship (MAPS) program looking at breeding birds in the area, and specific species studies on the Canada Warbler and Northern Saw-whet owl. With the opening of the new Boreal Centre for Bird Conservation, an objective to expand the education and outreach stewardship programming was set for this year. Collaborative efforts have been increased with the Lesser Slave Forest Education Society enabling them to offer joint curriculum based field trip and classroom programs plus take part in a Boreal Forest Discovery Camp. Education program based at the new BCBC have also

expanded this year. The LSLBO hired an educator to assist with summer programming.

Deliverables/Results:

Spring Migration Monitoring program took place from April 26 – June 10, 2008. Migration counts, including census, visual migration counts, and incidental observations, were conducted daily. 731 birds from 47 different species and forms were banded, which was below the average spring banding total of 991. Fall Migration Monitoring program commenced on July 12 and continued until October 2, 2008. Standard migration counts were conducted daily and weather conditions allowed the mist-nets to be set for 90. 1% of the total possible time. 1361 birds from 57 different species and forms were banded throughout the fall, which was well below the fall banding average of 2061 and represented the third lowest fall banding total in the LSLBO's records.

MAPS (Monitoring Avian Productivity and Survivorship) program took place June 11- Aug 4, 2008 representing the 15th year of participation in this breeding bird monitoring program by the LSLBO. All sites were successfully completed as scheduled, meaning that all 4 net sites were visited 6 times each. 289 birds were banded from 30 different species.

The Canada Warbler Study focused on nest searching and monitoring. Seven nests were located, which included three nests found during the construction phase. Each nest was monitored for breeding behaviour/reproductive success and the nests were videotaped daily.

Northern Saw-whet Owl Fall Migration Monitoring Program was conducted from August 22 - October 15th. Owl banding occurred on 40 nights during the period and the mist-nets were set for 606 net hours. 67 northern saw-whet owls were banded, which was the lowest banding total since the project started in 2004. Educational Program: in 2008-09 they had 12,690 participants to date (32.5% increase) interacting with their education staff. During the time frame of this grant, 4432 people participated in formal curriculum based environmental education programs from Kindergarten to College. New programming was developed including: Provincial Park Explorers (Gr 4) and the Great Boreal Forest (Gr. 7). The Boreal Interpreter position was hired to provide programming support for the LSLBO and BCBC during the peak season.

Publications: Krikun, R. 2008 LSLBO Annual Report. Lesser Slave Lake Bird Observatory. 50pp.

Warbler Newsletters (Summer 2008 & September 2008)

Klassen, C, 2009. 2008 Boreal Educator Project final report. Unpublished report for Lesser Slave Lake Bird Observatory & Lesser Slave Forest Education Society. 14 pp. The 15 year technical report will be completed fall 2009.

Patti Campsall Lesser Slave Lake Bird Observatory Box 1076 Slave Lake, AB TOG 2AO executive.director@borealbirdcentre.ca 780-849-8240

Lee Creek Fisheries and Riparian Health Assessment

Lethbridge College Project Code: 020-00-90-103 Grant: \$2,500 Project Status: New in 2008-2009; Completed The objective was to conduct a fisheries health assessment of Lee Creek for the purpose of establishing an information base to assist Cardston County and the Lee Creek Watershed Group in prioritizing watershed rehabilitation and remediation locations. This involved 5 days of electrofishing and riparian assessments along the creek to obtain required information. This is one component of a Lee Creek watershed rehabilitation plan. A final report was submitted to Cardston County and Watershed group, and all funding partners. This is one component of a larger project to achieve a functional watershed network that includes professionals and volunteers to maintain and increase local watershed health.

Deliverables/Results:

The lack of sport fish recovered at sample sites was a concern, but the abundance of St. Mary's sculpin, a SARA species, throughout the watershed was a pleasant surprise. Physical habitat measurements identified some trends and possible problem areas in the watershed for the Lee Creek Watershed group. Report: Derksen, J. and Fish & Wildlife Class 2008/09 Lethbridge College. 2009. Lee Creek Fisheries, Fish Habitat and Riparian Health Assessment. Unpublished report.

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

Maximizing the Utility of Native Riparian Trees and Shrubs for Bioengineering Projects in Prairie Ecosystems

Lethbridge College Project Code: 015-00-90-108 Grant: \$9,000 Project Status: New in 2008-2009; Extended until 30 September 09

A significant issue that surrounds Southern Alberta bio-engineering projects is the lack of moisture, especially during the summer months when stem cuttings are most vulnerable to desiccation. The overall focus of this project is to investigate and describe factors associated with stem cuttings within the context of a bioengineering project that maximizes the establishment of the tree and shrub species. The specific objective addressed by this project is to determine the combination of factors that provide the best rooting and establishment success from stem cuttings within Southern Alberta subject to the following conditions: a) semi-hard wood cutting; b) hard wood cutting; c) horm one/auxin treatment; d) hormone/auxin relative concentration; e) pre-soaking with water; and f) dry planting (nopre-soak). Hardwood cuttings (Salix, Populus, Alnus and Amelanchier) from the local environment were obtained April 30-May 1, 2008 and in semi-hardwood condition June 4-7, 2008. Stem cuttings were treated with two different concentrations of the root promoting auxin called indolebutyric acid (IBA). The stem cuttings were pre-soaked prior to planting in a bucket of water for two different time periods (24 and 48 hours). The prepared stem cuttings were out-planted back to the local environment following a "live stake" bioengineering methodology. A sub-sample of each species and treatment was dug up at the end of the growing season to assess the level of root growth development. Establishment of remaining plants was assessed in the spring after exposure to one winter before a true success of planting can be determined. The project experienced some weather difficulties; the spring season provided

cooler temperatures and delayed the collection of semi-hardwood specimens. The late spring-early summer continued to provide cooler temperatures and significantly more precipitation than usual which might have had an effect on the auxin treatments. The site was also damaged somewhat by debris from a record rainfall in July.

Deliverables/Results:

The final assessment of the tree and shrub cuttings (over-winter survival and establishment level) occurred spring 2009, the data are currently being analyzed and the final technical report will be ready fall 2009. A publication is anticipated.

Steve MacRae Lethbridge College 3000 College Drive South Lethbridge, AB s.macrae@lethbridgecollege.ab.ca 403-382-6959

Intro to Fishing - Southern Alberta

Lethbridge Fish and Game Association Project Code: 020-00-90-017 Grant: \$1,200 Project Status: New in 2008-2009; Completed

The objective of this project was to introduce people to angling in Southem Alberta. Participants experienced bait casting, spin casting and fly casting. They learned to identify local game fish, catch and release techniques and care for the catch including cleaning and cooking. Rules and regulations regarding angling, how to use lakes, streams and reservoirs responsibly, and boats afety were taught. They participated in a fly tying session and completed the Alberta Fishing Education course.

Deliverables/Results:

32 new anglers were introduced to fishing

Brian Dingreville Lethbridge Fish and Game Association P.O. Box 495 Lethbridge, AB T1J 3Z1 brianad@shaw.ca 403-315-5887

Project to attract new bird hunters

Lethbridge Fish and Game Association Project Code: 030-00-90-108 Grant: \$2,310 Project Status: New in 2008-2009; Completed

The objective is to develop skills necessary to become a bird hunter in Alberta. The emphasis is on safe, responsible, legal and ethical hunting. Participants received one on one supervision and instruction. They developed skills necessary to be effective with a shotgun and how to identify up-land and waterfowl.

Participants receive all training required to get a hunting and firearm license.

Deliverables/Results:

This project resulted in 46 new youth bird hunters. Brian Dingreville Lethbridge Fish and Game Association P.O. Box 495 Lethbridge, AB T1J3Z1 brianad@shaw.ca 403-315-5887

Recreation and wildlife in the Rockies in Southwestern Alberta: Analysis and recommendations for human use management

Miistakis Institute Project Code: 030-00-90-120 Grant: \$12,000 Project Status: Funded since 2004-2004; Completed

This study aims to analyze the relationships between human use of trails, with a particular emphasis on OHV use, and wildlife movement. The results can be used to determine human trail use and access thresholds with respect to habitat fragmentation, and will contribute to regional land-use management that includes considerations for the maintenance and restoration of ecological connectivity while providing for appropriate levels of human use. This project examined the relationship between OHV use and wildlife, through the use of remote cameras. The 2003 field season focused on testing methodologies and gathering preliminary data and conducting social surveys. The 2004-2007 field seasons have proven to be very successful with the combined seasons totalling 269, 14 day sampling periods including over 297,000 hours of camera operation. Results include over 4456 unique wildlife events (18% large carnivores) with 7902 human events on recreation trails. Results have confirmed that the cameras and research design are ideally suited to meeting project goals. Four field seasons have allowed Miistakis to conduct preliminary analysis, and generate adequate sample sizes required to statistically determine the spatio-temporal relationship between human uses of the landscape and wildlife use and to determine human-use thresholds. The focus this year was on analysis of collected data (still on-going) and compilation results into reports, manuscripts and presentations for wide dissemination. Throughout 2008, efforts were made to generate collaboration and build consensus between recreation users and other regional stakeholders by exploring how to best engage individuals and organizations in public consultation for access management planning. The results of this component of the research project will generate recommendations for decisionmakers on public consultation for access management planning, enabling the generation of an access management plan that is more likely to be successfully implemented.

Deliverables/Results:

Duke, D and M. Quinn. 2009. Recreation and Wildlife in SW Alberta. A Compilation Report 2004-2007. Progress Report January 2009. 49pp. Academic manuscript expected in early fall 2009 A short paper was presented the Fourth International Conference on Monitoring and Management of Visitor Flows in Recreational and Protected Areas – Management for Protection and Development. An abstract was presented at the Wildlife Society's 15th Annual Conference. An abstract has been submitted for presentation at the 14th annual ISSRM (International Symposium on Society and Resource Management) in June 2009

Danah Duke Miistakis Institute c/oEVDS 2500 University Drive NW Calgary, AB T2N 1N4 danah@rockies.ca 403-220-8968

Restoring the future

Moose Lake Watershed Society Project Code: 020-00-90-113 Grant: \$5,500 Project Status: New in 2008-2009; Extended until August 31, 2009

The specific objectives of this creek restoration project were to: maintain and improve water quality around Moose Lake to help protect the Lake and its inhabitants; conserve riparian buffer zones, and protect important fish habitat to keep aquatic life numbers high and contamination from runoff minimal; keep high angling numbers in the watershed by maintaining a healthy ecosystem and increasing the sports fish numbers by upholding water quantity and quality. The Thin Lake River is the main tributary to Moose Lake and so the health of this creek highly impacts the condition of the Lake. The project site was chosen as the pilot for creek restorations conducted by the Society because of its close location to a main highway. The site was severely impacted because cattle were allowed unlimited access to the creek which meant that the riparian area was destroyed and the creek bed had been heavily compacted.

Deliverables/Results:

The Moose Lake Watershed Society has purchased the fencing materials and is working with the producer towards getting the fence installed. The Creek Restoration project has been highlighted in presentations given by the Society province wide. It was also mentioned in the Lakeland Industry and Community Association Annual Report and the Water Talks newsletters. Full story coverage in articles will appearearly this summer and next fall highlighting the before and after of the restoration. These will be printed in the Society's newsletters as well as the local papers.

Kay Lee Kinch Moose Lake Watershed Society Bag 1010, 4905-50 Ave Bonnyville, AB T9N 2J7 kkinch@md.bonnyville.ab.ca 780-826-3171

Riparian area management improvements

Mountain View County

Project Code: 015-00-90-102 Grant: \$25,000 Project Status: Funded since 2005-2006; Completed The project objectives are to: improve the health of the riparian areas & wildlife habitat in Mountain View County and local watersheds; improve riparian health to increase opportunities for anglers; increase awareness of sustainable agriculture and new rules & regulations; 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 was advertised to livestock producers. Each project was reviewed by the MVC Agricultural Service Board and rated based on the impact they would have on improving the riparian area health, the fish and wildlife value of the area, the demosite opportunity, and other environmental or social benefits that the project would have. Based on the rating the projects received, they were allocated funding towards the project from 50-100% of the material costs. A total of seven applications were received this year. A total of five fencing projects with four producers were completed improving the management of the riparian areas at the project locations. A project inspection takes place prior to the landowner being paid. A project profile sheet has been prepared for each project. Riparian health assessments were carried out at the beginning of the project and will be followed up again three-five years after the fence has been installed. Tours of projects can be arranged.

Deliverables/Results:

Five fencing projects (approx. 10km of fencing) were completed located in the following watersheds: Rosebud River watershed (1), Little Red Deer River Watershed (2) and the Lonepine Creek Watershed (2). Fencing projects were included in the Mountain View County's Sustainable Agriculture Program; Year in Review brochure

Lesley Lovell Mountain View County Bag 100 Didsbury, AB Iesley.lovell@mountainviewcounty.com 403-335-3311 ext 163

Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties

NCC - Alberta region Project Code: 015-00-90-104 Grant: \$30,000 Project Status: Funded since 2006-2007; Completed

This project supports and enhances NCC's conservation activities through annual monitoring of NCC properties. Under this specific project through ACA, Summer Conservation Interns (13 interns were hired in May 2008) monitored 44 NCC properties, approximately 51, 126 acres (20, 690 hectares) within the Rocky Mountain and Foothills Natural Regions of Alberta. Monitoring for all properties was completed as of August 31, 2008. Other Summer Conservation Interns within the larger program monitored the rest of NCC's conserved properties in Alberta, and were funded from other sources. Monitoring of 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 was produced for each property monitored. Utilizing the baseline inventory and subsequent monitoring reports, NCC is able to establish effectiveness of their conservation work in terms of NCC's

securement activities (targeting critical conservation targets) and ongoing stewardship of the properties for its conservation targets. Management plans, created through the information collected in the Baseline Inventory, were updated with the data collected during the monitoring process. Data collected on species occurrence from the monitoring reports is forwarded to the ANHIC and ASRD's FWMIS database. Communication tools and activities (e.g. signage, landowner toolkit) were carried out to promote and increase public awareness and access to conservation-rich habitat within the Rocky Mountain and Foothills Natural Regions of Alberta.

Deliverables/Results:

44 NCC properties, approximately 51, 126 acres (20,690 hectares), were monitored and monitoring reports and up-dated management plans were prepared for each property.

Website and email newsletter, the Leaflet, were updated about the success of the 2008 Summer Conservation Intern program on NCC's website (in the Alberta section) in September 2008.

Renny Grilz NCC - Alberta region Suite #830, 1202 Centre st. SE Calgary, AB T2G 5A5 renny.grilz@natureconservancy.ca 403-262-1253

Onoway and District Fish & Game Assoc. bird-house project

Onoway & District Fish and Game Association Project Code: 030-00-90-102 Grant: \$600 Project Status: Funded since 2005-2006; Completed

Onoway and District Fish and Game Association has been constructing birdhouses for a number of years now. It is a project which has become very well known in the area as a community service offered by Onoway FGA in co-operation with funding by the Alberta Conservation Association. Area residents, especially the youngsters that help to build the houses, have become more conscious of the need for the houses, as well of the proper locations for them. When this project was undertaken a number of years ago, the sighting of a bluebird in this area was a very rare occurrence. Since the start of the program, there has been a slow, but steady increase in the blue bird population in this area. Blue-bird sightings have been reported often to one or more of the members. As the birds arrive in the spring, peoplemention if their bird-houses are being occupied, or not. The project's objective was to involve more youth in bird house construction, and continue to make them more aware of natural habitat for both birds and wildlife. The grant was used to purchase the materials to construct the birdhouses and members volunteer their time and the tools needed to complete the job.

Deliverables/Results:

A total of 172 houses constructed. Some were distributed as they were constructed earlier in the summer. The remaining houses have been distributed through the local Regional Library.

Ron Johnson Onoway & District Fish and Game Association Onoway, AB mjjohns@xplornet.com 780-967-5236

Partners in Habitat Development

Partners in Habitat Development, Eastern Irrigation District Project Code: 015-00-90-103 Grant: \$50,000 Project Status: Funded since 2005-2006; Completed

The Partners in Habitat Development Program (PHD) is an initiative developed ten years ago to mitigate for the loss of wildlife habitat (benefiting game species with upland game birds being key species) in southern Alberta, habitat loss due in part to the upgrading of irrigation canal systems and the intensification of agricultural practices. The PHD program works with landowners, watershed groups and other organizations to create, preserve and restore critical wildlife habitat. The PHD project encourages and assists the landowners to fence off natural and potential habitat areas from lives tock access to promote growth and development, and also helps landowners with project planning and design, access to trees, planting supplies and fencing materials and assistance with the labour and expertise to develop the project. Along with planting the trees and shrubs the PHD program restores, protects and enhances nesting habitat that improving nesting success of many bird populations. Field trials continue on several plant species providing alternate plant materials that will survive under drought and saline conditions.

Deliverables/Results:

77,539 trees and shrubs planted during the spring of 2008.
14,789 meters fencing installed to protect habitat from livestockaccess.
2 deliveries installed to assist with habitat enhancement/maintenance
7100 meters of drip irrigation system installed on newly planted habitat sites to assist landowners with irrigation.
2 feed barrels distributed and 3 food plots established for winter 2008.

