

# Grant Program 2015/16



## Annual Report of Activities & Synopsis of Funding Recipient Projects

For the Period of April 1, 2015 to March 31, 2016



*Conserving Alberta's Wild Side*





## 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.

## Our Mission

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

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Front Cover Photo: Black Bear  
 Photo: Spencer Rettler

Relating to the project: 'In Paradise or Peril: Using Bear Rubs to Understand Black Bear Populations in Southwestern Alberta'  
 (Dr. Boyce, University of Alberta, 030-00-90-252)

# Grant Program 2015/16

## **KEY PROGRAM HIGHLIGHTS for the Grants 2015/16:**

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The ACA Conservation, Community and Education Grants received 107 funding applications requesting a total dollar value just under \$1.6M. A total of \$901,901 was allocated to 74 projects: 29 small grants and 45 large grants.

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The ACA Research Grants received 23 funding applications requesting just over \$625,000. A total of \$329,986 was allocated to 12 projects.

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Project budgets ranged from \$750 to \$68,138.

## **Executive Summary**

Program 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, the ACA Grants (formerly known as the Grant Eligible Conservation Fund or GECF), as of the 2015/16 funding round, has provided more than \$14.1 million to 889 projects carried out in Alberta by the conservation community. Furthermore, the funding provided by the Grants continues to leverage approximately six times its value in conservation dollars, estimated at approximately \$86.4 million—money that has been directly used for conservation work and more recently to support the recruitment and retention of hunters, anglers and trappers in Alberta.

In 2014/15, the grants were restructured; the GECF Part A: Conservation Support and Enhancement was merged together with the Hunter, Trapper and Angler Retention, Recruitment and Conservation Education grant programs to make the ACA Conservation, Community and Education Grants. The name of GECF Part B: Research was changed to ACA Research Grants. This is the second year with this configuration.

These popular grant programs received 130 applications (107 to Conservation, Community and Education Grants and 23 to the ACA Research Grants) requesting just over \$2.23 million in 2015/16. A total of \$1,231,887 was allocated to 86 projects (74 Conservation, Community and Education projects and 12 ACA Research Grants projects). The aim of this report is to document the procedures for 2015/16 and to provide an overview of activities and results of projects financially supported through the ACA Grants (the Conservation, Community and Education Grants and the ACA Research Grants) in 2015/16.

# Annual Report of Activities and Synopsis of Funding Recipient Projects

## Introduction

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 ACA’s grants 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 2002/03. As of the 2015/16 funding round, the Grants program has granted \$14.1 million dollars since 2002/03 to 889 conservation projects implemented in Alberta; these projects have leveraged an estimated \$86.4 million in conservation work across the province. After the project selection process, a total of \$901,901 was granted to 74 ACA Conservation, Community and Education Grants (CCEG) and \$329,986 was granted to 12 ACA Research Grants projects. This document provides an overview of the activities of the CCEG and the ACA Research Grants for the 2015/16 funding cycle.

We have some impressive results and outreach coming from the ACA Grants supported projects in 2015/16: over 14,000 youth and novices participated in fishing, archery, hunting and trapping activities across Alberta; at least 10,000 people attended the many conservation education events put on; on top of that the outreach of ACA-funded projects in 2015/16 is estimated at more than 40,000 people. There were 9,310 birds banded as well as 684 northern Saw-whet owls banded at three important bird sites in Alberta and 35,000+ acres are now managed with more sustainable practices thereby improving riparian and ecologically sensitive areas. This year, six bat boxes, a purple martin nest box, 62 blue bird boxes, a beehive and a pollinator hotel were built and installed. A floating island aeration unit was installed and a couple of ponds were stocked with fish. Around 10,000 pounds of wild meat from hunters were donated to the food bank, over 2,000 non-native trout were removed from streams and well over 500 kg of invasive weeds were removed. The list goes on. All projects proudly acknowledge support of ACA in helping them reach their goals. On pages 9-51 of this report, you can read about all the achievements of each of the projects that received funding in 2015/16.

## The Funding Cycle

The funding priorities, guidelines and application forms were made available to the public October 9, 2014 via the ACA website, by email to existing contacts and by environmental list servers. Details of the 2015/16 funding cycle are in the table below:

### 2015/16 FUNDING CYCLE DATES

Posting of the Guidelines and Application Forms on ACA’s website	October 9, 2014
Window to receive completed ACA Research applications	November 1, 2014 – December 1, 2014
Window to receive completed CCEG applications	January 1-26, 2015
ACA Research Grants adjudication meeting	February 8, 2015
CCEG adjudication meeting	February 26, 2015
ACA Board approval and notification of applicants as to funding status	End of March 2015
Cooperative Project Agreements signed, initial payments made, and project work begins	From April 1, 2015
Interim reports due and second payments made (if required)	September 1, 2015
Final reports due	March 15, 2016
Projects end and final payments made (if required)	March 31, 2016

## Funding Eligibility

The ACA Grants (CEEG and ACA Research) support a wide variety of applicants and project types. Anyone with a suitable project working in Alberta can apply for funding, with the exception of ACA staff, Alberta Environment and Parks (AEP) and individuals without the proper insurance. Certain project types and budget items are not covered by the CCEG and the ACA Research Grants, for example land acquisition, emergency funding or overhead costs. Since fiscal year 2009/10, funding priorities have been used by the Grants to guide applicants in drafting their applications. A couple of changes were made to the CCEG funding priority lists in 2015/16. The CCEG funding priority list went from nine to seven funding priorities by combining similar funding priorities together. Two new funding priorities were added to the research funding priority list to bring it to 12 funding priorities. See Section 4: Major Funding Priorities Grants 2015/16 for the full list. These grants do accept applications that do not relate to the suggested areas; however, projects that address one or more of these priority areas have a better chance of being funded than those that do not. The eligibility criteria and funding priorities can be found in full in the document “Project Submission Guidelines for Funding 2015/16.” This document is available from the Grants Project Administrator.

The CCEG offers small grants for projects with budgets of \$3,000 and under and large grants for projects with budgets over \$3,000. The small grants have a simplified application form; although the eligibility criteria and funding guidelines are the same for both small and large grants.

The CCEG and the ACA Research Grants are widely known amongst the conservation community working in Alberta and applications were received from a diverse cross-section of the population including: community groups, grassroots organizations, provincial and national institutes, as well as leading scientific researchers.

## Major Funding Priorities Grants 2015/16

This text is taken from Section C of the *Project Submission Guidelines for Funding 2015/16*.

### Funding Priorities for the CCEG

All applicants to the ACA Conservation, Community and Education Grants should be aware that this grant is fully funded by the hunters and anglers of Alberta. All proposals should be able to demonstrate how the proposed project will aid ACA in meeting its mission of conserving, protecting and enhancing fish, wildlife and habitat for all Albertans to enjoy, value and use. To help direct potential applicants the following list of priority areas has been developed. While the ACA Conservation, Community and Education Grants will accept applications that do not relate to these suggested areas, projects that address one or more of these priority areas will have a higher probability of being funded than those that do not.

1. Habitat enhancement activities specifically listed on provincial recovery plans for Alberta’s endangered species (to be done in cooperation with recovery teams).
2. Site specific enhancements of habitat, structures and facilities aimed at increasing recreational angling or hunting opportunities, improving habitat or increasing wildlife/fish productivity on the site (i.e. planting/seeding vegetation, development of new fisheries access sites, nest box initiatives, food plot trials and cover plot trials, spawning bed enhancement, culvert removals, fishing docks, etc.).
3. Stewardship Initiatives (e.g. ongoing maintenance of conservation sites or fisheries access sites; adopt a fence; property inspections for invasive weeds; manual weed control; grass mowing).
4. Urban fisheries development, including: initial evaluation of water quality aspects of existing ponds to determine their suitability for fish stocking; purchase of equipment required to ensure suitable water quality for fish stocking (e.g. aeration equipment); fish stocking in public ponds; promotion of an urban fishery (including natural water bodies).
5. Impacts of non-native species on the persistence of native species.
6. Improvements and innovation in matching sportsmen with landowners (e.g. facilitating hunter access to depredating waterfowl, elk and deer).
7. Projects related to the retention, recruitment and education of hunters, anglers or trappers (including attracting new mentors, training mentors and providing mentors for new hunters/anglers/trappers; sharing information in schools and with the general public about the link between conservation and hunters/anglers/trappers; this category also includes educating new hunters/anglers/trappers; Kids Can Catch and archery events for kids). Generate awareness of the hunting/angling/trapping opportunities available to the public.
8. Projects related to outdoor conservation education.

### Funding Priorities for ACA Research Grants

All applicants to the ACA Research Grants should be aware that this grant is fully funded by the hunters and anglers of Alberta. All proposals should be able to demonstrate how the proposed project will aid ACA in meeting its mission of conserving, protecting and enhancing fish, wildlife and habitat for all Albertans to enjoy, value and use. To help direct potential applicants the following list of priority areas has been developed. While the ACA Research Grants will accept applications that do not relate to these suggested areas, projects that address one or more of these priority areas will have a higher probability of being funded than those that do not. Changes from last year’s list of funding priorities have been underlined.

Please refer to the document “Research needs for fisheries and wildlife in Alberta” available on the ACA website.

1. Research activities specifically listed on provincial recovery plans for Alberta’s endangered species (to be done in cooperation with recovery teams). See: <http://aep.alberta.ca/fish-wildlife/species-at-risk/default.aspx>
2. Impacts of non-native species on the persistence of native species.

3. Develop and validate inventory tools to determine the relative density and range of ungulate species using innovative techniques such as trail cameras or passive DNA/eDNA samples.
4. Evaluate the effect of pesticides or herbicides on wildlife species' food availability and/or quality in agricultural landscapes.
5. Evaluate the effect of recreational access (mode, timing, duration) on wildlife and fish populations and habitat.
6. Investigation of methods for reducing the spread and/or impact of wildlife or fish related diseases.
7. Evaluate the impact of various harvest management regimes on fish or wildlife populations (e.g. fish size limits, three-point or larger elk requirements, etc.).
8. Evaluate the social demographics of hunting and angling to determine the factors influencing the decision to become involved in hunting or angling and the reasons why people opt out in a particular year.
9. Evaluate the effect of biological solutions of carbon sequestration on grasslands and treed lands.
10. Evaluate the effects of agricultural run-off on fisheries.
11. Evaluate approaches for improving the abundance of pollinators in agricultural landscapes.
12. Work towards clarifying status of current data deficient species.