MargoRedelback

Partners in Habitat Development, Eastern Irrigation District PO Bag 8, 550 Industrial Road Brooks, AB T1R 0M6 margo.redelback@eid.ab.ca 403-362-1413

Assessment of Electric Fencing as a Riparian Management Tool for Agricultural Producers

Red Deer County Project Code: 020-00-90-117 Grant: \$10,000 Project Status: Related project supported since 2006-2007; Completed This project's goal is to engage Red Deer County (RDC) producers in stewardship of the riparian and/or wildlife habitat on their operations through the use of fencing as a livestock management tool; fencing that will protect/restore riparian and/or wildlife habitatin RDC, especially the tributary watersheds of sport-fishing streams, rivers and lakes. This year RDC assessed the effectiveness of electric fencing methods, as a riparian/wildlife habitat management tool for producers. Another objective was to communicate the results of that assessment to other producers and to Alberta's agro-environmental extension community. A Call for Participants (via written articles and advertisements, the local watershed groups, one-one contact, etc.) was issued asking interested producers to contact the County's Conservation Coordinator. Detailed plans were developed with each of the interested producers, regarding the type of fencing (focus was on electric fencing, but the project was flexible and supported other kinds of fencing, if appropriate). Six producers signed funding agreements with the County for riparian fencing to manage livestock in riparian and/or wildlife habitat on their property. In addition, another landowner prepared an application for funding support, and was sent a funding agreement, but they decided to complete the riparian fencing project with their own money. RDC and the producers conducted Riparian and/or Pasture or Range Health Assessments, at the beginning of each on-farm project. Follow-up assessments will be done in later years to compare to the baseline condition. RDC conducted informal interviews with the producers, during installation, and regularly afterwards, to assess the effectiveness of the various fencing methods. These "effectiveness assessments" rely heavily on producer input, and include: a) cost comparisons, b) installation and maintenance pros and cons, c) reaction of livestock, and d) reaction of wildlife. Four of the seven projects involved electric fencing. The other three landowners felt that electric fencing was not appropriate for their situation. The four producers whoused electric fencing are very pleased with its effectiveness and feel that electric fencing meets their objectives for animal control and riparian / wildlife habitat at least as well as traditional (barbed-wire) fencing.

Deliverables/Results:

7 fencing projects, with about 127 acres of riparian and/or wildlife habitat (610 animal units) under new management approaches, that emphasize environmental stewardship and sustainability.

Excellent media coverage drawing attention to what landowners in Red Deer County are doing with support from the Alberta Conservation Association. One 2008 project made the front page of both the Red Deer County News (distribution 10,000) and the Red Deer Advocate (20,000 hard copy subscribers). The story was also picked up by local small-town newspapers. Promotions of the project (via static display, brochure handout, and digital story presentations) at 5 public events (potential audience estimated at 500 people), plus many one-on-one conversations with interested residents about the project (estimated 20).

Ken Lewis Red Deer County 38106 Range Road #275 Red Deer County, AB T4S 2L9 klewis@red deercounty.ca.ca 403-342-8653

.Northern Alberta non-game fish status assessment -Year 6

Royal Alberta Museum Project Code: 020-00-90-115 Grant: \$26,477 Project Status: Funded since 2002-2003; Completed

This is the sixth year of a project by the Royal Alberta Museum to gather information on the spatial and temporal relative abundance and distribution of non-game fishes in northern Alberta. Study sites are surveyed primarily by beach seining and minnow trapping to acquire presence/absence and catch-per-uniteffort (CUE) data that will ultimately be used to prepare updated maps of species distributions and to determine population trends for selected species. Collection data are submitted to the Fisheries Management Information System (FMIS) and are available to resource management agencies to assist in monitoring aguatic ecosystem integrity and the health of sport fish populations. The specific objectives for 2008 were to re-visit 25 of the index sites surveyed previously (including multiple visits to the same site to assess in tra-year sampling variance), to conduct initial reconnaissance surveys of 20 new sites in the Manning and Fort Vermilion areas and to survey 15 additional new sites throughout the study area. The generation of statistically robust population trend lines from selected index sites is one long-term analytic objective of this project. This will require many years of consistent data collection before trends can be discerned with reasonable statistical confidence. Equally important is the accumulation of non-game fish abundance and presence/absence (distribution) data from inventory sites over a broad area of northern Alberta. These two datasets will be used to corroborate conclusions derived from each aspect of the study. The preservation of research-quality voucher specimens that document physical and biochemical attributes of the province's non-game fish fauna – and the changes in this fauna overtime and space – is also a high priority objective of this study.

Deliverables/Results:

62 site visits were conducted in 2008. 34 new sites were sampled; index sites were surveyed 28 times. All data submitted to the Fisheries Management Information System (Sustainable Resource Development).

8692 specimens have been preserved in the Museum's fish collection. Specimens and selected data are available to any interested users (i.e., research, education, display, etc.) by contacting the Curator of Ichthyology.

All specimen data have been digitized. This information is scheduled to be uploaded to the Museum's new Wild Alberta Collection website (currently the Creature Collection). Specimen data acquired as a result of this project prior to 2008 are available on this site at <u>www.royalalbertamuseum.ca/vcollects/index.asp</u>. A summary report of project activities as of February 2009 has been prepared and will be uploaded to the Museum's Ichthyology web page. This report includes an introduction to the project, geo-referenced information, catch-per-unit-effort data, summaries of selected results and discussion of future work. Full project report, incorporating all 2008 maps, photos and raw and summarized data.

The Wild Alberta gallery upgrade project is now proceeding in phases. Different components will be completed at different times. Live specimens acquired as part of this project were incorporated into aquarium displays throughout the summer and fall. The upgrade to the "water" section of the gallery, a component that will include additional specimens and data from this project, is currently in the planning stage.

Mark Steinhilber Royal Alberta Museum 12845-102 Avenue Edmonton, AB mark.steinhilber@gov.ab.ca 780-453-9189 www.royalalbertamuseum.ca

Conservation Education 2008

Sandy Cross Conservation Foundation Project Code: 002-00-90-101 Grant: \$2,500 Project Status: New in 2008-2009; Completed

The Conservation Education Program was created in 1998 to address a growing community need for conservation-based programming for families, adults and children. The Conservation Education Program 2008 aimed to offer 19 education programs and 4 weeks of summer camp to an anticipated 600 participants. Children, families and adults from Calgary and the surrounding areas of the MD of Foothills and the MD of Rockyview are engaged in environmental conservation through outdoor, hands-on learning opportunities and issues-based programming. The following programs were offered: Environmental Education, Alternative Energy-Renewable Energy in The Home, Water Conservation and Climate Change, Wildlife Education, Survival Techniques and Health - Eating for Conservation, Agriculture and Suburban Planning - to name a few. First quarter of 2008 program finalized and complete Spring, Summer and Fall list for 2008 is currently being developed and finalized.

Deliverables/Results:

Delivered 21 Conservation Education Programs 2008 from January to November 2008.

Delivered 4 weeks of Summer Day Camp in July and August 2008. 600 participants took part in their programs. Program evaluations were collected from 239 participants. All evaluations offered high regards for the programs, staff, facilitators and volunteers. This feedback is being used in strategic planning for further development of our all Educational Programming for 2009 and beyond. The Conservation Education 2008 program had 10 volunteers participate as Ambassadors.

Jacquie Guilson Sandy Cross Conservation Foundation Box 20 Site 23, R.R. #8 Calgary, AB T2J 2T9 jgilson@crossconservation.org 403-931-3377

Sarcee Fish and Game sponsored Alberta junior pheasant project

Sarcee Fish and Game Association Project Code: 030-00-90-105 Grant: \$3,500 Project Status: Funded in 2007-2008; Completed

This was the Sarcee Fish and Game Association's 7th year of operation whereby volunteers introduce youth and first time hunters to bird hunting and shooting skills including firearms safety handling, wildlife conservation and hunting ethics. Students receives 4 hours of instruction, including the shooting of clay pigeons and after some degree of proficiency they take to the field under one-on-one supervision to hunt and shoot 2 pheasants, hunting over dogs handled by their owners or trainers. The program operated for 10 weekends starting in late September 2008. Approximately 10 acres were removed from agriculture production to be used for the program and then left as winter habitat for wildlife.

Deliverables/Results:

88 youth participated in the program in 2008.

Art Beck Sarcee Fish and Game Association Box 494, 300- 8120 Beddington Blvd NW Calgary, AB T3K 2AB artbeck@shaw.ca 403-274-5924

Reptiles at Risk on the Road 2008 - Alberta Phase

Sciensational Sssnakes!! Project Code: 030-00-90-103 Grant: \$2,456.24 Project Status: New in 2008-2009; Completed

This project is part of a larger effort (in partnership with Laurentian University and the Canadian Amphibian and Reptile Conservation Network) entitled "Reptiles at Risk on the Road". The purpose is to conduct outreach programs specifically aimed at people who live, work, or visit areas where species at risk reptiles still occur. Interpreters travelled throughout Alberta, delivering programs featuring species at risk reptiles, within the portions of the region that these species actually occur. Program locations were selected in consultation with species recovery personnel to ensure maximum conservation benefit. The objectives were to increase the participants' knowledge of, and attitude towards, Alberta's reptiles, especially species at risk. These objectives were achieved through interactive, hands-on programs provided for participants. Target participants include landowners and their families, students, seasonal residents and visitors, farm workers, and possibly others as directed by species recovery personnel. Each program began with an interpretive presentation about reptiles found in the region, and elsewhere in Canada. Live specimens were handled by the presenters to assist in demonstrating identifying features, and to dispel myths regarding these animals. After this, participants had the opportunity to touch and hold various species under the supervision of interpretive staff.

Deliverables/Results:

16 programs completed reaching 1824 people (14% more than estimated). Program venues included: Medicine Hat Library- 220, Brooks Library- 120, Dinosaur Provincial Park- 183, Royal Tyrell Museum- 130, Milo Library- 25, Vulcan Library- 120, Wyndham-Carseland Provincial Park- 60, Little Bow Provincial Park-200, Warner Library- 25, Coaldale Library- 80, Writing-on-Stone Provincial Park-80, Cypress Hills Interprovincial Park- 146, Lethbridge Library- 160, Waterton Lakes National Park- 25, Fish Creek Library- 130, Medicine Hat Mall- 120 The project attracted four television interviews and numerous local newspaper articles.

Jenny Pearce Sciensational Sssnakes!! 5491 Highway 11 North, RR#1 Orillia, Ontario L3V 6H1 info@scisnake.com 705-327-2353

Factors contributing to, and depredation avoidance methods for reducing carnivore-livestock conflicts during winter in Southern Alberta

Southern Alberta Conservation Cooperative Project Code: 030-00-90-133 Grant: \$20,000 Project Status: Funded since 2007-2008; Completed

The overall objective of this project is to improve our understanding of factors contributing to wolf-livestock conflicts and reduce livestock losses to large carnivores in southern Alberta. To reach that objective SACC planned to 1) extend their geographic analysis of factors that contribute to wolf-livestock conflicts, and 2) based on the first year results, begin the process of applying depredation avoidance methods at a home range scale to reduce livestock losses to wolves during winter-spring. This project builds on emerging ranching interests in preventing livestock conflicts with large carnivores by altering seasonal grazing and husbandry practices. They assisted area ranchers by 1) collecting information on seasonal shifts in prey abundance and vulnerability, 2) reducing livestock conflicts via application of depredation avoidance methods during January-May, and 3) sharing SACC's improving understanding of the role traditional management practices can play in contributing to increased association of livestock as prey by wolves.

Deliverables/Results:

Assisted 22 area ranchers located near to or within the home ranges of 5 wolf packs distributed from Jumping Pound Creek (TransCanada) to just north of Highway 3 (Crowsnest Pass).

Currently fine-tuning technical guidelines for application on working ranches to reduce large carnivore-livestock conflicts during winter and summer - these draft guidelines are explicit in their relation to livestock management practice. SACC attribute the decline in wolf-livestock conflicts in the Willow Creek home range to the following efforts by Willow Creek and Ranchland MD area ranchers and stewardship practices that alter and reduce the availability and vulnerability of livestock to large carnivores.

Final report to GECF contains the project results, manuscripts currently being prepared.

Charles Mam o Southern Alberta Conservation Cooperative Box 314 Cremona, AB egrace@telusplanet.net; 403-637-2655

Late fall fisheries investigation in diversion canals in Southern Alberta

Trout Unlimited Canada Project Code: 020-00-90-116 Grant: \$6,600 Project Status: Funded since 2005-2006; Completed

Numerous irrigation diversion structures exist on many river systems and onstream 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 sport fish that enter irrigation canals are generally lost to the fishery when canal structures prevent fish from returning to the river system. Until TUC Fish Rescues began in 1996, the extent of the problem was very poorly documented and received little attention. The objective is to go into these canals, remove all fish encountered by electrofishing and seine netting, and place them back into the river systems from where they came. Volunteers of all ages were involved in this year's fish rescue. All fish collected were counted, while all trout species were measured for length and weight. All other species were identified, and counted, while those individuals that exceed 200mm (fork length) were also weighed and measured. All data were recorded. In 2008, TUC revisited the same six canal systems in southern Alberta and data has been provided on the numbers recovered in each system.

Deliverables/Results:

Rescued over 36,000 fish in 2008. 467 volunteers contributed over 2,700 hours of effort over 11 field days. A few unique species that had not been previously collected were found in 2008.

Project report can be found here: <u>www.tucanada.org/reports/AB-</u> 012 FishRescue 2008.pdf

Now that TUC has a large database of information on this project, they are looking to start to develop a trend analysis of the data collected over the years. They are working on a literature review at the moment, and possibly later in the spring they plan on investigating trends to attempt to see if new management tools can be identified to help fish avoid entrainment.

Brian Meagher Trout Unlimited Canada Suite 160-6712 Fisher St SE Calgary, AB T2H 2A7 bmeagher@tucanada.org 403-221-8360

Habitat enhancement program for Alberta's East Slopes Fishery

Trout Unlimited Canada Project Code: 020-00-90-139

Grant: \$25,600 Project Status: Related Quirk Creek project supported in 2007-2008; Completed

Through consultation with various residents, anglers and scientists in the East Slopes, it has come to the attention of TUC that significant measures can be taken to improve fish habitat and angling opportunities in these waters. In particular, several key projects have been identified, which, if successfully implemented, would positively impact fish populations via the improvement of spawning, rearing or holding conditions in the various waterways and tributaries that comprise the eastern slopes watersheds. In 2008 TUC initiated the restoration of Bill Griffith Creek with small scale v-weir installation and spawning habitat improvement projects. TUC continued efforts as part of the Quirk Creek brook trout removal program. TUC also investigated the opportunity to take part in remediation of a dam in the eastern slopes. This dam is located on the Waterton drainage and currently blocks upstream passage of fish species including bull trout. The option of the dam removal was discussed with the owners of the dam, but that was quickly dismissed. However, the owners are quite willing to entertain various options to facilitate passage of fish at this location. To this TUC completed the fisheries inventory on Yarrow Creek and plan to add a couple other locations along Drywood Creek to add to the baseline data for the watershed. They had great up take from the local community on this initiative, as well as many locals and students during the event. TUC also hosted two additional meetings with the community group where we discussed our concepts for the over arching project. In addition to this there were many different volunteer days (clean-up efforts, weed pulls, electrofishing demonstrations, fieldwork days) were organized. For each component a reporting process to account for the activities is undertaken, a photo journal for each activity was also created, and a list of accomplishments provided.

Deliverables/Results:

Completed first year of work on Bill Griffiths Creek including fishery inventory of selected area, habitat assessment and restoration of spawning and rearing habitat by adding instream cover.

Completed population estimates for Yarrow Creek: Report Yarrow Creek Population Estimates 2008. TUC, Brian Meagher See: <u>www.tucanada.org/reports/AB-</u> 010 YarrowCk Population 2008.pdf

Quirk Creek Water Monitoring, 2008 Trout Unlimited Canada Technical Report No. AB-014 <u>www.tucanada.org/reports/AB-014</u> <u>QuirkCk</u> <u>Water</u> <u>2008.pdf</u> Volunteer involvement for each field effort totalling 67 (30 people for the efforts on

Bill Griffiths and 37 people (students) for the effort on the Yarrow Creek.)

Brian Meagher Trout Unlimited Canada Suite 160-6712 Fisher St SE Calgary, AB T2H 2A7 bmeagher@tucanada.org 403-221-8360

Bow River Riparian Fencing Project

Trout Unlimited Canada - Bow River Chapter Project Code: 020-00-90-114 Grant: \$10,000 Project Status: Funded in 2007-2008; Completed 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. This damage negatively affects wildlife, insect, and fish habitatin the river. In response, the Bow River Chapter of Trout Unlimited has devised a project that will help manage cattle grazing activities along the river for the benefit of the river's ecosystem, recreational users, and landowners alike. This second phase of the project has involved exclusion fencing that will provide an ample buffer along the river and a solar-powered off-stream watering site. It was completed on Mr. Greg Percival's land, 5km upstream of the Carseland weir, on the south side of the Bow River. Progress of the riparian area will be monitored, documenting the changes periodically. As the project site is in a visible location, informational signs have been posted which include a list of project partners.