## Proposal Review Process

The ACA Board of Directors appointed Adjudication Committees for both the CCEG and ACA Research Grants.

### CCEG Adjudication:

The CCEG adjudication committee consisted of five citizens of Alberta representing conservation organizations in Alberta, one public-at-large member of the ACA Board of Directors, and one ACA staff member and is chaired by a member of the ACA Board of Directors. Adjudicators were tasked with providing rankings and making funding recommendations for all CCEG applications based on the funding priorities and guidelines provided by ACA.

Proposals were evaluated on their merit and content using a three-tiered 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.

This year due to the volume of CCEG applications, the adjudicators were asked to submit their rankings ahead of the adjudication meeting. The scores were presented at the meeting; this left time to focus discussions on those projects with mixed rankings.

The CCEG adjudication meeting was held on February 26, 2015 at ACA's Sherwood Park office, Alberta. The list of funding recommendations made by the Adjudication Committee was then approved by the ACA Board at the March 2015 Board Meeting.

### ACA Research Grants Review Process

The application deadline for the ACA Research Grants was earlier than that of the CCEG to allow for a more rigorous academic review procedure; the same procedure tried and tested for many years by the ACA Grants in Biodiversity Program. All applications were sent out for review by experts in the subject of the research application. The academic review process was coordinated by the Administrator of the ACA Grants in Biodiversity, so as not to overlap reviewers. An attempt was made to get at least two reviews per application. The adjudication committee consisted of a representative from each of Alberta's three largest universities (University of Alberta, University of Calgary and University of Lethbridge), an industry representative, ACA's Wildlife Program Manager, ACA's Fisheries Program Manager and ACA's Board of Directors Academic Representative (who also acts as Chair of the meeting). Two adjudicators were assigned to review (using the application and academic reviews) and rank application using a three-tiered ranking system. Funding recommendations were then made after the ranking process. The ACA Research Grants adjudication meeting was held on February 8th, 2015 at the University of Alberta.

## Funding Allocations

For the 2015/16 funding cycle a total of \$1,300,000 was made available for project funding via the Grants: \$970,000 for CCEG and \$330,000 for ACA Research Grants. Of the 107 applications requesting just under \$1.6 M to CCEG, 74 were funded (a 69 per cent success rate for applications receiving full or partial funding). Of the 107 applications to CCEG, 38 were small grant applications (requests of \$3,000 or under). Twenty-nine of the 38 small grant applications were awarded (a 76 per cent success rate), whilst 45 of the 69 large grants (a 65 per cent success rate). Of the 74 CCEG projects funded in 2015/16, 44 (59 per cent) had been funded by ACA in previous years and 30 were new projects.

The ACA Research Grants received 23 applications requesting a total of \$625,403 for the 2015/16 competition, of these 12 were funded (a success rate of 52 per cent for applications receiving full or partial funding). Four (33 per cent) of the funded research projects had been funded in previous years and the other eight were new projects.

Seven projects were granted extensions due to unforeseen circumstances.

All projects approved for funding signed the Cooperative Project Agreement with the approved proposal and budget appended. The Cooperative Project Agreement outlines the reporting and payment schedules and other contractual obligations between ACA and the grant recipient. Almost all of grant recipients provided project reports. At the time of writing this report, one project has not sent in any reports; the project did not take place. If the project was completed at the time of the interim report (September 1st), then this one report was taken as the final project report.

## Synopsis of Approved Projects

A summary description of each of the 86 approved projects containing the project's objectives, activities and deliverables can be found in Part II of this report. The list below is in alphabetical order by organization for CCEG and ACA Research Grants.

### ACA Conservation, Community and Education Grants

#### Small Grants \$3,000 and under

**Alberta Hunter Education Instructors' Association;** 12th Annual OWL Day – "Outdoor Wildlife Learning"; \$3,000

**Alberta Hunter Education Instructors' Association;** Bowhunter Education Camp; \$3,000

**Alberta Hunter Education Instructors' Association;** Instructor Recruitment and Recertification; \$3,000

**Alberta Hunter Education Instructors' Association;** Mobile Archery Safety Training Trailer; \$3,000

**Alberta Hunter Education Instructors' Association;** Outdoor Bound Mentorship Program Handbook; \$1,000

**Alberta Hunter Education Instructors' Association;** Outdoor Youth Seminar; \$3,000

**Alberta Hunter Education Instructors' Association;** Youth Fishing Initiatives; \$3,000

**Alberta Riparian Habitat Management Society (Cows and Fish);** Grazing Schools for Women: Promoting habitat and improved grazing stewardship to livestock producers in south and central Alberta; \$3,000

**Battle River Research Group;** Eco-buffer Shelterbelt Demonstration; \$2,900

**Camrose Wildlife and Stewardship Society;** 2015 Camrose Purple Martin Festival; \$2,400

**Edmonton Nature Club;** 2015 Snow Goose Chase; \$2,000

**Friends of Fish Creek Provincial Park Society;** Community Watershed Stewardship Project 2015: Public awareness/education, riparian restoration and stewardship; \$3,000

**Glenbow Ranch Park Foundation;** Glenbow Ranch Park Foundation Fishing club; \$2,025

**Helen Schuler Nature Centre;** "Extreme by Nature" Environmental Education for 11 to 15 Year Olds; \$3,000

**Lethbridge Fish & Game;** Youth Fly Tying Club; \$2,960

**Lone Pine Farming Co;** Education Through Habitat Enhancement; \$2,000

**Mundare Fish & Game Association;** Junior Fire Arms and Archery Program; \$3,000

**Okotoks and District Fish & Game Association;** Jim Graham Park Fencing Project; \$1,500

**Red Deer River Naturalists;** Piper Creek Restoration Agriculture Project's Pollinator Hotel; \$3,000

**Red Deer Woodchucks (Red Deer Club of the Junior Forest Wardens);** Upland Bird Habitat Enhancement with Pheasants Forever; \$2,000

**Safe Drinking Water Foundation;** Operation Water Drop and Operation Water Pollution Kits for a C.W. Perry Middle School's Field Trip; \$850

**Sherwood Park Fish & Game;** Monarch Butterfly Habitat; \$750

**Southern Alberta Bible Camp;** Archery Curriculum; \$2,500

**Southern Alberta Bible Camp;** Pelletry Curriculum; \$1,500

**Town of Cochrane;** Rainbow Trout Stocking of Mitford Ponds; \$1,000

**Trout Unlimited Canada;** Hidden Creek Riparian Restoration Project; \$2,400

**Trout Unlimited Canada;** Stewardship License Pilot Project; \$2,390

**Weaselhead/Glenmore Park Preservation Society;** Weaselhead Invasive Plant Program; \$3,000

**Willingdon and District Fish & Game Association;** Willingdon Fish Pond and Park; \$1,700

#### Large Grants (over \$3,000)

**Alberta Envirothon;** Alberta Envirothon Annual Provincial High-School Competition; \$3,000

**Alberta Fish & Game Association;** Can Livestock Production Support Sustainability of Prairie Wildlife? Assessing local and landscape scale requirements using monitoring, adaptive management, and ecological goods and services analyses; \$39,750

**Alberta Fish & Game Association;** Pronghorn Antelope Migration Corridor Enhancement; \$35,675

**Alberta Hunter Education Instructors' Association;** 22nd Annual Outdoor Women's Program; \$25,080

**Alberta Hunter Education Instructors' Association;** AHEIA's National Archery in the Schools Program (NASP); \$31,000

**Alberta Hunter Education Instructors' Association;** Conservation Education Instructor's Guide; \$12,000

**Alberta Hunter Education Instructors' Association;** Essential Series' Online Education Programs: Field Technique Essentials; \$20,000

**Alberta Hunter Education Instructors' Association;** Outdoor Bound Mentorship Program; \$12,000

**Alberta Hunter Education Instructors' Association;** Provincial Hunting Day Initiatives; \$21,000

**Alberta Hunter Education Instructors' Association;** Youth Hunter Education Camp (Weeks 1,2,3,4); \$48,000

**Alberta Hunters Who Care;** Wild Game for the Food Bank Project; \$12,000

**Alberta Invasive Species Council;** PlayCleanGo Implementation; \$20,000

**Alberta Riparian Habitat Management Society (Cows and Fish);** Developing Westslope Cutthroat Trout Riparian Habitat Improvement Action Plans and Implementing Habitat Management Improvements; \$5,000

**Alberta Trappers Association – Peace River;** Trapper Training and Education; \$4,460

**Ann & Sandy Cross Conservation Area;** Protect Your Watershed: Riparian area protection project \$25,000

**Beaverhill Bird Observatory;** Wildlife Conservation, Monitoring and Public Engagement at Beaverhill Lake; \$19,900

**Calgary Bird Banding Society;** Cypress Hills Landbird Monitoring Station; \$25,400

**Canadian Parks and Wilderness Society – Northern Alberta;** Mapping and Identifying Best Practices for Caribou Range Planning in Northwestern Alberta; \$21,170

**Foothills Restoration Forum;** Foothills Restoration Forum Outreach and Education: Range health assessment training and fall information session; \$11,330

**Glenbow Ranch Park Foundation;** 2015 Vegetation Management at Glenbow Ranch Provincial Park; \$7,000

**Glenbow Ranch Park Foundation;** Bears paw Trail Buildout; \$20,000

**Glenbow Ranch Park Foundation;** Environmental Education at Glenbow Ranch Provincial Park; \$4,960

**Highway Two Conservation;** Riparian Education Program; \$11,900

**Kneehill County;** Fyten Reservoir Rehabilitation; \$10,000

**Lesser Slave Lake Bird Observatory;** Avian Monitoring and Education Programs at Lesser Slave Lake; \$26,000

**Lethbridge Fish & Game;** 5th Annual LFGA/ACA Youth Fishing Recruitment Day; \$6,800

**Lethbridge Fish & Game;** LFGA – Conservation Community and Education Program; \$24,000

**Mountain View County;** Ecological and Riparian Enhancement Fund; \$20,000

**Nature Alberta;** Living by Water; \$36,516

**Nature Alberta;** Promoting Beneficial Management Practices for Maintaining Bird Habitat and Decreasing Bird Mortality in Urban and Rural Alberta; \$18,300

**Nature Alberta;** The Young Naturalists Club of Alberta; \$30,000

**Northern Lights Fly Tyers/TUC Edmonton Chpt;** Conserving and Restoring Arctic Grayling in the Upper Pembina River Watershed – Habitat Restoration Planning; \$21,500

**Parkland County;** Alternative Land Use Services (ALUS); \$37,900

**Parkland School Division #70;** Parkland Youth Wetlands Stewardship Project; \$19,500

**Partners in Habitat Development c/o Eastern Irrigation District;** Partners in Habitat Development; \$15,000

**Pheasants Forever Calgary;** 14th Annual Youth/Novice Shoot; \$7,000

**Red Deer County;** Conservation Partners; \$40,000

**Riverlot 56 Natural Area Society;** Stage 2: 2015 Re-naturalization of Riverlot 56 Disturbed Spaces; \$12,500

**Rocky Mountain Wilderness Society;** Trail Clearing Big Grave to Monaghan Creek; \$14,000

**Southern Alberta Bible Camp;** Walleye – Pike Fishing; \$4,200

**Taber Christian School;** TCS Outdoor Education Archery Equipment Project; \$4,000

**The King's University College;** Faith-based Organizations and Conservation: Engaging volunteers in recovery plans of endangered pines; \$4,985

**Town of Sylvan Lake;** Golf Course Creek Wetland Biofilter Restoration; \$3,700

**Trout Unlimited Canada;** Understanding Fish, Water and Conservation; \$12,500

**Trout Unlimited Canada;** Yellow Fish Road; \$30,000

### ACA Research Grants

**University of Alberta (Dr. Boyce);** Effects of Industry on Wolverine (*Gulo gulo*) Ecology in the Boreal Forest of Northern Alberta; \$68,138

**University of Alberta (Dr. Boyce);** In Paradise or Peril? Using Bear Rubs to Understand Black Bear Populations in Southwestern Alberta; \$25,000

**University of Alberta (Dr. Harshaw);** Evaluating Prairie Waterfowl Hunter Recruitment and Retention; \$26,126

**University of Alberta (Dr. Merrill);** Persistence of the Ya Ha Tinda Elk Population: The role of calf survival; \$29,386

**University of Alberta (Dr. Paszkowski);** Microhabitat Selection by Western Toads (*Anaxys boreas*) in North-central Alberta; \$13,200

**University of Alberta (Dr. Poesch);** Paleolimnological Reconstruction of Westslope Cutthroat Trout (*Oncorhynchus clarkii lewisi*) in Alpine Lakes; \$27,000

**University of Calgary (Dr. Galpern);** Wild Pollinator Conservation and Restoration in Southern Alberta Croplands: Tests of neonicotinoid and habitat change; \$22,700

**University of Calgary (Dr. Gilch);** Analysis of Polymorphisms in the Prion Protein of Alberta Caribou as an Indicator of their Susceptibility to Chronic Wasting Disease; \$16,500

**University of Calgary (Dr. Gilleard);** Genetic Origins, Diversity and Parasitology of Alberta's Feral (Wild) Horses; \$35,262

**University of Calgary (Dr. Massolo);** The Distribution of the European Strain of *Echinococcus multilocularis* in Alberta; \$32,856

**University of Manitoba (Dr. Fraser);** Determining Range-wide Influences on Breeding Productivity of Declining Migratory Songbirds in Alberta; \$24,458

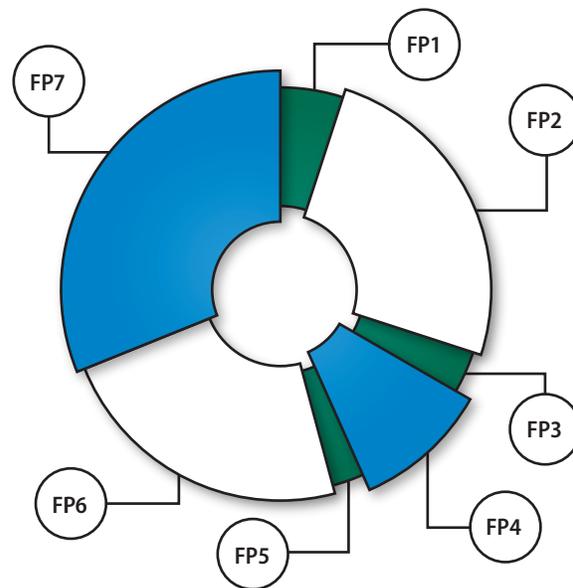
**Université de Sherbrooke (Dr. Festa-Bianchet);** Experimental Management of Bighorn Sheep; \$9,360

## Grant Project’s Contribution to the Funding Priorities

In total, 86 projects were approved for funding in 2015/16: 74 CCEG projects and 12 Research projects. All projects selected were to support ACA with meeting its mission of conserving, protecting and enhancing fish, wildlife and habitat for all Albertans to enjoy, value and use; and the funding priorities were used to further guide and direct applicants by providing priority areas of specific interest to ACA. The funding priorities were set by ACA staff and approved by the ACA Board of Directors. As was done last year, two lists of Funding Priorities were produced, one for the CCEG and another one for the Research Grants. A couple of changes were made to the CCEG funding priority list in 2015/16; similar funding priorities were combined to make a total of seven funding priorities instead of the nine in 2014/15. The 2014/15 funding priorities #2 (site specific enhancements) and #4 (stewardship initiatives) were combined into one funding priority incorporating both (now #2) and funding priorities #6 (projects related to the retention, recruitment and education of hunters, anglers or trappers...) and #7 (generate awareness of the hunting/angling/trapping opportunities...) were combined to make the 2015/16 funding priority #6. Two new funding priorities were added to the funding priority list for the ACA Research Grants. There was some overlap between the two lists. Applications did not have to relate to the funding priorities, but applications that address one or more of the funding priorities fare better in the project selection procedure. Whether or not a project relates to a funding priority is to some degree subjective. Some projects clearly addressed one or more of the funding priorities, whilst others only indirectly related to a funding priority. Applicants were asked to specify how their projects related to ACA’s mission and funding priorities and this information was used to determine which of the selected projects for 2015/16 contributed to ACA’s funding priorities. All but one of the CCEG projects related to at least one funding priority. One research project did not mention a link with any of the funding priorities; however, this project did have a strong link to item 32 in the background document, *Research needs for fisheries and wildlife in Alberta* written by Dr. Boyce and Dr. Poesch. For a complete overview of project contribution to the ACA Funding Priorities 2015/16, see Appendix.

**Figure 1**

**Conservation, Community and Education Grant Projects in Relation to the Conservation, Community and Education Funding Priorities 2015/16**



- FP1: Habitat enhancement for Alberta’s endangered species
- FP2: Site specific stewardship and enhancement
- FP3: Urban fisheries development
- FP4: Impacts of non-native species on the persistence of native species
- FP5: Matching sportsmen with landowners
- FP6: Retention, recruitment and education of hunters, anglers or trappers
- FP7: Outdoor conservation education

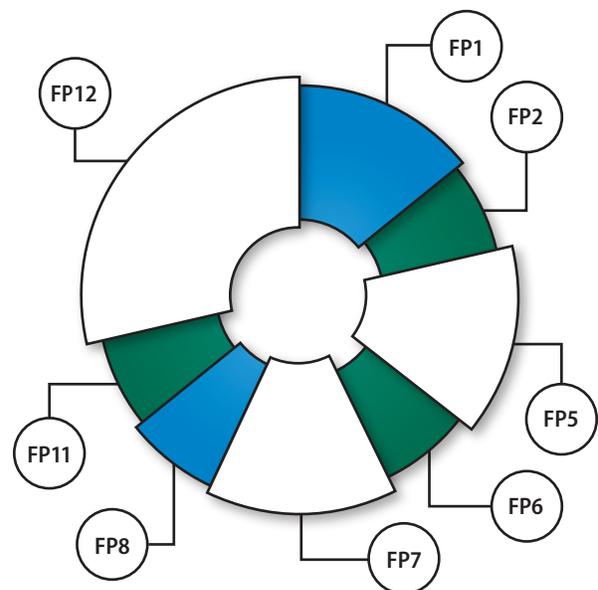
As the funding priorities have changed somewhat every year, it makes it difficult to compare year to year. In the years prior to when the Recruitment and Retention Fund was combined with the Grant Eligible Conservation Fund, the most cited (non-research) funding priorities were the funding priorities: #2 *Site specific enhancement of habitat...* and #4 *Stewardship initiatives*, with more than half the projects citing these priorities and the top funding priorities, *habitat enhancement endangered species* (#1), *Site specific enhancement of habitat* (#2), *Stewardship initiative* (was #4, now combined with #2), and *Impacts on invasive species* (was #5), have been the top four priorities since funding priorities were introduced. Since the addition of the new funding priorities relating to recruitment and retention of hunters, anglers and trappers in 2014/15, there has been a shift to these new funding priorities with the most cited funding priority being #7 *Projects related to outdoor conservation education* (64 per cent), followed by #6 *Retention and recruit and education of hunters, anglers and trappers* (47 per cent), and #2 *Site specific enhancement of habitat & stewardship initiatives* (46 per cent). Since the funding priorities began, the funding priority relating to matching sportsmen with landowners was not cited by projects, but this year one project mentioned a somewhat weak link with this funding priority (#5).

The most cited Research funding priority was one of the newly added funding priorities, #12 *Work towards clarifying status of current data deficient species* (33 per cent). A few funding priorities were mentioned by two research projects (#1, #5, & #7) (17 per cent). Four of the Research funding priorities (#3 *inventory tools... ungulates*, #4 *effect of pesticides/herbicides on upland game birds...*, #9 *effects of biological solutions on carbon sequestration...* and #10) *effects of agricultural run off on fisheries* were not addressed by funded projects, and this has more or less been the case since the introduction of the funding priorities.

It does not appear that applicants are targeting all the funding priorities when drafting their applications, perhaps because of the specific nature of some of the funding priorities.