Deliverables/Results:

This project involved fencing that excludes cattle from the bank of the river, while providing them with a consistent source of water, due to a solar powered offstream watering site. Photographic documentation of the project (including the recovery that has occurred since the project's completion) Jeff Petersen Trout Unlimited Canada - Bow River Chapter Suite 160 - 6712 Fisher St SE Calgary, AB T2H 2A7 jeff_petersen@shaw.ca 403-923-3556

Outpost (Police) Lake Aeration

Trout Unlimited Canada - Oldman River Chapter Project Code: 020-00-90-114 Grant: \$13,000 Project Status: New in 2008-2009; Completed

The main project objectives are: to work with Alberta Parks and Alberta Fish and Wildlife to cooperatively manage and operate the lake aeration system at Police Lake; to upgrade the aerators as the current ones are old and in need of repair; to ensure that lake aeration at Police Lake continues to provide recreational sport fishing benefits. The project entails acquisition of 3 replacement aerators: installation of 3-5 aerators in fall and removal of aerators in spring; installation of public caution signage (e.g. danger thin ice); and monitoring dissolved oxygen levels. The aeration equipment and methodology is identical to that used by the ACA at other aerated lakes throughout the province. The anticipated result of the project is successful aeration of lake: more fish, bigger fish and more satisfied anglers. This aeration project was started by Alberta Parks about 5 years ago. Alberta Parks paid for electric power to the site, purchase of 5 aeration units and has been providing for aeration at the lake since the aeration project's inception. At the present time Alberta Parks is looking to Trout Unlimited or the ACA to take a more active role in maintenance of the aeration program similar to operating procedures at other aerated sportfish lakes in the province. The aerators worked well this winter which will result in greater overwintering survival and increased numbers of bigger fish. Police Outpost has been designated a delayed harvest lake. Without proper aeration winter kill will increase defeating the purpose of the special regulations.

Deliverables/Results:

One new aerator was purchased and repairs were made to the other 2 aerators.

Allan Caldwell Trout Unlimited Canada - Oldman River Chapter 137 Coachwood Point Lethbridge, AB T1K 6A6 caldwa@gmail.com 403-381-1619

Assessment of Riparian Health and Fish Assemblage Integrity in the Raven River, Alberta

Trout Unlimited Canada - Edmonton Chapter Project Code: 020-00-90-143 Grant: \$50,800 Project Status: New in 2008-2009; Completed

The Raven River flows west from the eastern slopes of the Rocky Mountains for approximately 100 km before emptying into the Red Deer River, just upstream of Gleniffer Lake (Dickson Dam reservoir). The uppermost portion of river flows through mixed-coniferous forest, an area influenced by logging as well as oil and gas exploration and extraction. The middle and lower reaches are bounded by agricultural land. In these reaches, riparian vegetation is relatively limited. Human activity is evident, including numerous river crossings (e.g., bridges, vehicle fords, cattle crossings), and an abundance of aquatic macrophytes resulting from nutrient inputs. Approximately 30 years have passed since the last comprehensive survey of fish and fish habitat on the Raven River was carried out. This investigation was conducted prior to the construction of the Dickson Dam. The main objectives for this project were: 1) to assess current status and temporal changes in brown trout abundance in the Raven River; 2) describe riparian conditions and fish habitat of the Raven River, from the head waters to the Red Deer River confluence; 3) evaluate the success of previous riparian restoration efforts (e.g., stream bank fencing, livestock crossing installations) on fish assemblages in the Raven River basin; and 4) to identify critical spawning areas for brown trout. The goal is to obtain brown trout population estimates using electrofishing mark-recapture methods in the three river sections. Golder Associates Ltd. was retained by TUC – Edmonton Chapter to manage the research. To evaluate effects of riparian structure and composition on fish distribution and abundance, fish assemblages were sampled in summer 2008 using electrofishing methods. Because ASRD regularly conducts population estimates at one of three sites, Golder chose to limit the work to the remaining two sites after discussion with the area Fisheries Biologist. The riparian assessment program involved two complementary components: Low-Level Videography (LLV) and Riparian Health Assessment (RHA). Low-level videography: Aerial videography was performed using a Beaver RX 550 open air, two-person utralight. Videography flights (n=3) occurred over two days. The crew proceeded in both up and downstream directions filming both the left and right banks from a range of angles. Cows and Fish was retained by Golder to conduct Riparian Health Inventories (RHIs) at ten locations on the river. This involved a thorough examination of vegetation, soil, and hydrological parameters within selected study polygons. Golder produced detailed maps of the area that defined each section, and trained the volunteers to carry out a red survey and to collect general survey data. The survey was conducted over a distance of 58 km. The integrity of fish assemblages will be compared among treatments using an informationtheoretic approach to rank a priori models, and multivariate regression methods that will incorporate key covariates that may also influence fish assemblages.

Deliverables/Results:

An edited version of footage collected from the aerial videog raphy work is available.

Project report (comprehensive report containing the methods and results from the study, as well as a literature review and a discussion of the findings) is expected to be complete by fall 2009. Final report to GECF contains preliminary results A comprehensive report was prepared by Cows and Fish summarizing the findings of the Riparian Health Assessments

A report summarizing the field work on redds conducted by Trout Unlimited volunteers.

Papers will be submitted to the 2009 Great Plains Fisheries meeting in Lethbridge and the Canadian Journal of Fisheries Aquatic Sciences.

Michael Dell Trout Unlimited Canada (Edmonton Chapter) 303-12015 103 Ave Edmonton, AB T5K 0S9 mdell@telus.net 780-488-1966

Development of Biophysical Criteria to Measure Restoration Success and Enhance Best Management Practices in the Montane and Subalpine Regions of Alberta

University of Alberta Project Code: 015-00-90-107 Grant: \$15,000 Project Status: New in 2008-2009; Completed

The overall goal is to determine whether or not reclamation of historical disturbances has been successful in restoring native habitat in the montane and subalpine regions and to use this data to develop scientifically sound management practices for reclaiming future industrial disturbances in these regions. Specific objectives are: to collect detailed site, soil and vegetation data from previously disturbed and reclaimed areas within the park to quantify the relationship between site history and current conditions; to develop biophysical criteria for assessing restoration success based on literature review and field assessments, that capture both ecosystem form and function and reclamation method performance; to develop enhanced best management practices for future disturbances within the park or other areas in the montane and subalpine regions. In July and August 2008, reconnaissance assessments of 63 potential research sites were conducted. Visual quantifiable data for landform, soil, and vegetation and general reclamation success were collected. A literature review and discussions with leaseholders provided details about historic activities for each site which will be linked with the field data. Based on the reconnaissance assessments, a list of candidate research sites was created and includes 32 sites in the montane and subalpine. These sites were reviewed and ranked for further sampling in summer 2009. Biophysical parameters, sampling designs and methods for analyzing ecological diversity, structure and processes in the montane and subalpine have been determined and will be implemented in summer 2009.

Deliverables/Results:

This phase of the project focused on the reconnaissance of candidate sites and final site selection and sampling protocol development. The deliverables expected in 2010 are: Biophysical criteria to assess ecosystem form and function following land disturbance in the montane and subalpine regions; science-based best management practices for reclaiming disturbances in the montane and subalpine regions; a MSc thesis; a published article in peer-reviewed journal; and presentations at scientific and management meetings.

Anne Naeth

University of Alberta Department of Renewable Resouces, Room 855B General Services Building Edmonton, AB T6G 2H1 anne.naeth@ualberta.ca 780-492-9539

Ecological effects of sportfish stocking and aeration in Boreal Foothills lakes

University of Alberta Project Code: 020-00-90-140 Grant: \$18,100 Project Status: Funded since 2005-2006; Completed

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 lack 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. In fall 2007, one of the unstocked study lakes (Fiesta Lake, named by the province after this project) was stocked with trout, and subsequently received aeration treatment during the 2007-2008 winter. These changes allowed the researchers to employ a (more powerful) Before-After-Control-Impact design with this lake. In 2008, another stocked-aerated and one more fishless lake were added to the study. Field sampling was completed for 2008 as planned. This was the critical first post-stocking year for Fiesta Lake, so efforts focused on documenting short-term changes from stocking and aeration. During the autumn and winter months, the researchers have been processing invertebrate and trout samples, as well as compiling fish, anuran, and limnology data.

Deliverables/Results:

Preliminary results of the research are contained in the Final Report for the GECF. Presentations to ACA/ASRD staff in Rocky Mtn. House (December 2008). Conferences: Canadian Conference for Fisheries Research (01/09): 1 oral presentation, Biological Sciences Graduate Research Days (03/09): 1 poster presentation,

North American Lake Management Society (10/08): 1 poster & 1 oral presentation. Best student poster award.

Three MSc Theses completed in 2008.

Five articles for peer-reviewed scientific journals are in preparation.

William Tonn University of Alberta Department of Biological Science, CW-405 BioSciences Centre Edmonton, AB T6G 2E9 bill.tonn@ualberta.ca 780-492-4162

Russian Thistle (Salsola kali) impact on native ungulate habitat

University of Alberta Project Code: 030-00-90-123 Grant: \$23,000 Project Status: New in 2008-2009; Completed

The main objective is to determine the effect of Russian thistle (Salsola kali) on native montane grassland habitat for wildlife. Specifically, this study addresses: 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. Summer 2008 was the first of two field seasons for this project. To date, a comprehensive inventory of Russian thistle sites within the Athabasca River Valley from the Mile 12 Bridge to the East Gate has been completed. Four study sites characterized by heavy Russian thistle infestation on ungulate winter range have been established. Range health assessments have been completed at the four study areas. Vegetation assessments will be repeated again in June and August 2009. Each study site contains replicate plots of seven treatments, including: a control; grazing exclusion; herbicide; seeding with a native grass seed mixture; seeding with a perennial ryegrass (Lolium perenne) and native grass seed mixture; manual pulling of Russian thistle; and a combination treatment of grazing exclusion, herbicide and seeding with a native grass seed mix. Vegetation assessments of the plots were conducted prior to treatment in June and repeated after treatment in August 2008 and will be repeated again in June and August 2009. In addition to examining litter volumes within the study areas, a greenhouse study is presently underway that is examining Russian thistle's ability to establish and germinate under various litter conditions. This study will be used to verify field observations and assess the role wildlife grazing has on Russian thistle establishment.

Deliverables/Results:

This period has focused on the collection of quantitative data related to the how Russian thistle impacts the native plant community and strategies that may aid in managing this species. Final project results will be determined in late 2009. Based on preliminary observations, it appears that the herbicide metsulfuron methyl (trade name Escort) is very effective at controlling Russian thistle, increased litter thickness may promote Russian thistle emergence, and annual differences in weather conditions may play a role in Russian thistle growth. 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; MSc thesis (December 2009); publication in a peer reviewed scientific journal (February 2010); presentations at scientific and management meetings and annual reports to Parks Canada.

Anne Naeth University of Alberta Department of Renewable Resouces, Room 855B General Services Building Edmonton, AB T6G 2H1 anne.naeth@ualberta.ca 780-492-9539

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

University of Alberta Project Code: 030-00-90-116 Grant: \$24,200 Project Status: New in 2008-2009; Completed

The main objective of this project is to determine the effects of access management on grizzly bear habitatuse and movement and thus assess its utility as a conservation tool. The specific objectives of this project are to 1) examine grizzly bear habitats election and movement near roads, 2) investigate the effects of scale on these relationships, 3) determine the effects of road access management and new roads on grizzly bear habitat selection and movement, 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. 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. While the hunting moratorium has been in place for two years, there has been little implementation or research on access management. As access management was identified by the Recovery Team to be the primary means to recover bear populations, along with the hunting moratorium, it is imperative to understand how bears will be affected. At the conclusion of the 2008 field season, they had successfully deployed all seven radiocollars on grizzly bears, 3 females and 4 males, which was the main objective of the 2008 field season. Habitat use and movement models have been created from data obtained from previous radiocollaring efforts in the study area. These models have provided information on grizzly bear habitat use and movement near roads. Furthermore, over 90 used grizzly bear sites were visited, near and far from roads. 24 traffic counters have been deployed, as well as over 40 trail cameras on roads and trails in the study area, with an additional 20 counters planned to be deployed during the coming field season.

Deliverables/Results:

Preliminary results have also shown a potential behavioural switch for bears in this area. Grizzly bears traditionally are more active during the daytime than at night. However, in areas with a high concentration of humans, bears may switch this behaviour to become more active at night, thus avoiding the potential for conflict with people. Preliminary results were presented at The Wildlife Society Annual Conference in Novem ber 2008. Several presentations were made to community and stakeholder groups throughout the 2008 field season, including the Drywood Yarrow Conservation Group and the Willow Valley Trophy Club. M.Sc. thesis to be completed in fall 2009 with pertinent results to be published in scientific journals as soon as completed. Joseph Northrup University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 jnorthru@ualberta.ca; boyce@ualberta.ca 780-492-6267

Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use?

University of Alberta Project Code: 030-00-90-115 Grant: \$25,310 Project Status: A related project funded in 2005-2006 and 2006-2007; Completed

The objectives of this research project are as follows: to determine the impacts of energy-sector footprint on burrowing owl reproduction; to determine whether burrowing owls are avoiding, attracted to, or neutral with respect to each component of industrial infrastructure and each industrial activity; with respect to gas & oil infrastructure and activities, to 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. This year 85 burrowing owl nests were discovered and the fate of each nest was recorded in addition to tracking number of young produced. These data complement the past 3 years worth of data collection. At each nest the energy sector footprint was measured. Preliminary analysis was performed to explore whether there is a correlation between energy sector footprint and burrowing owl reproductive success. Specifically, a new non-linear modelling technique was developed that allows the researcher to determine if there is a threshold in the level of energy activity that is acceptable to minimize risk to burrowing owl nesting productivity. A very recent technological advance (8-gram GPS datalogger) enables spatial location of individuals to within ~10m. In the past two years 21 burrowing owls have been tracked for periods ranging from 3 to 5 days with ~ 400 locations per owl. These data can be used to determine which energy disturbances are being avoided versus selected. Preliminary analysis of these data was completed this fall and we plan to add to all data sets over the next two years. Partnership development has been very effective and we have been very successful in engaging many different partners. Recommendations from this study are likely to have an important impact for burrowing owl management, given that most members of this project team are involved in recovery planning for burrowing owls at national and provincial levels.

Deliverables/Results:

Preliminary results can be found in the Final Report to the GECF. Several talks were given this year to various energy sector companies both at the corporate level and to the ground personnel. The objective of these communications is to provide energy sector partners with an overview of the project and to highlight opportunities for expanding conservation efforts. Attended the National Burrowing owl Recovery Team meeting (Nov 2008) and attended the Alberta Burrowing Owl Recovery Team meeting (Feb 2009).

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

Effects of access management of elk in Southwestern Alberta

University of Alberta Project Code: 030-00-90-118 Grant: \$28,700 Project Status: New in 2008-2009; Completed

The goal of this project is to provide a better understanding of how roads, motorized activity on those roads (both industrial & recreational), and access management influences the response of elk to these disturbances. Shell Canada, along with other agencies have committed funding to this project over the next 3-4 years to address their specific goals (including delineating an elk wintering range, assessing the effects of gas well/drilling sites and their effects on elk migration patterns). This study is a concurrent and complementary elk project addressing access management to mitigate the effects of industrial development. Specific objectives are to implement a before-after-control-impact design to experimentally manipulate motorized access on the landscape to determine its effectiveness at enhancing elk habitat, movement, and ultimately demographics. This will be done by examining four aspects of the elk's life history characteristics: habitat selection, movement, survival, and recruitment (calving success—and relate this to habitat selection patterns). Further, models of habitat selection, movement and survival are used to project how implementation of access management could influence population demographics and change the amount of suitable habitats available across a larger landscape. The results of this study will have direct implications for the management of elk in Alberta and throughout their distribution in North America. Access management is a contentious issue, but has been increasingly proposed as a critical management tool for enhancing wildlife populations across North America in areas with industrial development and significant habitat encroachment. In addition to the scientific merit of our experimental approach, this study will also demonstrate how access management can modify elk behaviour and link access management with demographics. Further, these results will differentiate the effects of roads versus motorized activity on roads, which will be important to understand as Alberta undergoes further industrial development.

Deliverables/Results:

Currently 67 elk are equipped with GPS radio collars after this fall's hunter harvests. 92 individuals have been collared over the course of the study. Another 24 elk were collared during winter captures March 14-15, 2009 bringing the total to 116 elk collared.

Over 500,000 GPS locations have been collected and the GIS layers needed to complete our spatial analysis have been accumulated. Extensive data management is now complete in order to load spatial data into ArcView. Data analysis from a natural experiment where the forestry reserve (WMU 400) was closed due to extreme fire hazard for 45 days is currently on-going. The data downloaded February 09 was the final portion of data needed for the 'after portion' of the design. Preliminary results are showing the elk are responding in this short amount of time to select areas closer to roads, indicating a relatively quick

behavioural response to changes in motorized activity. More preliminary results are contained in the Final Report to the GECF.