**Figure 2**

**Research Projects in Relation to ACA Research Grants Funding Priorities 2015/16**



- FP1: Research relating to Alberta's endangered species
- FP2: Impacts of non-native species on the persistence of native species
- FP5: Evaluate the effect of recreational access
- FP6: Investigation of methods for reducing the spread and/or impact of disease
- FP7: Evaluate the impact of harvest management regimes
- FP8: Evaluate the social demographics of hunting and angling
- FP11: Research focused on improving the abundance of pollinators
- FP12: Research to clarify status of data deficient species

**Projects did not mention a link with the following funding priorities**

- FP3: Develop and validate ungulate inventory tools
- FP4: Evaluate the effect of pesticides or herbicides
- FP9: Evaluate the effect of biological solutions of carbon sequestration
- FP10: Evaluate the effects of agricultural run-off on fisheries

# ACA Grants Program Project Summaries

## ACA Conservation, Community and Education Grants

### Alberta Envirothon Annual Provincial High-School Competition

#### *Alberta Envirothon*

Grant: \$3,000

Project Code: 002-00-90-240

Project Status: New; Completed

Alberta Envirothon is an annual environmentally themed academic high school competition dedicated to helping Alberta's students develop the knowledge, skills and experience needed to actively participate as future stewards promoting the conservation of the province's natural resources. Initiated in Grande Prairie, Alberta in 1997 as a legacy project of the Forest Capital of Canada designation, the program first began a regional event, but has since expanded to attract school teams from most areas of Alberta, plus Northwest Territories and Saskatchewan. Nationally, Envirothon is active in most Canadian provinces as well as all US states, with each jurisdiction having their own local competitions from which the winning high school team earns the privilege of representing their state or province at the annual North American event held during the summer. Alberta Envirothon is open to high-school students in Grades 9-12, preparing and testing them in an annual competition on five core subjects of forestry, soils and land use, energy, aquatic ecology, plus wildlife conservation. Alberta Education has recognized the positive benefits and all student participants now earn an additional two CTS credits towards their high school diploma. At the provincial competition, each team must complete five written field tests, each dealing with a different subject. These tests consist of various question types, including specimen identifications and hands-on sampling assessments. Each team must also prepare a final oral presentation on the current issue topic, which the students present to a panel of judges. An important element of the competition is the understanding that each topic area is interrelated, and that by understanding human effects on the environment and how human activities connect with ecosystem functions, a greater appreciation of, and respect for, this invaluable resource is instilled in young adults.

Deliverables/Results:

- The 2015 Alberta Envirothon took place May 21-24 at the Hinton Training Centre. The event hit its sellout goal of 12 high school teams competing. Winning teams included: W.P Wagner High School with a first place win, Parkland Composite with a second place finish and Walter Murray Collegiate in third place.
- Parkland Composite High School from Edson represented Alberta at the 2015 North American Envirothon July 27- August 2 held in Springfield, Missouri.

## Can Livestock Production Support Sustainability of Prairie Wildlife? Assessing local and landscape scale requirements using monitoring, adaptive management, and ecological goods and services analyses. (Operation Grassland Community)

### Alberta Fish and Game Association (AFGA)

Grant: \$39,750

Project Code: 030-00-90-127

Project Status: Funded since 1999 as Operation Grassland Community; Completed

Project Website: [grasslandcommunity.org](http://grasslandcommunity.org)

Operation Grassland Community (OGC) collaborates with stakeholders across Alberta's prairie region to develop, implement, evaluate and adapt management actions to protect and enhance wildlife habitats, and support diverse socio-economic interests. The OGC vision is a sustainable prairie landscape where communities thrive, diverse interests are balanced and wildlife and their habitats are in abundance. The OGC's objectives are to enhance wildlife habitat through sustainable practices by (1) addressing proximate causes and (2) addressing market failure as an ultimate cause; protect wildlife habitats; promote Beneficial Management Practices (Species at Risk Conservation Plans – SARC plans); monitor annual population trend in burrowing owl and loggerhead shrike; and affect change through awareness.

#### Deliverables/Results:

- Enhance wildlife habitat through sustainable practices: (1) Addressing proximate causes:
  - Ranch-wide monitoring and adaptive management practices using Land EKG: one new project implemented (2,000-3,000 acres) in the MD of Cypress and installation was completed in October 2015; 11 of 11 existing or ongoing projects monitored, with one-on-one data collection and assessment assistance from OGC staff completed (thus helping to ensure projects self-sustain in long-term).
  - Habitat enhancement projects: one fencing project completed, enhancing key breeding or foraging habitats for Sprague's pipit. The Land Manager is keen to adjust grazing in support of this species. Five new ferruginous hawk nesting structures installed.
  - Completed testing and refining habitat "indicators" for Sprague's pipit, and began developing indicators for two to three additional species.
  - On all Land EKG ranches, completed bird and wildlife surveys and the input of coinciding data for analysis along-side land management practices and grazing transect data.
- Enhance wildlife habitat through sustainable practices: (2) Addressing market failure as an ultimate cause:
  - As proposed, staff collected initial data to assist in medium-term quantification of economic incentives required for management compliance at local scale (eight ranches).
  - Finalized a landscape-scale ecological goods and services project comparing beef production practices and their impact on prairie sustainability; results dissemination, including comparison of results with two other Alberta-based landscape-scale projects.

- Protect wildlife habitats: eight new five-year voluntary stewardship agreements completed, and 27 existing memberships renewed, resulting in 20,000 new acres protected, and 12,500 acres renewed.
- Promote Beneficial Management Practices (Species at Risk Conservation (SARC) Plans). Two plans completed.
- Monitor annual population trend in burrowing owl and loggerhead shrike: Completed (used mail-out survey, follow-up phone calls and in-person visits).
- Affect change through awareness: Ongoing success in partnerships with other groups and initiatives, production of multiple news-media, presentations, and new designs for school-aged curriculum-based materials. In addition to their membership communication strategies, a new *Beyond the BBQ* website blog and e-newsletter was implemented (both sent direct as well as tweeted out to our 450+ Twitter followers). Launched in May 2015, the newsletter is sent monthly, and includes OGC updates, general grassland and partnership organization news, and a link to the monthly *Beyond the BBQ* blog post.
- 2015 articles ([grasslandcommunity.org/news](http://grasslandcommunity.org/news)) include:
  - "Beyond the BBQ: What's the beef?": Operation Grassland Community's new blog will go Beyond the BBQ to explore ideas related to ranching, habitat stewardship, wildlife and the relationships between those topics.
  - "Acronym City": Learn about how Operation Grassland Community engages in partnership-based activities to monitor habitat suitability, rangeland productivity, and wildlife in Alberta's grasslands.
  - "To Grill or not to Grill: Musings on Sustainable Beef": Why sustainable beef isn't just about the environment.
  - "Experiential Conservation: the case for Alberta's grasslands": Alberta's grassland region sits at the top of the list of ecoregion conservation concerns, yet often is overlooked from a visitor's perspective. Increased public support—which can come in many forms, including visitor experience—is crucial to ensuring future grassland conservation efforts.
  - "Who fits the Operation Grassland Community Member Mold?": A look at the (a)typical OGC member and their various stewardship practices.
  - A review of Alberta's Open Farm Days.

#### Meetings/Conferences

- OGC staff completed a Network-Weaving training course provided by Alberta Ecotrust.
- Presented at America's Grassland Conference in Fort Collins, Colorado, USA (Late September 2015)
- Attended two Prairie Conservation Forum meetings, Open House & Field day Rangeland Research Institute, and a watershed council meeting (Oldman Watershed Council AGM), Medicine Hat Stampede tradeshow, Saskatchewan Forage Council Reclamation Workshop, Calgary Stampede Cattle Trail, and Blackie Green Day (School outreach coordinated with ACA, MULTISAR and others).
- Presented and participated in sustainability communications workshop at the 11th Prairie Conservation and Endangered Species Conference, February 16, 17 & 18, 2016 in Saskatoon, Saskatchewan.

## Pronghorn Antelope Migration Corridor Enhancement

### *Alberta Fish and Game Association (AFGA)*

Grant: \$35,675

Project Code: 030-00-90-160

Project Status: Funded since 2009/10; Completed

Project Website: [afga.org/antelope-corridor-enhancement.html](http://afga.org/antelope-corridor-enhancement.html)

Migratory corridors are important in ensuring pronghorn remain at sustainable populations. Fences in particular create great difficulties for pronghorn as they are unwilling to jump over them. Traditional barbed wire fences' lower strands are generally very low so that crawling under often results in serious scrapes that can significantly impact the antelope's health. Page wire fencing is also present which does not allow any passage of pronghorn. This project will, in the case of barbed wire fencing, remedy this situation by replacing lower barbed wire strands with smooth wire and at the same time raising them to a height easily navigable by the pronghorn. Where page wire fencing is encountered the entire fence will be replaced, again with a smooth wire lower strand at the appropriate height. The project objectives: (1) remove barriers and minimize impediments on migration corridors for antelope; (2) increase public awareness of antelope and effects of man-made barriers; (3) illustrate the efficacy of on-the-ground projects based on scientific research; (4) enhance hunters' image as proactive conservationists. The project goal was to remove bottom strand of wire in select locations along fenceline and add fourth smooth wire to bottom of barbed wire fence in prime pronghorn migration corridor as identified by ACA. Bottom wire to be set at 18-inch height to facilitate easier movement of pronghorn through fence. The main activities were to: identify antelope migratory corridor pinch points, identify landholders willing to participate, organize and orient work crews and stage the event making sure that all necessary materials are onsite.

Deliverables/Results:

- Smooth wire installed: 48 km
- Barbed wire manipulated to wildlife friendly standards: 144 km
- Barbed wire fence removed: 36 km
- Total amount of re-configured to enhance antelope migration: 230 km

## Bowhunter Education Camp

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 002-00-90-231

Project Status: Previously funded by R&R Fund; Completed

The Bowhunter Education Camps are two-day events of fun filled learning activities. Experts share their knowledge and provide instruction in the essentials of bowhunting using techniques taught by AHEIA's International Bowhunter Education Program (IBEP). Participants gain first-hand experience and understand what it is like to hunt with a bow and arrow. Through the course topics offered, graduates enter the bowhunting realm aware of techniques and requirements like safety, legal and ethical responsibilities. Participants are taught the skills necessary to become a safe and successful bowhunter.

Deliverables/Results:

- This program was conducted July 19-20, 2015 at the Alford Lake Conservation Education for Excellence. There were 12 students in

attendance at the camp, with three expert instructors, who were given instruction in the International Bowhunters Education Program (IBEP). These students learned both the rudiments and advanced techniques of Bowhunting contributing new members to the hunting community

## Instructor Recruitment and Recertification

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 002-00-90-232

Project Status: Previously funded by R&R Fund; Completed

This project retrains and recertifies Conservation Education instructors throughout the province. Instructional techniques workshops held across Alberta to enable instructors past, present and future to connect with the cause. These workshops increase confidence in the instructors as they become aware of the technology, resources and information available to them for their course delivery. These workshops also instill a tremendous sense of belonging to a highly successful movement of conservation education. AHEIA has over 3,500 volunteers across the province who offer instruction in hunting and fishing education, the Canadian Firearms Safety Program, shooting skills and various topics including, archery, survival and many more. While each volunteer instructor brings his or her unique experiences and skills to share with the participants, there is a need for retraining and recertification of the instructors to ensure they are up to date with current practices, policies and technology.

Deliverables/Results:

- Meetings were held in various locations throughout Alberta, connecting with certified instructors.
- Mailings and phone calls were made to reconnect with certified instructors.
- Workshops were held to re-tool and train instructors throughout the province.
- Recruitment and recertification events took place at the following locations:
  - April 11: Training for HE and NASP certification with two instructors and many visitors at Stettler AG Show
  - April 18: NASP Training Workshop
  - April 21: Training and certification with HE class (AHEIA)
  - April 25: Range Safety Officer Training - Alford Lake Conservation Education Centre
  - April 26: Shotgun Coaching Training - Alford Lake Conservation Education Centre
  - May 5: IBEP certification at (AHEIA) course
  - May 8-10: Calgary Firearms Safety Course Instructor Training - Calgary
  - May 19: Training & Certification with HE class (AHEIA)
  - May 2: Certified instructor for HE at Canmore School
  - July 14: Training on IBEP certification at (AHEIA) course
  - July 21: Training with volunteers and certification with HE class (AHEIA)

- July 17-18: Teachers Training Workshop – Alford Lake Conservation Education Centre
  - July 19-20: IBEP Instructor Training
  - July 24-26: Conservation and Hunter Education & Fishing Education Instructor Training
  - Aug 6: Training with volunteers and certification at OWP
  - Sept 15: Training with volunteers and certification with HE class (AHEIA)
  - Sept 19: Conservation & Hunter Education Instructor Certification Workshop – Edmonton
  - Sept 26: Training with volunteers and certification at Provincial Hunting day (CFC)
  - Oct 10: Conservation & Hunter Education Instructor Certification Workshop – Edmonton
  - Oct 13: Training with volunteer and certification with H.E class (AHEIA)
  - Oct 21: Training and certification with Junior Forest Warden Parents (AHEIA)
  - Oct 24: Training with volunteer and certification with instructors at OWL days
  - Nov 9: Training and certification for instructors – Calgary
  - Nov 13-15: Canadian Firearms Program Instructor Certification Course – Edmonton
  - Nov 20: NASP workshop 19 instructors – Calgary
- In addition to the above, the following is a list of schools and other locations where Instructor Recruitment and Recertification occurred and has been ongoing: Drayton Valley, Austin O'Brien, St. Paul, Tomahawk, Millgrove School, Stettler, Maskwascis, Hinton, Lloydminster and Breton – Riverview Middle School.

### Mobile Archery Safety Training Trailer

#### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 002-00-90-233

Project Status: New; Completed

Students of Conservation and Hunter Education training benefit from the opportunity to test their skills at target archery. Early success at archery encourages the student to continue at the sport and perhaps to join the hunting fraternity. Not every community has access to an archery facility or equipment. This project purchased and equipped a mobile trailer containing bows, arrows, 3-D targets, safety netting and archery butts, providing the opportunity for communities throughout Alberta to experience target archery in a safe and instructive manner.

Deliverables/Results:

- A cargo trailer was purchased and retrofitted. It is approximately 10' x 6' ft c/w a V-nose. Interior is plywood lined walls and floor with a cargo management system installed to properly secure the load. Bows, arrows with target tips, bow cases, bow stands, target butts, 3-D targets and stands, arrow netting and shooting station mats were also purchased.
- The trailer is fully functional and has been in use since the summer of 2015. The trailer has been moved from community to community

as required ensuring that students of Conservation and Hunter Education have had the opportunity to experience the sport of archery. Target archery has been shown to be useful in providing a terrific gateway introduction to bow hunting. Experience has shown that a positive first time experience with archery equipment is leading to more participation in the sport and eventually participation as a bow hunter.

### Outdoor Bound Mentorship Program Handbook

#### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$1,000

Project Code: 002-00-90-234

Project Status: New; Completed

AHEIA's Outdoor Bound Mentorship Program has proved to be very successful in introducing new participants to hunting big game, upland bird game and waterfowl. The program has grown every year since its inception to 1,400 participants and 200 mentors involved in a period of 2,400 hunt days in 2014. The mentoring program has proven to be very effective in developing future hunters. The need for a handbook for the mentors had become evident. This project focused on the development, design, printing and distribution of a manual for mentors of the Outdoor Bound Mentorship Program. Manuals were developed, written, formatted, printed, and distributed to mentors of the Mentorship Program.

Deliverables/Results:

- The Mentor Handbook for the Outdoor Bound Mentorship Program has been completed and distributed to all mentors of the Program throughout the province.
- 1,500 Handbooks have been produced to date.

### 12th Annual OWL Day – "Outdoor Wildlife Learning"

#### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 002-00-90-223

Project Status: Funded by CCEG in 2014/15 and previously by the R&R Fund; Completed

AHEIA held a one-day workshop on October 24, 2015 complete with hands-on experiences. This day was made available free of charge to the general public and focused on two age groups: youth aged six-12 years of age and students aged 13-20. Just under 200 youth attended the event. There were a range of activities provided including: game calling, pellet rifle trailer activities, archery, laser shotgun activities, 3-D archery events and trap and skeet shooting.

Deliverables/Results:

- The event was held October 24, 2015 at the Calgary Firearms Centre for Excellence, owned and operated by AHEIA.
- Just under 200 youth who attended the hands-on activities of OWL Day.
- Over 20 volunteers and AHEIA staff were present to run the various activities and provide lunch and snacks throughout the day.
- All students had the opportunity to participate in the following education sessions: Black Powder Shotgun Demonstration (Ages 9-20); Wildlife Identification and Shot Placement; "Making Tracks"

(Ages 6-8) Participants make plaster casts of various wildlife which they take home; Dog Training Demonstration; Fishing Education; Firearms Safety Lecture; Shotgun Shooting; Archery (Compound and Recurve Bows); Firearms Safety Walk (Field course regarding crossing and navigating obstacles safely with firearms).

## Outdoor Youth Seminar

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 002-00-90-215

Project Status: Funded by CCEG in 2014/15 and previously by the R&R Fund; Completed

The Outdoor Youth Seminar was conducted on August 22-23, 2015, with 100 participants in the program and 57 volunteer instructors and staff. This two-day seminar was designed to help young people develop basic skills that will help them use the outdoors with confidence. At the seminar, the youth practiced archery, shooting, map and compass, survival skills, wildlife identification and fishing. Numerous experts shared information and instruction in various outdoor pursuits. This seminar was the 13th annual Outdoor Youth Seminar and it grows every year. It was a fun-filled two days of learning for young outdoor enthusiasts and their parents or guardians. This project also mobilized a large workforce of volunteer coaches, mentors and instructors. It acts as an important gateway of introduction into certificate conservation education programs. Large numbers of adults, parents and supervisors attended and received a positive first-time introduction into the realm of conservation education. The project concluded with a giant pig-roast and a celebration around the two days of learning that took place. The celebratory conclusion instilled a tremendous connection to the cause and sense of belonging to all who participated.

Deliverables/Results:

- There were 100 participants in the program with 57 volunteer instructors and staff. It remains a very popular two-day camp for youth with many seeking to return in order to participate in additional sessions. Sessions were offered with excellent learning and interaction taking place. All around, the Outdoor Youth Seminar was once again a huge success. Students were afforded the opportunity to participate in the following sessions during the two-day seminar on August 22-23, 2015:
  - Centre-fire Rifle Shooting – using the .223 Remington, students were taught safety and numerous range techniques as well as shooting positions.
  - Beginner Archery – fundamentals of the bow and arrow. Equipment selection, recurve, long bow and compound bows.
  - Advanced Archery – students shot 3-D targets with one-on-one instruction in actual field conditions. They learned shot placement, judging distance, tree stand safety and more.
  - Black Powder Shooting – history of muzzle loading firearms and their use. Hands on experience in loading, shooting and cleaning.
  - Fly Fishing 101 – hands on fly fishing techniques.
  - Fishing Basics – from the hook to the frying pan.
  - Fish – anatomy and catch and release methods.
  - Trapping – basics and importance of this tradition and culture including learning techniques for snaring and capturing small animals in survival situations.

- GPS and Geocaching – how to use a GPS.
- Beginner Shotgun – firearms safety and basic shotgun techniques.
- Intermediate Shotgun – games of Trap/Skeet/Sporting Clays.
- .22 Rim fire Rifle Shooting – basic skills that will help with future shooting and hunting endeavours. Including prone, kneeling, sitting and standing positions.
- Whitetail Techniques – various field techniques used when hunting. Use of scents, calling, rattling, set-ups, blood trailing and more.
- Survival Walk – hands-on excursion learning about edible plants, shelters, survival fires and more.
- Goose Hunting Basics – how to set decoys and blinds. Scouting, calling, identifying birds, firearm safety in the blind and more.
- Outdoor Cooking – culinary basics: preparing the harvest for consumption.
- Canoeing Basics – safety basics and canoeing techniques.
- Special Evening Sessions – separate sessions: arrow crafting, survival kits, game calling, knife and axe sharpening, reloading and rattling antlers.