A project brochure has been completed and widely distributed.

Presentations at local, national, and international level conferences have been given (at the Peace Parks, and Partnerships International Conference, The Wildlife Society, and at local meetings such as the ABSRD Research Initiatives Meeting in SW Alberta). Study updates have been provided to the steering committee, which are posted on the study website (<u>www.montaneelk.com</u>).

Manuscripts are being prepared that will result in publications. Early results have been published in a special section of the Philosophical Transactions of the Royal Society, B:

Boyce MS, Knopff K, Morehouse A, Northrup J, Pitt JA (2009) Autocorrelation patterns determined by ecology and behavior. Philosophical Transactions of the Royal Society, B. Special section for publication on autocorrelation- in prep.

Mark Boyce University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 boyce@ualberta.ca; pitt@ualberta.ca 780-492-0081

Cougar predation on wild ungulates in a multi-prey, multi-predator system in West-Central Alberta

University of Alberta Project Code: 030-00-90-112 Grant: \$30,000 Project Status: Funded since 2005-2006; Completed

In several western states and provinces, management agencies have been responding to a perceived increase in cougar (Puma concolor) numbers. The current management plan for cougars in Alberta calls for a maximum allowable harvest of 10% of the estimated population. Since 1991 the provincial quota has risen from 66 cougars to in excess of 120 cats. Moreover, the growth of cougar populations appears to have been spatial as well as numerical, with cougars reoccupying suitable habitat from which they had been extirpated. The chief objective of this study is to better understand cougar predation patterns and the factors that might influence the potential for cougars to impact big game populations. To achieve this objective, kill rates by cougars of various prey have been measured and related to factors that might predispose a cougar to the predatory pattern it exhibits. Lands cape variables are likely to be among the most powerful predictors of predation and hence constitute a major focus of this exercise. Also other likely influences on prey selection have been examined, including, prey availability, individual cougar characteristics, and the hypothesized development of different prey niches between cougars and wolves. An important objective of the project is thus to develop techniques to estimate relative abundance of ungulate prey across the landscape and apply this at the scale of a predator's home range. This grant, for the final year of research, has allowed for monitoring of cougar collared in the 2007-2008 cycle. All field work for the Central East Slopes Cougar Study is now complete. 44 individual cougars were collared. More than 3500 clusters of GPS locations in the field have been visited, identifying > 1400 cougar predation incidents and > 80 instances of scavenging by cougars at cluster locations. The data analysis phase of the project is ongoing and is well advanced.

Deliverables/Results:

Preliminary results sent with the Final Report to the GECF.

Publications:

- Knopff KH, Knopff ARA, Warren MB, Boyce MS. In press. Evaluating Global Positioning System telemetry techniques for estimating cougar predation parameters. Journal of Wildlife Management 73: Pages to be determined.
- Knopff KH, Jalkotzy MG, Boyce MS. In press. The status, management, and conservation of cougar in Canada. In S. Negri and M. Hornocker (eds) Cougar: ecology and management University of Chicago Press, Chicago.
- Knopff KH. 2009. Grant Eligible Conservation Fund supports wildlife research: the Central East Slopes Cougar Study. Conservation. Spring 2009.
- Knopff KH, Knopff ARA, Bacon M. North of 49: ongoing cougar research in Alberta Canada. Wild Cat News Spring 2009.

Knopff KH. 2008. Cougar research in Alberta. Wild Felid Monitor 1(1): 18 In addition, articles on this project have appeared in the Edmonton Journal, Calgary Herald, Vancouver Province, Red Deer Advocate, Rocky Mountain House Mountaineer, Rocky Mountain Outlook, and Trail Times. Radio interviews regarding project have been broadcast on CKUA, CBC, and Let's Go Outdoors Radio. A 30 minute documentary "Sur la piste du cougar" which focuses on the Central East Slopes Cougar Study aired in Quebec in fall 2008. Presentations were given to the Alberta Chapter of the Wildlife Society meetings, the 9th Mountain Lion Workshop, Sun Valley, the WildSmart Speaker's Series, and the Alberta Sustainable Resource Development Large Carnivore Management Meeting, The Bighorn First Nations School to name a few.

Mark Boyce

University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 boyce@ualberta.ca; kknopff@ualberta.ca 780-492-0081

The role of behavioural adaptation in safeguarding a species:Grizzly bear (Ursus arctos horribilis) response to encroaching development in the foothills of Alberta

University of Alberta Project Code: 030-00-90-113 Grant: \$30,000 Project Status: New in 2008-2009; Completed

The purpose of this study is to assess grizzly bear response to mining development by analyzing effects of open-pit mining during different phases: active (Cheviot) and reclaimed to various extents (Luscar and Gregg River). The specific objectives are to: build models to compare grizzly bear movement and activity budgeting, 'pre-' vs. 'post-' development; investigate predation on ungulates by grizzly bears, and build a model to predict ungulate kill sites; apply novel technologies to assess microhabitat use by grizzly bear; and to build and test a mechanistic home range model, capable of predicting grizzly bear response to open-pit mining development. By analyzing bear movement and habitat use, habitat patches and corridors critical for ecological connectivity can be identified. By investigating grizzly bear foraging, to what extent bears can feed on and around mines, with particular emphasis on bear use of ungulates that congregate on reclaimed mine sites, can be assessed. This project

implements key recommendations from the Alberta Grizzly Bear Recovery Plan (2007). Furthermore, in 2006, the United Nations World Heritage Committee specifically directed the Canadian Government to ensure adequate mitigation of the adverse impacts of Cheviot open-pit coal mine on wildlife in the area. Detailed data and statistical models will direct decision making in managing and conserving grizzly bears and their ungulate prey, thereby ensuring long-term viability of both, for the benefit of present and future generations of Alberta hunters and outdoorsmen. In 2008 three of the anticipated five bears received GPS radiocollars, unfortunately one individual slipped the collar off because of think neck conformation, leaving only two collared bears. 128 bear-used sites were visited by field teams, along with 128 sites available to the bear (300 m N, E, S, W of used sites); bear activity and (micro) habitat characteristics were recorded; 15 bear predation events on ungulates recorded at GPS location clusters; 150 bear activity photos acquired and 1,024 habitat photos taken at bear-used sites, along with 1,024 photos at sites available to the bear; > 10,000 GPS locations acquired by radiocollared bears, to be compared to before Cheviot mine development radiocollar data.

Deliverables/Results:

Poster presentations:

'Modeling grizzly bear movement' — Marie Curie Methods of Interdisciplinary Environmental Research, Ecological Modelling Graduate Training Course (May 22-June 2, 2008; Germany)

'The influence of landscape characteristics on seasonal movements of female grizzly bears' – Alberta Chapter of the Wildlife Society Annual Meeting and Conference (March 6-8, 2009; Edmonton, Alberta) - prize for best scientific poster

Oral presentations:

'Multi-scale movement choices of grizzly bears in the central foothills of Alberta' [co-authorship] – Alberta Chapter of the Wildlife Society Annual Meeting and Conference (March 6-8, 2009; Edmonton, Alberta);

'Finding harmony between grizzly bears and humans using access management' [co-authorship] – Annual Meeting of the Society for Conservation Biology (July 11-16, 2009; Beijing, China);

'Animal movement behaviour and its relevance to large mammal conservation' – Symposium of Biology Students in Europe (SymBioSE) (July 30-August 9, 2009; Kazan, Russia);

'Landscape determinants of grizzly bear (Ursus arctos horribilis) movement in a seasonally varying environment' – Symposium of Biology Students in Europe (SymBioSE) (July 30-August 9, 2009; Kazan, Russia);

'Grizzly bear activity on and around open-pit mine sites; preliminary results' – The Wildlife Society Annual Conference (September 20-24, 2009; Monterey, California)

Popular articles:

The Alberta Wildlifer (Vol. 19, No. 2, pgs. 7-10)

Safari Club International-Northern Alberta Chapter Newsletter (Issue 5, pages 16-17) [relationship between grizzly bears, hunting and industrial development (coauthorship)]

Scientific articles:

Schwab, C., Cristescu, B., Boyce, M.S., Stenhouse, G.B. & Gänzle, M. Bacterial populations and metabolites in the scat of free roaming grizzly bears. Journal of Animal Physiology and Nutrition, in review

The project-dedicated website has been regularly updated (http://www.ualberta.ca/~cristesc/grizzly_project.htm).

The project also recently caught the attention of Discovery Channel, and project coverage is expected in 2009, under the Daily Planet showcases.

Future deliverables: a PhD thesis (2012), scientific papers (currently working on two manuscripts, anticipated publication in 2010) and advanced statistical models will be available to the Minister of SRD (2012). Presentation, conference attendances, and popular publications will continue.

Mark Boyce

University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 boyce@ualberta.ca; cristesc@ualberta.ca 780-492-0081

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

University of Alberta Project Code: 030-00-90-135 Grant: \$34,500 Project Status: New in 2008-2009; Completed

Since 2001, researchers have monitored 169 radiocollared adult female elk and 1-2 wolves in 2-3 wolf packs/year 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 and Wildlife also have collected long-term population data since 1972 on population size and calf recruitment. In these efforts, the focus was on understanding the changing migratory behaviour of elk. Combined, studies of elk population dynamics at Ya Ha Tinda (YHT) represent one of the longest-term population studies of elk in a system with intact natural predators including wolves (Canis lupus), grizzly bears (Ursus arctos), and human hunting. The long-term objective is to continue the past population monitoring while assessing short-term management actions on vegetation and elk responses. The specific project objectives are to: 1. 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. Assess long-term trends in forest encroachment in fescue (Festuca campestris) grasslands in and around YHT from historical photography and relate these to fire history and climatic trends in the area. 3. Continue field efforts to monitor annual variation in grassland production based on past sampling protocols and initiate remote sensing studies to document annual changes in growing season dynamics. 4. Continue past efforts to determine 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. The project activities were to capture and collaring of elk; 49 elk were captured in a corral trap on YHT and 16 of these were radiocollared (VHF) and 32 elk received ear tags. Hair and blood samples were collected from captured elk to obtain pregnancy status, pathology, and genetic information. This capture session brings the total number of collared elk, excluding winter mortalities, to 70 collared elk. To determine whether burning changes the elk distribution, differences in pellet group abundance were compared, as well as telemetry locations. Pellet groups were counted in fall (early October 2008) as part of an eight-year monitoring program. In addition, VHF-collared residents were located one to two times/ week across time periods relative to use of forest, forest-shrubgrassland edge and grassland in summer 2008 and will doso again in 2009. Analysis of this data will occur after the summer of 2009. Vegetation sampling completed in summer 2008 was added to a long-term data set to monitor grassland forage production during the growing season (May- October). A range (1952- 2003) of photographs have been obtained, representing a decadal time series, to conduct aerial photography analysis.

Deliverables/Results:

A poster presentation of the aerial photo study was given at The Wildlife Society (Alberta Chapter) conference 6-8 March 2009 in Edmonton. No major deliverables are expected until the completion of MSc thesis in December 2010. Long-term demographic analyses are not expected until 2012 (i.e. every ~4 years). Scientific publications are anticipated.

Evelyn Merrill University of Alberta

CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 emerrill@ualberta.ca; mark.hebblewhite@cfc.umt.edu 780-492-2842 Dr Hebblewhite 406-243-6675

Developing Alternative Wolf Management Strategies

University of Alberta Project Code: 030-00-90-130 Grant: \$37,200 Project Status: New in 2008-2009; Completed

The project objective originally was to determine the effectiveness and costs of a new wolf management approach that combines selective culling with sterilization to maintain wolves at low densities by carrying out a before and after experimental design. Phase linvolved collecting pre-manipulation data on wolf territory boundaries, kill rates, prey composition and elk calf: cow ratios. This information was to be compared to post-control estimates to determine the effectiveness of the management approach, i.e. to experimentally reduce 4 wolf packs to 2-3 individuals and maintaining them at small sizes (via sterilization of the alpha male and female). Beginning in 2008 with direct cooperation from ASRD and other funding groups, Dr. Merrill and her team began Phase 1 of the Wolf Management Project. However, after a scientific review held end of July 2008 the ASRD decided not to proceed with Phase II of this project, as they felt the study would be better conducted in caribou range. Phase I (2008) work included: 1) capturing, collaring, and monitoring the territory boundaries, reproduction, prey composition and kill rates of ~4 wolf packs; 2) capture, collar and monitor the territory boundaries and reproduction in ~ 10 adjacent wolf packs; 3) monitor elk calf: cow ratios in herds within the boundaries of the experimental wolf packs. The researchers continued with the Phase 1 work as planned and focused on summer kill rates. Currently the study has a total of 17 radio collared wolves in 10 of the 14 total packs. Two of the four "experimental" packs have GPS download able collars, the third has a VHF collar and a GPS 3300 collared wolf joined this pack over the summer from an adjacent pack. Only one of the experimental packs remains un-collared, and trapping efforts are still in effect. Seven of the ten adjacent packs are collared with VHF collars. These successes have been achieved by the collaboration with local trappers using locking neck-snares set by trappers over winter 2008 collaring 6 wolves. Using summer (May-August 2008) wolf GPS location data, they are currently working on preliminary model development to

evaluate and refine model-based techniques for estimating parameters of wolf predation in summer. In two of the experimental packs Kootenay Plain and Blackstone pack collars were programmed to collect locations at 15-minute intervals, and data were downloaded fortnightly from the ground. Wolf locations from these 14-day time segments were immediately uploaded into handheld GPS units and visited by technicians in the field. Project staff tracked collared wolves for 168 wolf days covering approximately 1200 kilometers during May to September, and located the remains of 26 wolf-killed prey items. Preliminary analysis has been initiated using the data collected during summer, and these results have been used to help guide their field efforts during the coming year.

Deliverables/Results:

Downloaded over 9000 GPS locations from the Kootenay Plains Pack, 2065 locations from the Blackstone, and 368 locations from the Saskatchewan Crossing pack (adjacent pack). In addition 2 GPS store on board units were deployed: one in the Blackstone pack and one in an adjacent pack. These are currently functioning and will provide home range information when retrieved.

An MSc thesis and peer-reviewed research papers are anticipated deliverables.

Evelyn Merrill University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 emerrill@ualberta.ca 780-492-2842

Development of a prairie-deer sightability model for aerial surveys

University of Alberta Project Code: 030-00-90-131 Grant: \$39,742 Project Status: Funded in 2007-2008; Completed

Alberta Fish and Wildlife currently uses aerial surveys to estimate white-tailed deer (Odocoileus virginianus) and mule deer (O. hermionus) population densities in this region. Aerial surveys have two central problems addressed in this research. First, they may underestimate the true number of deer present due to poor detectibility; and second, because they are limited to surveying only a sample of the region, an appropriate sampling design is needed to maximize accuracy and precision. This project takes advantage of deer already radiocollared to conduct "sightability trials", allowing for development of statistically rigorous "sightability functions" to correct aerial survey estimates for animals that are missed during the surveys. The specific objectives of this deer sightability study are: to conduct sightability trials on white-tail (50) and mule deer (50) during the winters of 2007-08 and 2008-09, and to develop and test a statistically-based sightability model for white-tailed and mule deer in the prairie environment and determine whether the species-specific models significantly differ. 60 sightability trials were conducted in winter 2008-2009, adding to the 54 conducted in 2007-08. Data from 2008-2009 are currently being validated and analyzed. To date a model has been developed for all deer species, rather than species-specific models; these will be completed after the remaining data have been analyzed. The final sightability model and survey design will greatly enhance the precision and accuracy of deer surveys in the aspen parkland region.

Deliverables/Results:

A preliminary sightability model has been completed. Project presented at the Alberta Chapter of The Wildlife Society Annual Conference in Edmonton, AB in March 2009. Project objectives and data collected to date in the May 2008 edition of the Border Deer Study newsletter Anticipated deliverables: A final project report (summer 2009). These data will be incorporated into an MSc thesis chapter along with results from an evaluation of survey designs for improving aerial surveys for deer in the prairies.

Evelyn Merrill University of Alberta CW-405 Department of Biological Sciences, University of Alberta Edmonton, AB T6G 2E9 emerrill@ualberta.ca 780-492-2842

Cohesive conservation: Aligning Alberta Land Use Policy with Sage Grouse (Centrocercus urophasianus) Conservation

University of Calgary Project Code: 030-00-90-104 Grant: \$2,500 Project Status: New in 2008-2009; Completed

The objective of this project is to support the current Alberta sage grouse recovery initiatives through analysis of multi-jurisdictional legal, regulatory, policy and institutional guidelines relevant to the successful implementation of a conservation design for the species. Without cohesion between conservation initiatives, policy, and legislation, recovery efforts are often unsuccessful. This research will determine both conservation impediments and opportunities that exist within the Alberta legislative framework. It considers the Alberta Greater Sage Grouse Recovery Plan (Action Group, 2005) and recent research on sage grouse and their habitatin ascertaining whether current policy and legislation address the conservation needs of the species. Literature and policy sources have been collected and reviewed. As well, analysis of international conservation initiatives and endangered species legislation to help determine the existence of best management practices for species recovery presently unrealized by current recovery initiatives. Planned participation in a multi-stakeholder roll-out of a sage grouse conservation design project to determine where implementation barriers exist; however Stakeholder meetings have delayed as a result of set-backs in acquiring necessary GIS data. These meetings have been rescheduled to begin in Q2 of 2009 once the technical information has been collected. Discussions with government representative took place to determine if any land allocation data is required. Government documents (ie. legislation and policy documents) have been collected and are currently being reviewed. Key-informant interviews with Alberta government representatives took place from March 13 to March 27, 2009. This research project will provide written recommendations to Alberta Sustainable Resource Development (ASRD) and the Alberta Sage Grouse Recovery Action Group on how to best align land use policy and regulations with sagegrouse conservation planning within south-eastern Alberta's sagebrush range.