## Youth Fishing Initiatives

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$3,000

Project Code: 020-00-90-220

Project Status: Funded by CCEG in 2014/15 and previously by the R&R Fund; Completed

This project undertook to organize fishing events across the province on the Free Fishing Weekend in summer and winter. These events were followed up by the AHEIA Youth Club to provide additional opportunities for youth to continue to improve their sport fishing skills and to become more aware and appreciative of the great outdoors. This program envisioned a community where every youth is given the opportunity for a wholesome, nurturing fishing experience, under the care of a capable mentor. This experience in turn allows each of the youth to continue in their development as responsible, capable and respectful resource users. Necessary equipment and mentoring was provided to participants.

Deliverables/Results:

- AHEIA participated in various fishing and ice-fishing events throughout the province, including numerous events with individual fishing education instructors taking youth on fishing day trips.
- Notable fishing events with high AHEIA involvement and leadership were:
  - June 6, 2015 – Lethbridge – 141 participants and 25 mentor/instructors.
  - June 13, 2015 – Edmonton River Day "Pathways to Fishing" event – 1,000 participants with AHEIA instructors.
  - October 24, 2015 – Calgary OWL Day – 24 participants learning pond fishing from AHEIA instructors.
  - July 5-10 – Youth Hunter Education Camp – 48 students and comprising of approximately 260 total hours.

- July 12-17 – Youth Hunter Education Camp – 48 students and comprising of approximately 260 total hours.
- July 19-24 – Youth Hunter Education Camp – 48 students and comprising of approximately 260 total hours.
- July 27-31 – Youth Hunter Education Camp – 48 students and comprising of approximately 260 total hours.
- August 22-23 – Outdoor Youth Seminar – 100 students and comprising of approximately 550 total hours.
- In addition, the fish simulator is used at numerous events including the Edmonton Sports Show (March 12-15) with 300-400 people participating, the Red Deer Sportsmen's Show and the Calgary National Sportsmen's Show.
- The fishing education program was also featured in 2015 in Edmonton in partnership with Cabela's fishing events:
  - March 21-22 – 250 people
  - March 28-29 – 250 people
  - August 22-23 – 250 people
  - August 29-30 – 250 people
- Each participant was provided with equipment for the day and given the equipment at the end of the day so that they could continue to enjoy fishing after the event was concluded. Responses from participants were very enthusiastic and grateful for the opportunity to learn and enjoy fishing, giving them the skills and equipment to continue on their own and with friends.
- The following items were purchased with the grant funds:
  - 500 rod and reel combos
  - 10 loaded tackle boxes
  - Necessary clothing and safety equipment was also provided to participants on an "as needed" basis.

## Conservation Education Instructor's Guide

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$12,000

Project Code: 002-00-90-246

Project Status: New; Completed

This project is the creation and completion of the *Conservation Education Instructors' Guide* in both print and electronic format. This guide is distributed to all the instructors across the province to significantly augment their delivery of the Conservation Education programs. Instructor knowledge varies across the province. This guide provides detailed lesson plans allowing all instructors throughout the province to teach from the same base of resources. The instructor manual is designed to assist instructors with training fundamentals in the delivery of the certificate programs of Alberta Conservation Education and Hunter Education, by providing in-class teaching materials, including pictures, charts and other useful information when delivering the Conservation Education programs. Instructors play a direct role in shaping student attitudes towards hunting, angling and trapping. They also play a direct role in shaping students understanding of the heritage and culture of these pursuits. This manual provides numerous successfully used tools in the education of all users of the outdoors. The more tools at the disposal of the instructional team the more successful our program delivery will be. The project manual has been

completed and is 113 pages of instruction guidance, pictures and teaching aids for the classroom. This aspect of the project has been negotiated with the technology delivery company and is in process of being converted into an online format. A portal is being created on the AHEIA website for instructors only to sign in and access the teachers' guide without the public accessing the guide.

Deliverables/Results:

- The *Conservation Education Instructors' Guide* is complete after extensive research, writing, and printing of the manual by the expert staff at AHEIA. Much research and multiple reviews have gone into the production of the manual, resulting in a high quality training tool that contains many useful teaching aids that were formerly inaccessible for many of the instructors.

## Essential Series' Online Education Programs: Field Technique Essentials

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$20,000

Project Code: 002-00-90-238

Project Status: New; Completed

This project is part of a larger project of developing several "Essential Series" of online programs developed as tutorials for teaching specific aspects related to hunting and fishing. This specific project addresses field dressing of big game and bird game produced in an online format. This requires gathering information, equipment and copy that are then produced in a series of filmed vignettes with voice-over explanation of the processes. The filming has been completed as projected on all the following objectives: instruction in the proper care of the harvest; instruction in the proper care of the trophy; instruction on many other aspects that will aid in the enjoyable finish to the hunt, including field care, transportation and final use of the harvest; instruction in the proper respect for the life of the game animal or bird game, including full utilization of the harvest.

Deliverables/Results:

- The anticipated deliverable is a complete online program that leads a hunter through the process from shooting the game to field dressing to bringing the game home and caring for the harvest to complete the satisfying experience of hunting. The project is on target with all the filming and necessary information and copy completed. It is currently in the final stage of production with the production company who are formatting it into the online course.

## AHEIA's National Archery in the Schools Program (NASP)

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$31,000

Project Code: 002-00-90-239

Project Status: Previously funded via R&R Fund; Completed

Project Website: [aheia.com/NASP](http://aheia.com/NASP)

AHEIA's National Archery in the Schools Program (NASP) continues to promote instruction in international style target archery as part of the in-school curriculum. It has provided opportunities to improve educational performance and participation in the archery shooting sports for students in grades four-12. AHEIA's NASP instructor training

has been offered to teachers who are Conservation Education instructors who have included archery into their teaching format for the CTS Wildlife Strand, introducing students to archery at an early age in both the public and separate school systems. In addition, all Phys. Ed. department heads and teachers from those schools have been invited to the training sessions, thus opening a whole new audience to archery. The introduction of these training courses is proving to be a gateway to additional recruitment opportunities in hunting and fishing certificate programs offered by AHEIA.

#### Deliverables/Results:

- The NASP program continues to increase in size and popularity providing an excellent training environment for youth in the NASP program.
- Many of these students have gone on to express an interest in the activity of bowhunting and other similar endeavours. The relationship developed between the students and the teachers as well as AHEIA's program delivery staff has been very beneficial for all involved on many levels including archery skills, leadership development, active outdoor pursuits and a general positive impact on the quality of the maturing process for the students and inter-generational relationships.
- NASP was available at 50 schools in 2015, and 75 in 2016. Approximately 8,500 students were involved in 2015. In the first four months of 2016, AHEIA certified more than 75 more instructors. Seven kits were given to schools and 19 \$500 grants for archery equipment were awarded.
- 1,261 youth representing 50 teams from 66 schools competed at the NASP National Tournament March 2016 in Edmonton.

## Outdoor Bound Mentorship Program

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$12,000

Project Code: 002-00-90-222

Project Status: Funded in 2014/15 and previously via R&R Fund;

Completed

The Outdoor Bound Mentorship Program concludes a very successful year of mentoring first-time and novice hunters. Mentors were linked with participants for both hunting interests and hunting locale. The Mentorship Program is a year-round program with the heaviest impact in the late summer and fall seasons. Benefits to the participants is the opportunity to participate in a hunt assisted by an experienced hunter who takes the time to guide the first time hunter in a safe and rewarding hunt. This sets the first-time hunter up for success and enjoyment in the hunting experience, as well as showing them how to access the field appropriately and how to identify, shoot, harvest and prepare the game for the table. Benefits to the mentors are reported as "passing the mantle" which renews and encourages them in the hunting and fishing sports. This proved once again to be a very popular and well-received and active program. Participants gained a wealth of hands-on knowledge in the field giving them the confidence to continue hunting in future years on their own. Some of these participants will go on to become future mentors, taking others who are new to the experience into the field to enjoy the many aspects of hunting in a safe and successful manner.

#### Deliverables/Results:

- The 2015/16 AHEIA Mentored Hunt Program had 1,400 participants mentored.
- 212 mentors provided a mentoring program for these first-time hunters over a period of 3,124 hunt days.
- Successful, safe hunts were experienced throughout the province through the delivery of the Outdoor Bound Mentored Hunt program.

## 22nd Annual Outdoor Women's Program

### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$25,080

Project Code: 002-00-90-219

Project Status: Funded by CCEG in 2014/15 and previously via the R&R fund; Completed

The 22nd Annual Outdoor Women's Program (OWP) hosted 200 participants and instructors for five-days of learning, camaraderie, fun and an opportunity to begin to master the outdoors. This year's OWP took place August 5-9, 2015 at the Alford Lake Conservation Education Center for Excellence. Women of all ages were encouraged to experience, explore and develop an understanding of the natural world through over 30 different hands-on programs. Patient and knowledgeable instructors encouraged each woman towards her own level of confidence and competence with each new skill. The purpose is to encourage women to enjoy the great outdoors and to become advocates of hunting and angling by providing opportunity to gain confidence, increase competence, acquire experience and promote personal growth. We do this through information, inspiration and involvement.

#### Deliverables/Results:

- There were 142 participants and 55 volunteer instructors. Women came from all over the province (as well as neighbouring provinces), north and south, rural and urban settings and from a wide range of ages: 16-83 years of age.
- 52 per cent of the women were new to the Outdoor Women's Program, indicating the broadening reach of the program.
- As expected, each of these participants learned many new skills. There is continuing interest and learning among the women who experience the outdoors and the many activities in which they are able to participate that expose and develop hunting, angling, trapping, camping and survival skills. This ensures training in a safe and enjoyable manner to the wilderness experience.
- The following sessions were provided:
  - Archery
  - Canoeing – basic and advanced
  - Chainsaw Basics
  - Firearms Basics – shotguns, rifles and handguns
  - Advanced Shotgun
  - Fly Fishing
  - Wilderness Survival
  - Introduction to ATVing
  - Let's go Bow Hunting

- Waterfowl Hunting
- The Science of Fishing
- GPS and Geo-caching
- Field Dressing
- Edible Plants
- Outdoor Cooking
- Advanced Hunting Session – upland game birds and waterfowl
- Advanced Hunting Session – big game animals
- Moccasin Making
- Psychology of Survival
- Survival Bracelets
- Predator Awareness – preventing conflicts with carnivores
- Trailering
- Game Calling
- Rope Making
- 142 women graduated from this year's OWP with expanded knowledge, skills and confidence in Alberta's wilderness environment. Many of these women will become hunters and anglers as have their predecessors of the OWP program. Additionally, they will influence their families to join them in the enjoyment and appreciation of the outdoors.

### Youth Hunter Education Camp (Weeks 1, 2, 3, 4)

#### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$48,000

Project Code: 002-00-90-224

Project Status: Funded by CCEG in 2014/15 and previously via the R&R fund; Completed

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. These camps took place at the Alford Lake Conservation Education Centre for Excellence and provided four full weeks of training with meals, accommodations and all necessary course equipment provided. These one-week camps provided immersion into outdoor training which provided a perfect opportunity to entice the youth to choose outdoor recreation, especially the pursuit of hunting and angling, with their time and energy. Evenings were filled with mentor time at our stocked trout lake as well as numerous other practical experiences, including rifle, shotgun, compass, GPS, archery, field techniques, wilderness first aid, spin-casting, fly fishing and more.

Deliverables/Results:

- 150 youth participated in the 2015 Youth Hunter Education Camps, which ran consecutively from July 5th -31st, 2015. Approximately 120 volunteers instructing and assisting at the camps.
- These camps are very popular and registration fills quickly as word has spread about the great experience to be gained at the Youth Hunter Education Camps.

- Many youth new to these outdoor experiences gained at the camp were in attendance and eagerly participated in Conservation Education, the safe handling of firearms, shotgun and rifle range shooting, GPS and compass course instruction, spin casting, fly fishing, archery, wilderness survival training, wilderness first-aid, field techniques and much more.
- The high volunteer staff-to-participant ratio ensured that each camper received focused attention and many learning and mentoring opportunities.
- Participants developed increased confidence, knowledge and skills in the context of a safe, enjoyable, cooperative experience in the wilderness which significantly helps us to achieve the longer-term goal of hunter recruitment and retention. Additionally, the enthusiasm of the youth is a great encouragement to the mentors, giving them renewed energy and interest in these outdoor pursuits.

### Provincial Hunting Day Initiatives

#### *Alberta Hunter Education Instructors' Association (AHEIA)*

Grant: \$21,000

Project Code: 030-00-90-245

Project Status: Funded by CCEG in 2014/15 and previously via the R&R fund; Completed

The fourth Saturday of September has been designated as Provincial Hunting Day. On this day, Albertans are encouraged to introduce a new person to outdoor sports such as hunting, fishing, trapping, shooting or archery. AHEIA hosts events at the Alford Lake Conservation Education Centre for Excellence at the Calgary Firearms Centre for Excellence in De Winton and numerous less organized experiences province-wide. Alberta is a wonderful province to live in and we enjoy an abundance of natural wealth. This treasure is here due to the perseverance and dedication of outdoorsmen and women who are committed to conservation endeavors. For it to survive it must continue to remain part of our heritage and culture. September 26, 2015 was the eighth Annual Provincial Hunting Day declared by the Alberta government, serving as an opportunity to remind and involve Albertans in our hunting heritage and the importance of securing a future for wildlife and wild places, especially within our own province.

Albertans of all ages were invited to try their hand at fishing, target archery, trap shooting and shotgun shooting from blinds, viewed dog demonstrations and many more training events. All events were completely free of charge.

Deliverables/Results:

- Provincial Hunting Day was celebrated at various venues throughout the province, including AHEIA's Calgary Firearms Centre, with many activities related to hunting on September 26, 2015. Activities included were: fishing, target archery, bowhunting, firearms basics with shotguns, trap shooting and shooting from blinds, dog demonstrations, tools and equipment seminars, predator awareness, tree-stand safety, waterfowl identification, fur-bearing animal identification, field dressing and field techniques, wild game calling, upland bird identification and more.
- Additionally, there were pre-event planning and training days as well as follow-up hunting programs to Provincial Hunting Day.

## Wild Game for the Food Bank Project

### *Alberta Hunters Who Care*

Grant: \$12,000

Project Code: 030-00-90-255

Project Status: Funded in 2002/03, 2003/04, 2008/09, 2009/10; Completed

The Wild Game for the Food Bank Project's primary objective is to provide a high-quality food source to those in need. It does this by encouraging hunters to participate by harvesting deer, moose or elk in dozens of wildlife management units including several where control is needed to reduce crop and habitat damage. Hunters are specifically asked to donate game not only taken with their general tags but to also fill supplemental tags issued in high-density game areas. This program has expanded over the years to include several of those areas through consultation with AEP. The program runs through each hunting season and the project activities include notifying hunters about the program and then administering the program with the Edmonton and Calgary Food Banks and the various meat processors. For the completed season, it was an average year with just over 10,000 pounds of wild game meat donated, processed and distributed to those in need in our province. The program is in the process of completing and reviewing all paperwork, paying the processors and coordinating delivery of the processed meat to the participating Food Banks for final distribution.

Deliverables/Results:

- The hunting community again supported this program and have for the past 20 years. The Food Banks are appreciative and there is some new leadership blood in this program which promises to improve the program going forward.
- 10,000 plus pounds of wild game donated, processed and distributed to those in need through the Food Banks.

## PlayCleanGo Implementation

### *Alberta Invasive Species Council*

Grant: \$20,000

Project Code: 020-00-90-227

Project Status: New; Completed

Project Website: [www.abinvasives.ca/resources/playcleango](http://www.abinvasives.ca/resources/playcleango)

Outdoor recreation is a key pathway for the introduction and spread of invasive species, in particular invasive plants. Invasive species degrade, devalue and destroy natural habitats. Albertans engage in many outdoor activities such as hunting, fishing, trapping, hiking, bird watching, camping and trail riding. Invasive species threaten our natural habitats and all of those outdoor activities. Prevention is the most effective and most economical strategy to reduce the environmental, economic and societal impacts of invasive species. PlayCleanGo is a call-to-action targeted at outdoor recreationists. The goal is for all clothing, footwear, equipment and animals to be cleaned before and after all recreational activities. These simple actions will go a long way towards preventing the spread of invasive species. The Alberta Invasive Species Council (AISC) hired a program coordinator to engage key stakeholders, produce PlayCleanGo materials and start to build awareness of and gain commitment to PlayCleanGo. To begin to build awareness, printed materials, trail signs, displays and website content were developed. An implementation plan and a report of key learnings and recommendations for next steps were developed.

A major achievement was gaining approval from two large recreational landowners (Government of Alberta and ACA) to allow PlayCleanGo signs to be posted on their lands. In total, 14 organizations have signed on as partners of PlayCleanGo. Outreach activities have taken the PlayCleanGo message to over 1,500 Albertans. Individual Albertans have started committing to PlayCleanGo during their outdoor recreational activities. The website leaderboard currently stands at 85 commitments. PlayCleanGo implementation has been successfully started in Alberta.

Deliverables/Results:

- AISC now has approval from the targeted landowners (ACA, AEP and Agriculture & Forestry) to put up signs and implement the program. PlayCleanGo materials have been developed and produced. PlayCleanGo is on the AISC website. Outreach activities have been completed. PlayCleanGo is ready to be implemented on recreational lands in 2016.
- In collaboration with ACA, it was determined that the majority of ACA sites are foot access only, and do not have defined trail systems, but are designated sites for hunting, fishing and walking. This resulted in a redefinition of three major categories of recreation sites—designated trail, designated site, and multi-use motorized site. Separate PlayCleanGo materials and messaging was developed for each of these different recreation sites.
- Other deliverables include:
  - ASIC stakeholder advisory board representing 12 organizations.
  - Implementation plan.
  - Report with recommendations from the program.
  - Engaged 1,505 people: five major conference presentations to targeted stakeholders – 545 people, five presentations to key stakeholder organizations – 60 people, two major ASB conferences – trade show presentations, brief project review – 900 ASB and IST delegates.
  - Website: 85 individual commitments, 14 Alberta organizations partner with [PlayCleanGo.org](http://PlayCleanGo.org)

## Grazing Schools for Women: Promoting habitat and improved grazing stewardship to livestock producers in south and central Alberta

### *Alberta Riparian Habitat Management Society (Cows and Fish)*

Grant: \$3,000

Project Code: 020-00-90-165

Project Status: Funded since 2011/12; Completed

Project Website: [southernalbertagsw.blogspot.ca/](http://southernalbertagsw.blogspot.ca/)

In 2015, Cows and Fish successfully developed and delivered two, two-day long grazing schools for women. The Original Grazing School for Women (GSW) was held in June 9-10 in the Bonnyville-St. Paul area. The Southern Alberta Grazing School for Women (SABGSW) was held July 22-23 at Dinosaur Provincial Park (Brooks) and the University of Alberta Mathias Ranch. In addition to 20 speakers and 22 organizing committee members, 73 attendees took part in the events. While each school had a unique agenda, both had indoor presentations and outdoor, hands-on learning opportunities. The schools provided both skills and management knowledge, and a chance to utilize some of the practical learning. The first objective was met in that Cows and Fish successfully provided content that was seen, by attendees, as helping

them understand grazing management to sustain healthier landscapes. The list of things that were listed as learned about was broad, but clearly included items that have value to those attending. The second objective was successful in influencing skills and knowledge that attendees will use on their farm or ranch: 100 per cent of evaluation respondents listed things that they learned, 86 per cent of attendees indicated that the school would influence their grazing management practices and 85 per cent indicated they would incorporate practices they learned about at the school. One of the very positive results they found from returnees (when surveyed at the GSW) is that the past schools had influenced their practices, since nine of ten had implemented changes since attending previously, all of them had shared what they had learned with others. Follow-up telephone feedback surveys with three attendees after the southern school also showed that attendees not only say they will implement at the school, but they do implement and they also influence their friends and family to make changes as well. Two of the three individuals had already implemented management changes, and the third was planning changes, and all had shared information with their networks. This clearly shows the impact of the school both on attendees, but also on the broader impact to their networks.