Deliverables/Results:

Recommendations to ASRD on how to best align land use policy, regulations and operations with sage-grouse conservation planning within south-eastern

Alberta's sagebrush range) will be available at the end of the project, which is scheduled to be completed in December 2009.

Candice Cook University of Calgary #302 - 1828 14 Street SW Calgary, AB T2T 3S9 cookcm@ucalgary.ca 403-698-0973

Mating systems at large spatial scales: breeding migration in Rocky Mountain bighorn sheep

University of Calgary Project Code: 030-00-90-114 Grant: \$21,560 Project Status: New in 2008-2009; Completed

A landscape-scale study of social networks in Rocky Mountain bighorn sheep is being carried out. The researcher's previous work suggests that: (i) both sexes routinely make long-distance migrations during the breeding season, (ii) such "breeding migrations" generate social networks encompassing multiple populations, (iii) these movements are likely a primary source of gene and disease flow, and (iv) breeding migrants potentially function as both "superspreaders" and "super shedders" of disease. Breeding-related social networks therefore likely have population-level effects relevant to all major aspects of bighorn conservation planning (genetic and disease management, reserve and corridor design, level and type of sport harvest). GPS technology and backcountry surveys have been used to determine which individuals migrate to breed, when they migrate, how far and by what routes they travel and, especially, why some individuals choose to migrate and others do not (i.e., the logic of individual migration). Such information is essential for identifying strategies to protect and restore ecological connectivity in threatened or disturbed habitat. This grant support the field work required in 2008 to answer the question: What are the fitness consequences of migration and what rules govern the distribution of migrant and non-migrant males and females among populations in a region? During summer 2008, 16 of the 18 collars, deployed in 2007, were retrieved. Two collars stopped transmitting for unknown reasons and were lost, the first and hopefully last time a deployed collar was not recovered in this study. Each of the 16 recovered collars functioned perfectly, recording several thousand locations for each collared individual. They now have GPS data for a total of 27 rams and 20 females. This dataset provides a solid basis for a description of those landscapelevel attributes of population structure listed. During the 2008 field season only 18 of 22 available collars were deployed (10 males and 8 females). This was again primarily due to a reduced pool of suitable and accessible candidates for collaring. They focused on collaring animals belonging to outlying alpine populations (i.e., non-residents with respect to the focal Sheep River population) in order to broaden and improve our description of regional population structure.

Deliverables/Results:

Currently working on data entry and analyses, from which several papers will follow later this year and in the next two years. A computer model has been developed to test the theoretical fitness consequences of migration against their field data.

Kathreen Ruckstuhl University of Calgary 2500 University Drive Calgary, AB T2N 1N4 kruckstu@ucalgary.ca 403-220-8776

Development of aquatic communities in high altitude mine pit lake systems

University of Lethbridge Project Code: 020-00-90-136 Grant: \$10,000 Project Status: New in 2008-2009; Completed

This project tests the following hypothesizes: Dospawning activities change downstream of mine pit lakes relative to baseline conditions?; How do aquatic communities (algae, invertebrates, fish, macrophytes etc.) develop in mine pit lakes with connectivity; Do aquatic stream communities (algae, invertebrates, fish, etc.) upstream of pit lakes differ from those downstream of pit lakes?; Does overall productivity (relative to fish) increase in systems following pitlake modification?; Do condition and health factors for fish increase in systems after pitlake modification? The project sites are PitLake "A" North and Sphinx Lake and Sphinx Creek. With the addition of study sections on Falls Creek (PitLake CD) and Berry's Creek, far more data was collected than was anticipated in the original proposal allowing for improved experimental design and significance of results. Project activities included: survey electro fishing of the Gregg River immediately upstream of the diversion culvert (to be completed in 2009); fish trap operation on the Gregg River downstream of the existing diversion culvert; population estimates for fish in two study sections of the Gregg River, one section upstream of Highway 40 culvert crossing and one downstream of Highway 40 culvert crossing; observational and quantitative assessment of macrophytes, microphytes and invertebrates in the existing pitlake using plankton nets, dredge samples etc; quantitative assessment of invertebrates in the Gregg River within the two downstream study sections and upstream control section; recording climatic conditions, water temperatures and stream flows; habitat mapping of the two downstream study sections and upstream control section; water sampling of the two downstream study sections and upstream control section; spawning surveys of the two downstream study sections; and fry trapping (if spawning is observed). Similar activities were carried out at all sites.

Deliverables/Results:

Master's Thesis Paper - anticipated completion date January 2010

Dan Johnson University of Lethbridge 4401 University Drive Lethbridge, AB T1K 3M4 rob.sonnenberg@uleth.ca; dan.johnson@uleth.ca 403-6347213

Modelling mercury biomagnification in the South Saskatchewan River Basin

University of Lethbridge Project Code: 020-00-90-129 Grant: \$25,000 Project Status: Funded since 2006-2007; Completed

Since food is the dominant pathway through which Mercury enters fish, one of the long-term research goals of the Rasmussen laboratory has been the development of models for mercury bioaccumulation based on bioenergetics and food web interactions based on stable isotope techniques. Specific goals are: (1) to identify the effect of food web complexity on bioenergetics in northern pike and identify potential lake management practices aiming at lowering mercury levels in northern pike in new reservoirs; (2) to identify the mercury gradient along the Oldman River based on data from primary consumers (suckers, dace, and invertebrates) downstream of our current boundaries between Maycroft and Taber; (3) to analyze bioenergetic budgets of rainbow trout, cutthroat trout, and their hybrids using a mercury mass balance approach. This knowledge may prove useful for watershed management of the upper Oldman River; and (4) the flooding of soils associated with new reservoirs can release significant quantities of mercury accumulated over long periods in the soil, and sulphate reducing bacteria in the anoxic reservoir mud can methylate this mercury causing it to biomagnify within the food chain, thus resident fish are often above the health advisories. They studied mercury biom agnification in new and old irrigation reservoirs throughout southern Alberta. The importance of food web complexity on bioenergetic budgets in fish was an important result with implications for fisheries management and risk assessment. Since bioenergetic budgets affect growth rates and contaminant biomagnification, it is argued that it is vitally important that species inventories be taken prior to reservoir construction. This will allow managers to assess the viability of the community in the newly created lake co-system. The researchers continue to look at other systems, natural and man-made, with different levels of food web complexity and assess the effect of the ecosystem on bioenergetics and Hg biomagnification in fish, using northern pike as the apex predator model.

Deliverables/Results:

Paper submitted: Brinkmann, L. and J.B. Rasmussen. 2009. High levels of mercury in biota of a new Prairie irrigation reservoir with a simplified food web in Southern Alberta, Canada. Science of the Total Environment. Other manuscripts are being prepared for submission.

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

Moose habitat models for management in west-central Alberta

University of Montana Project Code: 030-00-90-134 Grant: \$38,400 Project Status: New in 2008-2009; Completed

Moose populations throughout Alberta, and especially west-central Alberta, have not been studied, despite their key role in Alberta's provincial moose harvest and the regional balance of multiple large-mammal predators and prey. This project integrates aerial moose surveys, GPS collar technology, and resource selection modelling to 1) understand the habitat relationships of moose relative toforest characteristics and human disturbance, and 2) estimate moose population densities across the greater region to better guide management of moose harvest and the conservation of other sensitive species (woodland caribou). They have successfully begun the second year of this project on moose habitat selection and abundance estimation. One winter field season has been completed in 2008/2009 flying aerial surveys, and have completed one year of moose GPS data for habitat modeling. They are in the process of preparing this data for analysis and meeting the long term study objective of developing a cost and time efficient aerial survey technique to estimate moose abundance across west-central Alberta. Currently the project has 28 moose radiocollared in west-central Alberta, including 19GPS collars and 9VHF collars on adult male and female moose. Four GPS collars have been retrieved, each stored data of about one year, collecting over 12,000 moose GPS location. However, some minor setbacks were experienced this year that were overcome as a result of GPS collar failures for collars deployed in March 2008. However, they worked with ATS to warranty replace all 11 GPS collars, and have deployed 10 in the field as of March 2009.

Deliverables/Results:

Project website: a project website has been initiated of the overall project on woodland caribou in west-central Alberta

(http://www.cfc.umt.edu/HebLab/CaribouProject.html). The specific moose component is recognized on this webpage and updates will be added constantly throughout the duration of the project.

Anticipated deliverables: Master's thesis on moose habitat ecology in westcentral Alberta (fall 2010) and scientific papers for publication (fall 2010). GPS based resource selection function models for Moose in west-central Alberta are being developed in 2009-2010.

Mark Hebblewhite University of Montana 32 Campus Drive Missoula, MT 59812 mark.hebblewhite@umontana.edu 406-243-6675

Amphibian Education Outreach Program

Valley Zoo & John Janzen Nature Centre Project Code: 002-00-90-115 Grant: \$10.440 Project Status: New in 2008-2009; Completed

Amphibian Ark works with a mandate to ensure the global survival of amphibians. Amphibian Arklaunched a "2008 Year of the Frog" global awareness campaign. The primary goals of the campaign were to generate public awareness and understanding of the amphibian extinction crisis, and gain financial support for in situ conservation efforts and captive population management. As participating facilities, the Valley Zoo and John Janzen Nature Centre launched several initiatives in support of the Year of the Frog messages. The primary focus from these facilities is on an education campaign for the Capital region. The initiatives include installation of a new eight species amphibian exhibit, pond naturalization, and a series of amphibian focussed events, public drop-in programs, and registered child, adult & family courses. The goal is to reach the maximum number of people possible, through different means and methods. In order to reach an audience that does not regularly access the facilities, an interactive outreach program was developed that would visit the various locations and events around the city. This outreach opportunity was offered free of charge to encourage maximum participation. Two program developers were contracted to build and create an exciting amphibian program entitled "Amphibians in Crisis". As part of the development, seven new games and a "science experiment" have been completed. Complimentary Outreach Programs were delivered to: Earth Day, April 20; Strath con a County Canada Day Event, July 1; Sunday in the City on July 20; Communities in Bloom on July 31& August 1; Edmonton Heritage Festival – August 2-4; Edmonton International Fringe Festival – August 15-24; Edmonton Public Libraries – throughout summer; Edmonton Oil Kings home opener Sept. 19; and Free Admission Day on Sept. 28.

Deliverables/Results:

In total, 200 hours of complimentary programming was provided. This exceeded their original goal by 25%. The combined attendance for Year of the Frog events was approximately 20,000, though an exact number is not known as most of the events were drop-in in nature and tracking was difficult.

Juanita Spence Valley Zoo & John Janzen Nature Centre PO Box 2359 Edmonton, AB TSJ 2R7 juanita.spence@edmonton.ca 780-496-2930

Lac La Biche Watershed Project

Watershed Advisory Committee & La La Biche Watershed Steering Committee Project Code: 020-00-90-141 Grant: \$7,500 Project Status: New in 2008-2009; Completed

This project aims to enhance the state of the Lac La Biche Watershed by improving the health of the riparian areas and increasing biodiversity. By sampling the lakes, beaches and inflows information can be compiled to make a watershed management plan to decrease the impacts on the watershed and riparian areas. In addition, by changing practices through education, having a safe secure drinking water source along with a healthy aquatic ecosystem will be possible. They completed 5 sampling events on 5 area lakes, completed 10 sampling events on 20 Lac La Biche Lake inflows, and completed bacteriological sampling on 11 area beaches. The Mad About Science program is a free program for youth aged 6-12 that is held weekly for a few hours with the Fun in the Sun program from July through August. In addition, three day camps are held at three different locations within the County during the summer. In total 298 kids participated in the Mad About Science Program. The Watershed newsletter containing watershed project activities and accomplishments as well as information on various environmental topics were published four times throughout the year to increase public awareness and education.

Deliverables/Results:

298 kids participated in the Mad About Science Program Watershed Newsletters (Spring, Summer, Fall and Winter) were sent out Lake reports with results of summer sampling

Duane Coleman Watershed Advisory Committee & La La Biche Watershed Steering Committee Box 1679 Lac La Biche, AB TOA 2C0 krystle.fedoretz@laclabichecounty.com 780-623-4323

Willmore Wilderness Park trail clearing partnership

Willmore Wilderness Foundation Project Code: 015-00-90-101 Grant: \$5,000 Project Status: New in 2008-2009; Completed

The main project objectives were: to spend fourteen-days clearing the proposed trail, some of which goes through areas of severe windfall and burnt timber; set up a base camp on Boulder Creek at a place known as Many Faces camp; to take GPS co-ordinates, tracking and waypoints; and to take detailed journals and photographs of the project. The historic trail cleared runs from the mouth of Boulder Creek, upstream on the Smoky River to the mouth of the Jackpine River; then following the trail from the Smoky to the confluence of Boulder Creek and Me

and Charlie Creek, then upstream on Boulder Creek to the Mt. deVeber Basin and Emerald Lakes. The historic trail will be re-opened allowing the public to use the area. Whitefox Circle Inc. will donate a professional video production of the project showcasing the Willmore Wilderness Foundation and the ACA Trail Clearing. A base camp was set up from June 9- 19, 2008 at Kvass Flats. Seven men worked the trail clearing operation. Smoky River Trail from the Sulphur Gates to the Muddy Water River was cleared, as well as the CAT trail and the historical Smoky River Packtrail. Also they cleared up Davey Creek Trail to the timberline. They were unable to access the area on Boulder Creek due to late snow conditions and high water. From September 1- 14, 2008 moving camps were set up at Kvass Flats, Sulphur Springs on Sheep Creek, Cote Creek, Casket Creek, Morkill Pass and the Jackpine River. WWF staff facilitated the trail assessment as a fire had ravaged the Sheep Creek area in 2005. This time was used to assess the existing Sheep Creek, Continental Divide, Jackpine River Trail. A video journal was kept and the entire trip was heavily photographed with close to 2000 images.

Deliverables/Results:

Two trail clearing expeditions were carried out.

15-minute video documentary (prepared by Whitefox Circle Inc.) on all Willmore Wilderness Foundations 2008 trail-clearing initiatives which is to be shown at five WWF fundraisers in 2009 (at least 2000 will view the film).

Susan Feddema-Leonard Willmore Wilderness Foundation Box 93, Grande Cache, AB TOE OY O info@wilmorewilderness.com 780-827-2696

Riparian reforestation and wildlife habitat enhancement of Beaverlodge watershed - Phase 1

Woodlot Association of Alberta / Woodlot Extension Program Project Code: 020-00-90-142 Grant: \$15,000 Project Status: New in 2008-2009; Completed

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 aims to build awareness of how habitat adjacent to the river can be restored through reforestation to improve riparian health and wild life habitat. The goal is to demonstrate the restoration of riparian buffers and upland forests within the Beaverlodge River watershed. The project worked with landowners in this watershed to reforest degraded riparian and buffer zones. In phase I the Wood lot Association coordinated the reforestation 50 acres along the Beaverlodge River and its tributaries. First they established selection criteria for landowners - in order for land to be eligible access by livestock and cultivation must be controlled and managed appropriately while trees establish themselves. 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. Each landowner signed an agreement with ACA agreeing to protect trees from detrimental farming practices. A tree-planting contractor was hired to plant and was supervised by project staff. The Woodlot Extension Program and County of Grande Prairie staff visited the planting in late June to evaluate success. A summer student coordinated these and other activities and was responsible for advising other landowners in the watershed on how to conduct similar projects.

Deliverables/Results:

Participation from five landowners (Landowners were thrilled to be involved and the Woodlot Association have had plenty of positive feed back since the project began.)

Approximately 50 acres were reforested with 24,000 seedlings

Project Signage at each location

20 people attended the project tour.

Media Coverage: 2 Articles Peace Country Sun "Riparian restorations making a difference" by Nick Kuhl (24 Oct. 08) and Peace Country Sun "Riparian revitalization: Tree-planting project hoped to help increase the health of the Beaverlodge River" by Ian Kucerak (23 May 2008)

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



APPENDIX A

Grant Eligible - Conservation Fund Project Submission Guidelines For Funding in 2008 - 2009

At the **Alberta Conservation Association** (ACA), we believe it is our responsibility to join and support the collective effort to conserve, protect and enhance Alberta's fish, wildlife and habitat. In addition to delivering conservation programs throughout the province, we administer a fund that has been awarding conservation grants since 1997. Funded by the province's anglers, hunters and other conservationists, ACA's Grant Eligible Conservation Fund supports projects that benefit Alberta's wildlife and fish populations, and the habitat they depend on.

The ACA is proud to enter into its 11th year of Conservation Funding. Up to **\$1.2 million dollars** will be available for project funding via the Grant Eligible Conservation Fund during the 2008/2009 funding cycle. This amount is larger than last year and "recruitment and retention of hunters, anglers and trappers" has been added to fisheries, wildlife and land management as a fourth priority area.

This Project Submission Guidelines package contains information to help you apply for funding from the ACA Grant Eligible - Conservation Fund. All supporting documents can be found on the ACA funding webpage (see: http://www.ab-conservation.com/grants/index.asp)

- Section A: About This Grant Section B: Eligibility
- Section C: Major Funding Goals & Priorities 2008 2009
- Section D: Grant Application Screening & Decision Process

Section A: About This Fund

Purpose:

The **Grant Eligible - Conservation Fund** aims to aid the Alberta Conservation Association in the delivery of its mission and Strategic Business Plan. Grants made to partners are intended to enhance and supplement ACA activities.

- Read the Project Submission Guidelines carefully to determine if your project is eligible for funding prior to preparing a formal submission to the Alberta Conservation Association.
- Download the appropriate application form based on funding request, and then submit your application by e-mailing it to the ACA. Ensure that all sections of the application are complete, clear and thorough. Attach any relevant supporting documents.

Who Can Apply:

Any organization or individual can apply if they have a suitable project. Alberta Conservation Association staff and Alberta Sustainable Resource Development staff are not eligible to apply to the fund. Projects already considered by the ACA grants in Biodiversity are not eligible to apply and projects with ACA IPS NSERC contributions are also ineligible to apply.

Successful applicants will be expected to follow the ACA Cooperative Project Agreement (for a downloadable copy of the agreement see: http://www.ab-conservation.com/grants/index.asp).

How to Apply:

Use the appropriate application form based on your funding request, together with any appropriate supporting information.

- Small Grant Application Form requests up to \$2,500.00.
- Large Grant Application Form requests over \$2,500.00.

Where to Apply:

Submit completed Grant Eligible - Conservation Fund applications to:

amy.mackinven@ab-conservation.com

In an effort to reduce paper consumption, we appreciate your effort to provide your completed application electronically. However, if you do not have access to the internet, please send a hard copy application to:

Alberta Conservation Association, Attention: GECF Coordinator, #101, 9 Chippewa Road, Sherwood Park, AB, T8A 6J7

Or by fax: 780.464.0990

IMPORTANT NOTICE: upon receiving your proposal, we will send you an acknowledgment receipt by e-mail or telephone within five business days. It is your responsibility to contact the GECF coordinator if you have not received acknowledgement of receipt, as the application may not have been received in good order.

When to Apply:

The ACA will receive applications from January 1 to 31, 2008 for funding consideration in the 2008/2009 fiscal year. Applications received after 16:30 on January 31, 2008 local time will not be accepted.

Section B: Funding Eligibility

With the exception of Alberta Conservation Association and Alberta Government, Sustainable Resource Development staff, any organization or individual may apply to the Grant Eligible -Conservation Fund if they have a suitable project.

Grants Are Available For:

- Projects that meet and further the ACA mission: ACA conserves, protects, and enhances fish, wildlife and habitat for all Albertans to enjoy, value and use.
- Projects that contribute to the priorities as outlined in the funding priorities section of this document, drawn from the Strategic Business Plan 2008-2011 (available on-line at <u>www.ab-conservation.com</u>, final version available 15 December 2007);
- Priority is given to projects that demonstrate a "self help" attitude; i.e., partner contributions, matched funding dollars, and public involvement;
- Research (academic) projects that clearly meet ACA funding criteria and demonstrate initiatives that have a wider relevance and further the practice of conservation.

Grants Are Not Available For:

Support will not be provided in response to the following types of requests:

- Funding for regular ongoing staff salary positions;
- Grants are not normally offered towards profit-making activities;
- Grants are not normally available for ongoing administration or overhead costs of the organization and for the funding of administrative staff;
- Overhead costs;
- Emergency funds or deficit financing;
- Travel to conferences and seminars, unless part of a larger project supported by the Association;
- Publication costs are not normally funded, unless part of a larger project supported by the Association;
- General fundraising;
- Land acquisition (Land acquisition proposals can be submitted to the ACA Habitat Securement Fund).

Important Granting Information:

- Successful applicants will normally be expected to follow the ACA Cooperative Project Agreement;
- Project applications for funding support submitted to the ACA Grants in Biodiversity program will render those projects ineligible to apply to the Grant Eligible Conservation Fund. http://www.biology.ualberta.ca/biodiversity/
- Payment of grants is normally made in one, two or three payments, depending on grant size. Please note the initial payment can be delayed, due to time it takes to sign and process new Cooperative Project Agreements, applicants should be aware of this possible delay with the initial payment.
- Project activities must occur between April 1, 2008 and March 31, 2009;
- Grants cannot be made retrospectively, that is for work started prior to the current fiscal year, e.g. before April 1, 2008;
- The ACA may charge an administration fee for any monies held in trust;
- Capital equipment purchases in excess of \$500 may remain the property of the ACA upon project completion.

Your information will be used only for the purpose for which it was originally collected, and it will be disclosed only on a strict "needto-know" basis. Be assured that we manage the information contained in your submission in manner commensurate with its sensitivity.

Section C: Major Funding Priorities GECF 2008 – 2009

Funding Priorities

These grants are intended to aid ACA in the delivery of our mission and contribute to our Strategic Business Plan and should demonstrate value to local to wildlife, fish populations and/or the habitat on which they depend. The following list of funding priorities for the Grant Eligible - Conservation Fund is derived from our 2008-2011 Strategic Business Plan, available on-line at: <u>www.ab-conservation.com</u> (final version will be posted 15 December, 2007)

Major Funding Priorities derived from our Strategic Business Plan

ACA Fisheries Program Priorities for 2008-2009

ACA's Fisheries Program is designed to implement fish conservation efforts in an effective, credible and collaborative manner that will sustain or improve Alberta's fish populations. The Fisheries Program supports and enhances conservation activities that retain the diversity and abundance of fish populations and communities, and the biological communities and habitats that support them. The program supports fishing as a recreational use in the interest of Alberta anglers. An essential element for all program components is the monitoring, evaluation, and adaptation of activities. Activities in this program support and inform an adaptive fisheries management program in Alberta.

The following objectives have been outlined:

- Fish stock assessment and monitoring.
- Sport fishery monitoring.
- Stream crossing evaluations (evaluations of watershed fragmentation).
- Lake aeration: developing and maintaining lentic habitats for increase survival of sport fish, creating recreational angling opportunities for Albertans.
- Enhanced fish stocking: providing Alberta anglers with increased opportunities to catch and creel more fish where possible, while maintaining the integrity of Alberta's natural waters and fish populations.
- Riparian conservation planning: enhancing, maintaining and protecting riparian habitats in Alberta.

ACA Land Management Program Priorities for 2008-2009

The Land Management Program (LMP) encompasses activities intended to conserve, protect and enhance fish and wildlife habitat, and to increase consumptive and non-consumptive recreational opportunities including angling and hunting. The three major activities of this program are habitat securement*, maintenance and management of ACA Conservation Sites, and recreational opportunity initiatives.

The following objectives have been outlined:

- Recreational Opportunities: develop and promote stewardship of habitat resources on public and private land that ensures access and recreational opportunities are recognized, developed and enhanced.
- Fisheries access sites: Maintain fisheries access to ensure access to fisheries, and develop new sites at water bodies.

*Please note: Land Acquisition proposals are not reviewed by the Grant Eligible Conservation Fund. Direct all Land Acquisition proposals to the Habitat Securement Fund.

ACA Wildlife Program Priorities for 2008-2009

The Wildlife Program supports and enhances conservation activities that retain the diversity and abundance of populations and communities of wildlife in Alberta. It includes consideration of all non-fish taxa, but has a strong focus on harvested species. The Wildlife Program includes components related to wildlife populations, their habitats and the ecosystems that support them.

Program activities may include, but are not limited to, population enhancement, applied ecological studies, and understanding and facilitation of users' needs and wants. An essential element is the monitoring, evaluation and adaptation of wildlife and habitat conservation activities. ACA strives to enhance the sustainability of wildlife species through science-based conservation. The Wildlife Team has developed a program that focuses on four thematic areas, including ungulates, upland game birds, waterfowl and species at risk.

The following objectives have been outlined:

- Species and population inventory
- Plan development and implementation; support the development of plans for wildlife species that will assist in species recovery and management
- Species management and enhancement
- Aerial ungulate surveys (proposals should address ACA/ASRD survey priorities)
- Applied ecological studies, specifically on the status, movement patterns and ecology of priority species.
- Status assessment (collect and interpret data that will assist with the designation of legal status for species at risk and collect data on the distribution and abundance of data deficient species to support their management)
- Habitat inventory and enhancement
- Recreational opportunities
- Education and Outreach

Retention and Recruitment of Hunters, Anglers and Trappers

It is an objective of the ACA to fund projects which help retain and recruit hunters, anglers and trappers in Alberta.

Section D: Grant Application Screening & Decision Process:

The Alberta Conservation Association receives funding requests far in excess of our financial resources and often must decline funding to worthy projects and programs. This does not in any way reflect the value of the organization/individual involved. Applications are reviewed in the order in which they are received. The ACA Board of Directors appoints a Granting Committee comprised of three board members and ten citizens of Alberta, who referee and assess the grant applications based on the established funding criteria. The Grant Eligible - Conservation Fund is administered by an ACA employee.

Applicants will be notified of status of their submission by March 15, 2008. Successful grant applicants will be expected to follow the ACA Cooperative Project Agreement.



APPENDIX B

Grant Eligible - Conservation Fund April 1, 2008 to March 31, 2009

Cooperative Project Agreement

Between

ALBERTA CONSERVATION ASSOCIATION (ACA)

-and-

RECIPIENT

Organization		
Address		
City/Town		AB
Postal Code		
Email		
Telephone / Primary		
Principal Applicant		
Name		
Project Title		
Project Code	000-00-000	
Maximum Funding (Amount Granted)		

Effective Date: April 1, 2008 to March 31, 2009

A. ACA PROJECT ADMINISTRATION CONTACT:

The funding recipient shall direct all questions and communications regarding this project to the GECF Project Administrator.

Alberta Conservation Association PO Box 40027 Baker Centre Postal Outlet Edmonton, AB T5J 4M9

Attn: Amy MacKinven, GECF Project Administrator-

Telephone (cell):	403.617.5662
Facsimile:	780.427.5192

Email: <u>amy.mackinven@ab-conservation.com</u>

B. FUNDING TERMS AND CONDITIONS

The Alberta Conservation Association Agrees to:

Provide a maximum contribution of «Amount_granted» («Amount_letters» dollars) during the 2008-2009 fiscal year (April 1 to March 31) to support this project. Payments are contingent upon receipt of appropriate invoice. Payments will be made as per Schedule B, attached.

The Grant Recipient Agrees to:

- 1. Conduct the project according to the plan specified in the project proposal submitted to ACA (Schedule A).
- 2. Obtain ACA's approval on any departures from the project proposal (Schedule A) that alter the potential for achieving the objectives and deliverables of the project.
- 3. Provide ACA with all reports specified in Section D.
- 4. Acknowledge the contributions of Alberta Conservation Association in all reports, presentations and publications resulting from the project.
- 5. Use these funds exclusively on direct expenses associated with this project as identified in the project proposal submitted to ACA (Schedule A).
- 6. Include with the final report (due on or before March 15, 2009) a financial accounting of all expenditures of these funds.
- 7. Assume responsibility for any expenditure of funds beyond those approved in Section B of this agreement.
- 8. The Successful Applicant shall perform all work in accordance with all applicable laws, regulations, rules, codes and ordinances of authorities having jurisdiction and will obtain any and all permits/licenses and permissions required to carry out activities described in this agreement.
- 9. Applicants, and the institutions and organizations they represent or by which they are employed, assume complete responsibility for carrying out their project and for the results thereof.
- 10. By accepting a grant of funds, the applicant and the institution or organization release, and agree to indemnify, Alberta Conservation Association and its directors and officers from and against any liability, damages, cost and expenses arising from any injury or damage whatever, that may be suffered or incurred by an individual, firm, corporation or agency and which is caused or

contributed to, directly or indirectly, by the operations of the applicant, his or her institution or organization or by use and application of the grant funds.

C. BUDGET EXPENDITURES

- 1. Funds provided by the ACA must be spent in accordance with the budget contained in the project proposal (Schedule A) that was submitted to, and approved by ACA. Deviations from this budget must be discussed with, and approved by the ACA Contact.
- 2. All capital assets (items with a useful life greater than one year) purchased for your project with ACA funds are the property of the ACA, and, accordingly the ACA must be made aware of any assets purchased. In special cases assets may remain the property of the recipient. Assets purchased with ACA funds are to be returned to the ACA Contact upon completion of the project. Capital Assets are items>\$500.00 that can be reused on other projects.

D. REPORTING REQUIREMENTS

- **refer to Schedule C for a more detail.** The Funding Recipient will provide the ACA Project Administration Contact with the following documents:

- 1. One interim update on activities related to the project will be required on or before September 1, 2008: (See Schedule C). Included in this report should be a detailed description of activities, objectives, deliverables/achievements, Request for Payment.
- 2. A final project report is required on or before March 15, 2009. Included in this report should be a detailed description of activities, objectives, deliverables/achievements, Request for Payment, and an accounting of how ACA funds were expended including receipts, if applicable. (See Schedule C)
- 3. **Any other reports or deliverables** generated as a result of your project specified in the project proposal (Schedule A).
- 4. At the request of the ACA Contact, you may be invited to make a presentation of the project.

<u>Note:</u> Final Payment of the project grant and future funding by ACA is contingent upon meeting all of the reporting requirements listed above. Failure to comply with these conditions may impact future funding.

E. ACKNOWLEDGEMENT OF ACA

Grant recipients are expected to acknowledge the Alberta Conservation Association in all reports, presentations, publications and press releases concerning the project. Whenever possible the ACA logo should appear along with the acknowledgement. The ACA Contact will provide a copy of the ACA logo in an electronic format at your request. Preferred Acknowledgement text: This project is financially supported by the Alberta Conservation Association.

F. EXTERNAL FUNDS HELD BY ACA

The ACA will receive and administer external funds for your project, if requested. Cheques must be made payable to the Alberta Conservation Association and should be accompanied by a letter from the donor specifying the amount of the donation, and the project to which funds should be directed. If external funds are expected to be administered by ACA, please list below.

G. ADDITIONAL SPECIFICATIONS

Inspection and Audit. The Alberta Conservation Association is entitled to have its authorized agents review files, documents, accounting records, the premises of the Recipient, and any other locations and assets pertinent to the Project in order to assess whether the Recipient is in compliance with this Agreement. **Termination.** If the Recipient declines to continue with the project once funds have been disbursed, or has breached any of its obligations pursuant to this Agreement, the Alberta Conservation Association may pursue remedies at its discretion, including giving written notice of termination of support to the Recipient, and after 10 days may demand payment of any portion of the funds that have not either been expended, or committed to be expended at that date.

H. ACKNOWLEDGED BY APPLICANT AND SIGNATURES

The Applicant and/or Project Manager acknowledge that they have read, understand, and will comply with the terms of this agreement including the attached schedules. Failure to comply with the terms of this agreement will result in the holdback of funds and may negatively impact future funding eligibility.

Applicant / Project Manager (Printed Name)	Signature	Date
Witness (Printed Name)	Signature	Date
Amy MacKinyen		



SCHEDULE A

PROPONENT'S PROJECT PROPOSAL

The attached proposal, "Project Title" serves as a description of the Project.

Insert proposal here



SCHEDULE B

PAYMENT SCHEDULE 2008-2009

The Alberta Conservation Association will disburse the funds according to the following schedule.

<u>Please Note:</u> A Request for Payment or an invoice for each scheduled payment must be submitted to the Alberta Conservation Association before payment will be processed. Please ensure that the Project Code is clearly identified on each Request for Payment.

Project Title:	«Project_Title»
Project Code:	«Codes»
Maximum Funding:	«Amount_granted»
Effective Date:	April 1, 2008 to March 31, 2009

The maximum contribution of \$Amount granted

(«Amount_letters» dollars) for the 2007-2008 fiscal year will be divided into payments, as follows:

Payment One:

An initial contribution of **«First_Instalment**» will be forwarded to you following receipt of this signed agreement by all parties and the attached Request for Payment. Please ensure you submit a project description for uploading to our website.

Payment Two:

«Second_Instalment» will be paid upon receipt of an interim report and signed Request for Payment on or before September 1, 2008.

Final Payment:

The remaining **«Final_Instalment»**, which represents 10% of the total grant, will be forwarded to you following the receipt of the final report and signed Request for Payment on or before March 15, 2009 and upon approval of all other reporting requirements by the ACA Contact.

Please refer to **Section D** of the Project Agreement for details on reporting requirements.

SCHEDULE C

Reporting Requirements

Interim Update Report Submission Date: September 1, 2008

Forms for the interim update can be found on our website at: <u>www.ab-conservation.com</u>. The following information should be included in your interim report:

- Project Title & Project Code;
- Update current status and recent activities of the project;
- Financial highlights;
- List any reports or deliverables that are currently available;
- Outlook for next quarter;
- Request for Payment;

Final Administrative Report Submission Date: on or before March 15, 2009

Forms for the final administrative report can be found on our website at: <u>www.ab-conservation.com</u>. Included in this report should be a detailed description of:

This report should be geared toward to providing information that satisfies the conditions of your grant and the cooperative funding agreement.

- Project Title & Project Code;
- Update current status and recent activities of the project;
- Financial highlights;
- Accounting of how ACA funds were expended including receipts, if applicable.
- List any reports or deliverables that are currently available;
- Original signed Request for Payment;
- Any other key points you would like to mention.

Please send electronic copies of reports where possible, but an original copy of the Request for Payment is required.

Final Project Report

Any other reports or deliverables generated as a result of your project specified in the project proposal (Schedule A).

Request for Payment Form Grant Recipient

Grant Eligible Conservation Fund 2009-2010

Date:

☐ Initial Payment ☐ Interim Payment

Final Payment

Funding Recipient Information

Project T	itle:			
Name of	Recipient:			
Grant Ce	ntre Code:		Payment Amount:	
Phone:		Email:		

Cheque Remittance information

Cheque payable to: (include full address)

Please note payment can be made from an invoice.

Return to:

Alberta Conservation Association 101 – 9 Chippewa Road Sherwood Park, AB T8A 6J7 Attn: **Amy MacKinven, GECF Project Administrator**

Toll-Free Telephone:1.877.722.GECF (4323)Facsimile:780.464.0990Email:amy.mackinven@ab-conservation.com

Table: Project results in relation to Strategic Business Plan 2008-2011 and Major Funding Priorities of the Conservation Fund 2008-2009

Fisheries Objectives		
# of projects	26	GECF projects
GENERAL FISHERIES FUNDING PRIORITY: "ACA's Fisheries Program is designed to		From microbes to macrophytes: assessing major wetland health indicators along a disturbance gradient (ARC 020- 00-90-130)
implement fish conservation efforts in effective, credible and collaborative ma	an annerthat	Millennium Creek Project - Phase 2 (Bow Valley Habitat Development 020-00-90-111)
will sustain or improve Alberta's fish populations. The fisheries program su	pports	Riparian area fencing project at Aspen Ranch Outdoor Education Facility (Camps for Children Education Assoc. 020- 00-90-106)
and enhances conservation activities the the diversity and abundance of fish po and communities, and the biological	nat retain pulations	Fish 101 and Biodiversity 101 — making linkages between healthy populations and man't (Cows & Fish 020-00-90- 145)
communities and habitats that suppo	rt them.	Deadmans Pass / Allison Creek (Crowsnest Pass Quad Squad Assoc. 015-00-90-109)
The program supports fishing as a recru use in the interest of Alberta anglers."	eational	Fiesta Lake dock construction (Dickson FGA 020-00-90-101)
		Heart River restoration project (Heart River Watershed Advisory Council 020-00-90-118)
		The Red Deer Brook area structure plan (Lac La Biche County 015-00-90-110)
		Riparian health inventory done by Cows and Fish (Lac La Nonne Watershed Stewardship Society 020-00-90-144)
		Lee Creek fisheries and riparian health assessment (Lethbridge College 020-00-90-103)
		Maximizing the utility of native riparin trees and shrubs for bioengineering projects in prairie ecosystems (Lethbridge College 015-00-90-108)
		Restoring the future (Moose Lake Watershed Society 020-00-90-113)
		Riparian area management improvements (Mountain View County 015-00-90-102)
		Partners in Habitat Development (PHD EIA 015-00-90-103)
		Assessment of electric fencing as a riparian management tool for agricultural producers (Red Deer County 020-00- 90-117)
		N AB non-game fish status assessment Yr 6 (Royal Alberta Museum 020-00-90-115)
		Late fall fisheries investigations in diversion canals of southern Alberta (TUC 020-00-90-116)
		Habitat en han cement program for Alberta's East Slopes Fishery (TUC 020-00-90-139)
		Bow Riverriparian fencing project (TUC Bow River Chpt 020-00-90-114)
		Outpost (Police) Lake aeration (TUC Oldman River Chpt 020-00-90-112)
		Assessment of riparian health and fish assemblage integrity in the Raven River (TUC Edmonton Chpt 020-00-90- 143)
		Ecological effects of sportfish stocking & aeration on communities in Boreal Foothills Lakes (UofA 020-00-90-140)
		Modelling mercury biomagnification in S. Saskatchewan River Basin (U Leth 020-00-90-129)
		Development of aquatic communities in high altitude mine pit lake systems (U Leth 020-00-90-136)
		Lac La Biche watershed project (Watershed Advisory Committee & Lac La Biche Watershed Steering Committee 020- 00-90-141)
		Riparian reforestation and wildlife habitat en han cement of Beaverlodge Watershed – Phase 1 (Woodlot Association of Alberta 020-00-90-142)

Objectives / # of Projects	GECF projects
Objective #1: FISH STOCK ASSESSMENT &	Ecological effects of sportfish stocking & aeration on communities in Boreal Foothills Lakes (UofA 020-00-90-140)
MONITORING (7)	N AB non-game fish status assessment - Yr 6 (Royal Alberta Museum 020-00-90-115)
Provide timely and accurate information regarding the abundance, structure and use of	Quirk Creek Native Fish Initiative (TUC 020-00-90-113)
aquatic habitats by priority fish populations.	Late fall fisheries investigations in diversion canals of southern Alberta (TUC 020-00-90-116)
	Assessment of riparian health and fish assemblage integrity in the Raven River (TUC Edmonton Chpt 020-00-90- 143)
	Modelling mercury biomagnification in S. Saskatchewan River Basin (U Leth 020-00-90-129)
	Development of aquatic communities in high altitude mine pit lake systems (U Leth 020-00-90-136)
Objective #2: SPORT FISHERY MONITORING (0)	
Describe and monitor levels of angler use, harvest and demographics of priority fisheries.	
Objective #3: STREAM CROSSING EVALUTION (1)	Deadmans Pass / Allison Creek (Crowsnest Pass Quad Squad Assoc. 015-00-90-109)
Determine the level of watershed fragmentation caused by stream crossings in priority drainages, and collaboratively develop remediation plans to diminish fragmentation.	
Objective #4: LAKE AERATION (1)	Outpost (Police) Lake aeration (TUC Oldman River Chpt 020-00-90-112)
Develop and maintain lentic habitats for the increased survival of sport fish, creating recreational angling opportunities for Albertans.	Ecological effects of sportfish stocking & aeration on communities in Boreal Foothills Lakes (UofA 020-00-90-140)
Objective #5: ENHANCED FISH STOCKING (1)	Ecological effects of sportfish stocking & aeration on communities in Boreal Foothills Lakes (UofA 020-00-90-140)
Provide Alberta anglers with in creased opportunities to catch and creel more fish where possible, while maintaining the integrity of Alberta's natural waters and fish populations.	
Objective #6: RIPARIAN CONSERVATION PLANNING (20)	From microbes to macrophytes: assessing major wetland health indicators along a disturbance gradient (ARC 020-00-90-130)
Enhance, maintain and protect priority riparian	Millennium Creek project - Phase 2 (Bow Valley Habitat Development 020-00-90-111)
habitats in Alberta.	Riparian area fencing project at Aspen Ranch Outdoor Education Facility (Camps for Children Education Assoc. 020-00-90-106)
	Fish 101 and Biodiversity 101— making linkages between healthy populations and man't (Cows & Fish 020-00- 90- 145)
	Deadmans Pass / Allison Creek (Crowsnest Pass Quad Squad Assoc. 015-00-90-109)
	Heart River restoration project (Heart River Watershed Advisory Council 020-00-90-118)
	The Red Deer Brook Area Structure Plan (Lac La Biche County 015-00-90-110)
	Riparian health inventory done by Cows and Fish (Lac La Nonne Watershed Stewardship Society 020-00-90-144)
	Lee Creek fisheries and riparian health assessment (Lethbridge College 020-00-90-103)
	Maximizing the utility of native riparin trees and shrubs for bioengineering projects in prairie ecosystems (Lethbridge College 015-00-90-108)

		Γ
		Restoring the future (Moose Lake Watershed Society 020-00-90-113)
		Riparian area management improvements (Mountain View County 015-00-90-102)
		Partners in Habitat Development (PHD EIA 015-00-90-103)
		Assessment of electric fencing as a riparian management tool for agricultural producers (Red Deer County 020-00- 90-117)
		Habitaten han cement program for Alberta's East Slopes Fishery (TUC 020-00-90-139)
		Bow River riparian fencing project (TUC Bow River Chpt 020-00-90-114)
		Assessment of riparian health and fish assemblage integrity in the Raven River (TUC Edmonton Chpt 020-00-90- 143)
		Development of aquatic communities in high altitude mine pit lake systems (U of L 020-00-90-136)
		Lac La Biche watershed project (Watershed Advisory Committee & Lac La Biche Watershed Steering Committee 020-00-90-141)
		Riparian reforestation and wild life habitat enhancement of Beaverlodge Watershed — Phase 1 (Woodlot Association of Alberta 020-00-90-142)
Land Management Obje	ctives	
# of projects	11	GECF projects
GENERAL LAND MANAGEMENT FUNDING PRIORITY: "ACA's Land Management Program encom passes activities intended to cons protect and enhance fish and wildlife ha and to increase consumptive and non- consumptive recreational opportunities including angling and hunting. Three activities of the program are habitat secu maintenance and management of ACA Conservation Sites and recreational oppor initiatives."	serve, abitat, major ırement, ırtunity	Mapping rangeland and rangeland change using remote sensing (Agriculture Canada 015-00-90-106) Heritage 100 project (AFGA 002-00-90-109) Operation Grassland Community (AFGA 030-00-90-127) Castle Wilderness restoration, on the ground and on the web (Castle- Crown Wilderness Coalition 015-00-90-105) Fish 101 and Biodiversity 101 – making linkages between healthy populations and man't (Cows & Fish 020-00- 90-145) Fiesta Lake dock construction (Dickson FGA 020-00-90-101) Recreation and wildlife in the Rockies in south-western Alberta (Miistakis Institute 030-00-90-120) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Partners in Habitat Development (PHD EIA 015-00-90-103) Alberta junior pheasant project (Sarcee FGA 030-00-90-105) Willmore Wilderness Park trail clearing partnership (Willmore Wilderness Foundation 015-00-90-101)
Objectives / # of Projects		GECF projects
Objective #1: STRATEGIC AND OPERATIONAL PLANNING (2)		Mapping rangeland and rangeland change using remote sensing (Agriculture Canada 015-00-90-106) Fish 101 and Biodiversity 101— making linkages between healthy populations and man't (Cows & Fish 020-00- 90-145)
in Alberta to provide input into the futur direction of ACA's Land Management Pr	e ogram.	
Objective #2: HABITAT SECUREMENT (1)	Operation Grassland Community (AFGA 030-00-90-127)
Conserve and protect priority wildlife and fish habitats, and increase recreational opportunities through land securement.		

Objective #4: RECREATIONAL OPPORTUNITIES (8) Develop and promote stewardship of habitat resources on public and private land that ensures access and recreational opportunities are recognized, developed and enhanced.	Heritage 100 project (AFGA 002-00-90-109)Operation Grassland Community (AFGA 030-00-90-127)Castle Wilderness restoration, on the ground and on the web (Castle-Crown Wilderness Coalition 015-00-90-105)Recreation and wildlife in the Rockies in south-western Alberta (Miistakis Institute 030-00-90-120)Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)Partners in Habitat Development (PHD EIA 015-00-90-103)Alberta junior pheasant project (Sarcee FGA 030-00-90-105)Willmore Wilderness Park trail clearing partnership (Willmore Wilderness Foundation 015-00-90-101)
Objective #5: FISHERIES ACCESS SITES (1) Maintain fisheries access sites to ensure access to priority fisheries, and develop new sites at priority water bodies.	Fiesta Lake dock construction (Dickson FGA 020-00-90-101)

Wildlife Objectives

# of projects	36	GECF projects
GENERAL WILDLIFE FUNDING PRIORITY:		Operation Grassland Community (AFGA 030-00-90-127)
"ACA strives to enhance the sustainabili	ty of	Biodiversity of fungi in Alberta: A provincial database (AB Mycological Society 030-00-90-119)
conservation. The program has a strong f	focus on	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111)
harvested species, with objectives priori	tized at	Biologist Workshop 2009 (ATA 002-00-90-114)
implementing habitat restoration activity	ties,	Educational bird science events with Beaverhill Bird Observatory (BBO 002-00-90-116)
delivering aerial ungulate surveys, mon	itoring cators	Long-term songbird and raptor monitoring in Alberta (BBO 030-00-90-124)
the response of species and habitat indicators, continued delivery of applied ecological studies "	cators,	Developing the marsh monitoring program in Alberta's Prairie and Aspen Parklands region (Bird Studies Canada 030-00-90-132)
		Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126)
		Waterfowl nestbox project (Dunvegan FGA 030-00-90-107)
		Comparison of grassland bird diversity and abundance (Canadian Wildlife Service 030-00-90-125)
		Blue bird house kit building project (Lamont FGA 030-00-90-101)
		Ecology, population dynamics, and conservation of mountain goats in Alberta (Laval University 030-00-90-117)
		Migratory and breeding bird research (LSLBO 030-00-90-128)
		Recreation and wild life in the Rockies in south-western Alberta (Miistakis Institute 030-00-90-120)
		Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)
		Bird house project (Onoway & District FGA 030-00-90-102)
		Partners in Habitat Development (PHD EIA 015-00-90-103)
		Conservation education (Sandy Cross Conservation Foundation 002-00-90-101)

	Alberta junior pheasant project (Sarcee FGA 030-00-90-105)
	Reptiles at Risk on the Road 2008 – Alberta Phase (Sciensational Sssnakes!! 030-00-90-103)
	Factors contributing to, and depredation avoidance methods for reducing carnivore-livestock conflicts during winter in southern Alberta (Southern Alberta Conservation Cooperative 030-00-90-133)
	Development of biophysical criteria tomeasure restoration success and enhance best management practices in the Montane and Subalpine Regions of Alberta (U of A 015-00-90-107)
	Russian thistle (Salsola kali) impact on native ungulate habitat (U of A 030-00-90-123)
	Cougar predation on wild ungulates in a multi-prey, multi-predator system in west-central Alberta (U of A 030- 00-90-112)
	The role of behavioural ad aptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113)
	Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
	Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116)
	Effects of access man't on elk in south western Alberta (U of A 030-00-90-118)
	Developing alternative wolf man't strategies (U of A 030-00-90-130)
	Development of a prairie-deer sightability model for aerial surveys (U of A 030-00-90-131)
	Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135)
	Cohesive conservation: Aligning Alberta land use policy with sage grouse (Centrocercus urophasianus) conservation (U of C 030-00-90-104)
	Mating systems at large spatial scales: Breeding migration in Rocky Mountain bighorn sheep (U of C 030-00-90- 114)
	Moose habitat models for management in west-central Alberta (U Montana 030-00-90-134)
	Amphibian education outreach program (Valley Zoo & John Janzen Nature Centre 002-00-90-115)
	Riparian reforestation and wild life habitat en han cement of Beaverlod ge Watershed — Phase 1 (Wood lot Association of Alberta 020-00-90-142)
Objectives / # of Projects	GECF projects
Objective #1: STRATEGIC & OPERATIONAL PLANNING (0)	
ldentify and prioritize wildlife knowledge gaps and conservation needs in Alberta to guide the future direction of ACA's Wildlife Program.	
Objective #2: SPECIES/ POPULATION	Operation Grassland Community (AFGA 030-00-90-127)
INVENTORY (15)	Biodiversity of fungi in Alberta: A provincial database (AB Mycological Society 030-00-90-119)
Identify and/or monitor population size, trends and distribution for priority wildlife species.	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111)
	Long-term songbird and raptor monitoring in Alberta (BBO 030-00-90-124)
	Developing the marsh monitoring program in Alberta's Prairie and Aspen Parklands region (Bird Studies Canada 030-00-90-132)
	Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126)
	Comparison of grassland bird diversity and abundance (Canadian Wildlife Service 030-00-90-125)

	Ecology, population dynamics, and conservation of mountain goats in Alberta (Laval University 030-00-90-117)
	Migratory and breeding bird research (LSLB0 030-00-90-128)
	Recreation and wildlife in the Rockies in south-western Alberta (Miistakis Institute 030-00-90-120)
	Steward ship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)
	Partners in Habitat Development (PHD EIA 015-00-90-103)
	Development of a prairie-deer sightability model for aerial surveys (U of A 030-00-90-131)
	Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135)
	Moose habitat models for management in west-central Alberta (U. Montana 030-00-90-134)
Objective #3: PLAN DEVELOPMENT & IMPLEMENTATION (8) Support the development of plans for priority	Operation Grassland Community (AFGA 030-00-90-127) Ecology, population dynamics, and conservation of mountain goats in Alberta (Laval University 030-00-90-117) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)
wildlife species that will assist in species recovery and management. Implement select	The role of hebavioural adaptation in cafeguarding a species: Grizzly hears (Ilrsus arctos) response to en croaching
components of plans (i.e. species at risk recovery	development in the foothills of Alberta (U of A 030-00-90-113)
plans, management plans, landscape plans).	Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
	Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116)
	Effects of access man't on elk in south western Alberta (U of A 030-00-90-118)
	Cohesive conservation: Aligning Alberta land use policy with sage grouse (Centrocercus urophasianus) conservation (U of C 030-00-90-104)
Objective #4: SPECIES MANAGEMENT AND	Wolverine ab und ance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14)	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116) Effects of access man't on elk in southwestern Alberta (U of A 030-00-90-118) Developing alternative wolf man't strategies (U of A 030-00-90-130)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116) Effects of access man't on elk in southwestern Alberta (U of A 030-00-90-118) Developing alternative wolf man't strategies (U of A 030-00-90-130) Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	 Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90-116) Effects of access man't on elkin southwestern Alberta (U of A 030-00-90-118) Developing alternative wolf man't strategies (U of A 030-00-90-130) Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135) Mating systems at large spatial scales: Breeding migration in Rocky Mountain bighorn sheep (U of C030-00-90-114)
Objective #4: SPECIES MANAGEMENT AND ENHANCEMENT (14) Carry out activities to support priority population management, and measure and monitor responses to those activities (i.e. productivity enhancement and reintroductions).	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111) Biologist workshop 2009 (ATA 002-00-90-114) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kit building project (Lamont FGA 030-00-90-101) Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104) Bird house project (Onoway & District FGA 030-00-90-102) The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113) Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115) Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116) Effects of access man't on elk in southwestern Alberta (U of A 030-00-90-118) Developing alternative wolf man't strategies (U of A 030-00-90-130) Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135) Mating systems at large spatial scales: Breeding migration in Rocky Mountain bighorn sheep (U of C 030-00-90- 114) Moose habitat models for management in west-central Alberta (U. Montana 030-00-90-134)

Work co-operatively with ASRD to conduct aerial surveys in support of population management and allocation of ungulate/game species.	Moose habitat models for management in west-central Alberta (U Montana 030-00-90-134)
Objective #6: APPLIED ECOLOGICAL STUDIES	Wolverine abundance and habitat use in the Rocky Mountain Parks of central Alberta (ARC 020-00-90-111)
(14)	Comparison of grassland bird diversity and abundance (Canadian Wildlife Service 030-00-90-125)
Facilitate applied studies to address ecological knowledge gaps for priority species, their	Ecology, population dynamics, and conservation of mountain goats in Alberta (Laval University 030-00-90-117)
landscapes and human use toaid in	Recreation and wildlife in the Rockies in south-western Alberta (Miistakis Institute 030-00-90-120)
conservation. Projects focus on answering questions that support, evaluate and/or improve the delivery of wild life programs	Factors contributing to, and depredation avoidance methods for reducing carnivore-livestock conflicts during winter in southern Alberta (SACC 030-00-90-133)
	Cougar predation on wild ungulates in a multi-prey, multi-predator system in west-central Alberta (U of A 030- 00-90-112)
	The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113)
	Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
	Effects of roads and road access man't on grizzly bear (Ursus arctos) habitat use and movement (U of A 030-00-90- 116)
	Developing alternative wolf man't strategies (U of A 030-00-90-130)
	Effects of access man't on elk in south western Alberta (U of A 030-00-90-118)
	Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135)
	Mating systems at large spatial scales: Breeding migration in Rocky Mountain bighorn sheep (U of C 030-00-90- 114)
	Moose habitat models for management in west-central Alberta (U. Montana 030-00-90-134)
Objective #7: STATUS ASSESSMENT (3)	Operation Grassland Community (AFGA 030-00-90-127)
Inform and support the assessment and	Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126)
designation of the status of priority wildlife species.	Partners in Habitat Development (PHD EIA 015-00-90-103)
Objective #8: HABITAT INVENTORY &	Recreation and wildlife in the Rockies in southwestern Alberta (Miistakis Institute 030-00-90-120)
ENHANCEMENT (12) Identify priority habitats for enhancement activities. Implement activities to support the enhancement of identified habitats.	Stewardship of Nature Conservancy of Canada's Rocky Mountain and Foothills properties (NCC 015-00-90-104)
	Partners in Habitat Development (PHD EIA 015-00-90-103)
	Development of biophysical criteria to measure restoration success and enhance best management practices in the Montane and Subalpine Regions of Alberta (U of A 015-00-90-107)
	Russian Thistle (Salsola kali) impact on native ungulate habitat (U of A 030-00-90-123)
	The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113)
	Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
	Effects of roads and road access man't on grizzly bear (Ursus arctos) habitatuse and movement (U of A 030-00-90- 116)
	Effects of access man't on elk in south western Alberta (U of A 030-00-90-118)

	Moose habitat models for management in west-central Alberta (II, Montana 030-00-90-134)
	Rinarian referentation and wildlife habitaten han coment of Reaverlod ne Watershed – Phase 1 (Woodlot
	Association of Alberta 020-00-90-142)
Objective #9: RECREATIONAL OPPORTUNITIES	Heritage 100 project (AFGA 002-00-90-109)
(18) To develop and support opportunities that enhance or maintain recreational use, habitat integrity, and user interest while encouraging current and future generations to value, enjoy, and use our biological natural resources.	Alberta Game Warden Magazine – Electronic format (Alberta Game Warden Assoc. 002-00-90-103)
	Hunter safety and marks manship mobile training units (AHEIA 002-00-90-108)
	HunterEducation and Youth Shooting Program (Brooks & District FGA 002-00-90-102)
	Re-print of Conservation and Hunter Education manuals (Conservation Education W.I.S.E. Fdn 002-00-90-104)
	Outdoor Women's Program (Conservation Education W.I.S.E. Fdn 002-00-90-105)
	Youth seminar (Conservation Education W.I.S.E. Fdn 002-00-90-106)
	Youth hunter education camps (Conservation Education W.I.S.E. Fdn 002-00-90-107)
	Waterfowl nestbox project (Dunvegan FGA 030-00-90-107)
	Fact sheets (Hunting for Tomorrow Fdn 002-00-90-113)
	Hunting Give it a Shot! (Hunting for Tom orrow Fdn 002-00-90-111)
	Provincial Hunting Day Celebration (Hunting for Tomorrow Fdn 002-00-90-112)
	Best practices across North America — Workshop (Hunting for Tom orrow Fdn 002-00-90-110)
	Blue bird house kit building project (Lamont FGA 030-00-90-101)
	Project to attract new bird hunters (Lethbridge FGA 030-00-90-108)
	Bird House Project (On oway & District FGA 030-00-90-102)
	Alberta junior pheasant project (Sarcee FGA 030-00-90-105)
	Recreation and wildlife in the Rockies in south western Alberta (Miistakis Institute 030-00-90-120)
Objective #10: EDUCATION AND OUTREACH	Biodiversity of fungi in Alberta: A Provincial Database (AB Mycological Society 030-00-90-119)
(12)	Educational bird science events with Beaverhill Bird Observatory (BBO 002-00-90-116)
	Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126)
	Re-print of Conservation and Hunter Education manuals (Conservation Education W.I.S.E. Fdn 002-00-90-104)
	Waterfowl nestbox project (Dunvegan FGA 030-00-90-107)
	Blue bird house kit building project (Lamont FGA 030-00-90-101)
	Migratory and breeding bird research (LSLBO 030-00-90-128)
	Bird house project (Onoway & District FGA 030-00-90-102)
	Conservation education (Sandy Cross Conservation Foundation 002-00-90-101)
	Reptiles at Risk on the Road 2008— Alberta Phase (Sciensational Sssnakes!! 030-00-90-103)
	Factors contributing to, and depredation avoidance methods for reducing carnivore-livestock conflicts during winter in southern Alberta (SACC 030-00-90-133)
	Amphibian Education Outreach Program (Valley Zoo & John Janzen Nature Centre 002-00-90-115)

GENERAL RETENTION & RECRUITMENT FUNDING PRIORITY: It is an objective of the ACA to fund projects which retain and recruit hunters, anglers and trappers in Alberta.	Retention and Recruitment of Hunters, Anglers and Trappers	
Hunter Education and Youth Shooting Program (Brooks & District FGA 002-00-90-102)Re-print of Conservation and Hunter Education manuals (Conservation Education W.I.S.E. Fdn 002-00-90-104)Outdoor Women's Program (Conservation Education W.I.S.E. Fdn 002-00-90-105)Youth seminar (Conservation Education W.I.S.E. Fdn 002-00-90-106)Youth hunter education camps (Conservation Education W.I.S.E. Fdn 002-00-90-107)Fact sheets (Hunting for Tomorrow Fdn 002-00-90-113)Hunting Give it a Shot! (Hunting for Tomorrow Fdn 002-00-90-111)Provincial Hunting Day celebration (Hunting for Tomorrow Fdn 002-00-90-112)Best practices across North America – Workshop (Hunting for Tomorrow Fdn 002-00-90-107)Intro to fishing – Southern Alberta (Lethbridge FGA 020-00-90-107)Project to attract new bird hunters (Lethbridge FGA 030-00-90-108)	GENERAL RETENTION & RECRUITMENT FUNDING PRIORITY: It is an objective of the ACA to fund projects which retain and recruit hunters, anglers and trappers in Alberta.	Heritage 100 project (AFGA 002-00-90-109) Alberta Game Warden Magazine (Alberta Game Warden Assoc. 002-00-90-103) Hunter safety and marksmanship mobile training units (AHEIA 002-00-90-108) Wild Game for the Foodbank Program (Alberta Hunters Who Care 030-00-90-110) Hunter Education and Youth Shooting Program (Brooks & District FGA 002-00-90-102) Re-print of Conservation and Hunter Education manuals (Conservation Education W.I.S.E. Fdn 002-00-90-104) Outdoor Women's Program (Conservation Education W.I.S.E. Fdn 002-00-90-105) Youth seminar (Conservation Education W.I.S.E. Fdn 002-00-90-106) Youth hunter education camps (Conservation Education W.I.S.E. Fdn 002-00-90-107) Fact sheets (Hunting for Tom orrow Fdn 002-00-90-113) Hunting Give it a Shot! (Hunting for Tom orrow Fdn 002-00-90-111) Provincial Hunting Day celebration (Hunting for Tom orrow Fdn 002-00-90-112) Best practices across North America – Workshop (Hunting for Tom orrow Fdn 002-00-90-107) Project to attract new bird hunters (Lethbridge FGA 020-00-90-107)

Communications Objectives	
Objectives / # of Projects	GECF projects
OBJECTIVE 1: Identification of stakeholder relations priorities: Enhance partner relations and increase the understanding of ACA's role in the conservation community. (80)	All GECF projects.
OBJECTIVE 2: Identification of public information and education priorities: Identify strategic alliances to deliver communications, public and education outreach messages and identify opportunities to distribute materials. (25)	Heritage 100 project (AFGA 002-00-109) Operation Grassland Community (AFGA 030-00-90-127) Alberta Game Warden Magazine – Electronic format (Alberta Game Warden Assoc. 002-00-90-103) Biodiversity of fungi in Alberta: a provincial database (AB Mycological Soc 030-00-90-119) Educational bird science events with Beaverhill Bird Observatory (BBD 002-00-90-116) Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126) Riparian area fencing project at Aspen Ranch Outdoor Education Facility (Camps for Children Education Assoc. 020-00-90-106) Castle Wildemess restoration, on the ground and the web (Castle-Crown Wildemess Coalition 015-00-90-105) Re-print of Conservation and Hunter Education manuals (Conservation Education W.I.S.E. Fdn 002-00-90-104) Fish 101 and Biodiversity 101 – Making linkages between healthy populations and management (Cows & Fish 020-00-90-145) Waterfowl nestbox project (Dunvegan FGA 030-00-90-107) Blue bird house kitbuilding project (Lamont FGA 030-00-90-101) Migratory and breeding bird research (LSLBO 030-00-90-102) Bird house project (Onway & District FGA 030-00-90-102) Partners in Habitat Development (PHD 015-00-90-103) Assessment of electric fencing as a riparian management tool for agricultural producers (Red Deer County 020-00-90-117) NAB non-game fish status assessment Yr 6 (Royal Alberta Museum 020-00-90-115) Conservation education (Sandy Cross Conserva
OBJECTIVE 4: Identification of external communications priorities: Improve the level of interaction, information exchange and collaboration with other conservation specialists. (80)	All GECF projects

GECF Project Contributions to Other ACA SBP Objectives:

Obiectives / # of Proiects	GECF projects
Analyze data to provide a defendable scientific base for conservation actions (37)	Mapping rangeland and rangeland change using remote sensing (Agriculture Canada 015-00-90-106)
scientific base for conservation actions. (37)	Operation Grassland Community (AFGA 030-00-90-127)
	Biodiversity of fungi in AB: a provincial database (AB Mycological Society 030-00-90-110)
	From microbes to macrophytes: assessing major wetland health indicators along a disturbance gradient (ARC 020-00-90-130)
	Boreal toad habitat use and response to disturbance in the Boreal Mixed Hardwood Forest (ARC 030-00-90-121)
	Wolverine abundance and habitatuse in the Rocky Mtn Parks of Central AB (ARC 03000 90 111)
	Long-term songbird and raptor monitoring in AB (BB0 030-00-90-124)
	Developing the marsh monitoring program in Alberta's Prairie and Aspen Parklands regions (Bird Studies Canada 030-00-90-132)
	Research, conservation and education of amphibians at the Calgary Zoo (Calgary Zoo 030-00-90-126)
	Fish 101 and Biodiversity 101- Making linkages between healthy populations and management (Cows and Fish 020-00-90-145)
	Comparison of grassland bird diversity and abundance (Env't Canada, CWS 030-00-90-125)
	The Red Deer Brook area structure plan (Lac La Biche County 015-00-90-110)
	Riparian health inventory done by Cows and Fish (Lac La Nonne Watershed Stewardship Society 020-00-90-144)
	Ecology and conservation of mountain goats in AB (Laval U 030-00-90-117)
	Migratory and breeding bird research (Lesser Slave Lake Bird Obs 030-00-90-128)
	Lee Creek fisheries and riparian health assessment (Lethbridge College 020-00-90-103)
	Maximizing the utilty of native riparian trees and shrubs for bioengineerign projects in prairie ecosystems (Lethbridge College 015-00-90-108)
	Recreation and wildlife in the Rockies of SW Alberta (Miistakis Institute 030-00-90-120)
	Stewardship of NCC in the Rocky Mountain & Foothills properties (NCC 015-00-90-104)
	Northern AB non-game fish status assessment — Year 6 (RAM 020-00-90-115)
	Factors contributing to, and depredation avoidance methods for reducign carnivore-livestock conflicts during winter in southern Alberta (SACC 030-00-90-133)
	Habitat Enhancement Program for Alberta's East Slopes Fishery (TUC 020-00-90-139)
	Assessment of riparian health and fish assemblage integrity in the Raven River (TUC Edmonton Chapter 020-00-90-143)
	Development of biophysical criteria to measure restoration success and enhance best management practices int eh montane and subalpine regions of Alberta (U of A 015-00-90-107)
	Ecological effects of sportfish stocking & aeration on communities in boreal foothills lakes (U of A 020-00-90-140)
	Cougar predation on wild ungulates in a multi-prey, multi-predator system in west-central Alberta (U of A 030- 00-90-112)
	The role of behavioural adaptation in safeguarding a species: Grizzly bears (Ursus arctos) response to encroaching development in the foothills of Alberta (U of A 030-00-90-113)
	Does petroleum development affect burrowing owl nest-site selection, reproductive success or nocturnal space use? (U of A 030-00-90-115)
	Effects of roads and road access management on grizzly bear (Ursus arctos) habitat use and movement (U of A 030- 00-90-116)

Γ

Effects of access management on elk in south western Alberta (U of A 030-00-90-118)
Developing alternative wolf management strategies (U of A 030-00-90-130)
Long-term vegetation and population monitoring for managing the Ya Ha Tinda elk herd (U of A 030-00-90-135)
Cohesive conservation: Aligning Alberta land use policy with sage grouse (Centrocercus urophasianus) conservation (U of C 030-00-90-104)
Mating systems at large spatial scales: Breeding migration in Rocky Mountain bighorn sheep (U of C 030-00-90- 114)
Modelling mercury biomagnification in S. Saskatchewan R Basin (U. Leth 020-00-90-116)
Development of aquatic communities in high altitude mine pit lake systems (U. Leth 020-00-90-136)
Moose habitat models for management in west-central Alberta (U. Montana 030-00-90-134)