#### Deliverables/Results:

- Summary articles promoting the event or reporting on the event carried by local papers and municipal district and county newsletters.
- Summaries and notices of the events were provided on at least: one website; one blogspot; two county newsletters and notices.
- Grazing schools, each over two days, completed and delivered to 60-70 attendees, and up to 20 additional speakers, organizers, etc.
- In addition to 20 speakers and 22 organizing committee members, 73 attendees took part in the events.
- Evaluation summary from school, which included preferred and highly ranked topics; list of new information and skills that have been learned; management practices learned and that attendees plan to go home and implement (and the proportion of attendees that plan to do so). The evaluations clearly show the grazing schools met their objectives. A few comments of interest are highlighted below.
- When asked what was one thing that they learned, here are a few of the responses:
  - *"How to identify plants."*
  - *"Litter [carryover on the pasture] will get you more pasture."*
  - *"New Plant ID/ Accurate plant ID."*
  - *"How to monitor grazing impact and range health."*
  - *"Effects of overgrazing."*
  - *"Do Not Flush goldfish."* (Based on a talk about aquatic invasive organisms.)
  - *"Grazing practices in Northern AB."*
  - *"More interest in electricity/electric fencing."*
- A few comments, in response to the questions "Which practices [that you learned at the school] do you hope to incorporate?" clearly show we are influencing how they will manage their land:
  - *"Riparian management/assessments."* (This was mentioned frequently.)
  - *"Improve/implement rotational grazing strategies."*
  - *"Range health assessments/health."*

- *"Manage appropriate grazing—try electric fencing."*
- *"Really push to get our dugouts fenced off, and really pay attention to our pasture's health."*

## Developing Westslope Cutthroat Trout Riparian Habitat Improvement Action Plans and Implementing Habitat Management Improvements

### Alberta Riparian Habitat Management Society (Cows and Fish)

Grant: \$5,000

Project Code: 020-00-90-167

Project Status: Funded since 2011/12; Completed

This project's goal is to improve overall riparian habitat and sport-fishery habitat, focused on areas where westslope cutthroat trout (*Oncorhynchus clarkii lewisi*) populations still remain, by enhancing habitat through site and area specific improvements. Westslope cutthroat trout are listed as threatened in Alberta. A combination of impacts have led to habitat degradation and loss and cumulative impacts, including those related to riparian areas disturbance and stream bank structure. Specifically, sedimentation and habitat loss and degradation (as outlined in the recovery plan) resulting from off-highway vehicles, linear disturbance and grazing are threats that can be reduced by working with the relevant stakeholders, which is the work Cows and Fish are doing with this project. The project goal was to help support changes and plans that aim to: minimize stream bank erosion and sedimentation; manage grazing timing and use; reduce OHV use of non-designated trails; maintain riparian vegetation; and generally address habitat loss through improved management of human activities and land uses. This work will also benefit bull trout because of overlapping natural history requirements. Input and assistance from recovery team members and others helped select priority sites, participate in tours and meetings, and work collaboratively. Working with other experts (including Joint Recovery Team members), priority sites were selected, riparian health at three sites was examined, then recommendations were developed mostly related to random camping and off-highway vehicle use.

#### Deliverables/Results:

- Cows and Fish successfully impacted riparian management and use in numerous ways, as outlined above, including livestock management and off-highway vehicle management changes. Cows and Fish are excited to see the positive habitat and land use changes that will take place from these efforts. There continue to be very many positive results of this work, but as in past years, some of the management changes, particularly those related to unmanaged recreational use, continue to be a challenge. One of the very positive aspects related to overcoming those challenges has been ongoing efforts to work collaboratively with the off-highway vehicle community. Each year they are more engaged and this year they participated in the restoration event as well as attend the Stakeholder Workshop and are planning to take copies of the "Steer Clear" and "Thank you for using the bridge" signage to various tradeshow this spring. The Crowsnest Pass Quad Squad is the primary partner on this work, in addition to Spray Lake Sawmills, who has continued to provide input, machinery support and time. Cows and Fish's partnership with the Oldman Watershed Council has been an important part of the successful work with the OHV community.

- An experts' meeting was held, sharing draft results, then the group helped determine content for the Stakeholder Workshop. This workshop, attended by 30 people, included presentations on riparian health results, showcased examples of successful partner projects and relevant government policy and regulatory information, as well as asked participants to provide input on needs and locations for future work.
- Riparian management was successfully implemented in numerous ways (most supported by funding in addition to ACA's). Restoration work was completed at one site (focused on improved plant community and bank stability, native tree and shrub plantings at Dutch Creek); "Steer Clear" signage was installed at Dome Creek; installation of two livestock off-site watering troughs was supported (two spring developments to create off-site water troughs in Sharples Creek headwaters; one site planned, approvals received and erosion control materials purchased for Rock Creek); the cost of two new off-highway bridges on Gold and Morrin Creeks was supported (installation spring 2016); the purchase of erosion control and stabilization materials was supported for an area of livestock impacts (installation in 2016 since timing of the regulatory approval did not allow for installation in the approved fish window) and eight bridges were installed (materials paid for in 2014/15), as collaboration with the Backcountry Trails Rehabilitation Program. As in past years, Cows and Fish have several potential sites and land owners and land managers who they hope to work with if funding is available.
- Dome Creek restoration work was also planned and approved but not implemented because during the volunteer restoration event day (combined for Dutch and Dome Creeks), the Dutch Creek site required the entire time and effort due to extremely difficult planting conditions.

## Trapper Training and Education

### *Alberta Trappers Association – Peace River*

Grant: \$4,460

Project Code: 002-00-90-218

Project Status: Funded in 2014/15; Completed

On October 16, 17 and 19, 2015, Alberta Trappers Association – Peace River local held a trapping course for 20 people in St. Isidore at a reduced rate. Three youth, five women and 12 men enjoyed the hands on course with two instructors.

Deliverables/Results:

- There are now 20 newly trained trappers looking forward to heading out and trying out their new skills.

### **Protect your Watershed: Riparian area protection project**

#### *Ann & Sandy Cross Conservation Area*

Grant: \$25,000

Project Code: 015-00-90-206

Project Status: Funded since 2012/13; Completed

The overarching goal with this ongoing project is to replace all of the existing interior and exterior fencing on the Ann & Sandy Cross Conservation Area (ASCCA) with wildlife-friendly fencing to encourage movement of wildlife throughout the conservation area and minimize wildlife fatalities caused by fencing. This was the fourth phase of the

ASCCA wildlife-friendly fencing strategy which had two main objectives. The first objective was to upgrade or install 1.5 miles of wildlife friendly fencing throughout the interior of the ASCCA. This fencing is required to minimize the impact of cattle on the land which are used for fire and invasive species control. The second objective was to restore a historically dammed wetland in section four into a wetland that is more suitable to waterfowl. This would be done by fencing off the area as well as remediating the wetland to improve the habitat. Both of these objectives were successfully completed by the end of October 2015 thanks to help from staff, volunteers and a contractor.

Deliverables/Results:

- Habitat Manager Reg Rempel led a group of volunteers and completed over 2,000 volunteer hours on this project. Previous research on wildlife friendly fencing completed by the ASCCA provided guidance on all of the newly installed wildlife-friendly fencing and these parameters are still used today.
- 1.2 km of four-wire wildlife-friendly fencing to protect sensitive areas on the land was completed by a contractor over three weeks. One corporate volunteer event was held with 25 employees from Enerplus and eight volunteers from the ASCCA worked together to remove the existing fenceline that donated 165 volunteer hours.
- A half-section will be fenced around the wetland in section sixteen, time and weather permitting. This deliverable was completed by a contractor over one week and engaged two separate groups of volunteers to complete this. One of the groups was a youth group with special needs consisting on 20 volunteers who donated 100 hours of volunteer time, and a small corporate group of 15 who donated 15 hours of volunteer time.

## Eco-buffer Shelterbelt Demonstration

### *Battle River Research Group*

Grant: \$2,900

Project Code: 015-00-90-227

Project Status: New; Extended until July 31, 2016

The project is not complete, but planting of native tree, shrub and flowering plants, along with placement of the plastic mulch will be done this summer (2016). It will then be a work in progress, with yearly maintenance. Battle River Research Group (BRRG) have three full-time summer student staff this year, as opposed to one last year, so getting things done will be much easier. BRRG will cover the cost of labour for the summer students, planting and watering. Signage to be put up in 2017, and in the spring of 2017 BRRG will add some more of the trees available from the Flagstaff County shelterbelt program to top up those that did not survive the 2015 planting.

Deliverables/Results:

- The project has been delayed due to weather and lack of manpower in 2015. As mentioned above, BRRG will be installing the plastic mulch, purchasing and planting the native species and watering in 2016. Further planting will be done and signage put up in 2017.

## Wildlife Conservation, Monitoring and Public Engagement at Beaverhill Lake

### Beaverhill Bird Observatory

Grant: \$19,900

Project Code: 030-00-90-124

Project Status: Funded since 2006/07; Completed

Project Website: [www.beaverhillbirds.com/](http://www.beaverhillbirds.com/)

The Beaverhill Bird Observatory (BBO) has been monitoring birds and other wildlife and conservation education in the Beaverhill Natural Area for more than 30 years. In 2015/16, BBO monitored migrant and resident birds using standardized protocols, presented over 30 school talks in Edmonton and region to communicate the importance of monitoring migrating and resident birds, monitored bats using a bat houses, more than doubled the number of bat boxes, monitored mammals using three trail cameras, maintained and monitored bird boxes, including 100 house wren, 200 tree swallow, ten Saw-whet owl, five duck, and over 150 bluebird boxes, and a purple martin colony. The BBO also completed the tree swallow migration and wintering project by retrieving 13 geolocators. As ongoing stewards of the Natural Area, BBO staff cleared trails, maintained signage and ensured compliance with no vehicle access. The fencing along the northeast side of the natural area was finished and areas on the west side that had become weathered and damaged were repaired to prevent access by cattle. Two major on-site events were held, the Big Birding Breakfast (70 people) and Steaks and Saw-whets (over 100 people) and over 20 additional events including the Snow Goose Chase and Town of Tofield hikes. The BBO published and shared their monitoring and research results in popular media.

Deliverables/Results:

- Spring migration monitoring was conducted from May 1- June 9, 2015. Staff opened 13 nets daily and recorded 810 captures of 45 species, for an overall capture rate of 28.3 birds per 100 net-hours.
- Monitoring Avian Productivity and Survivorship (MAPS program): BLAB nets recorded 73 captures of 49 individual birds, for a capture rate of 24.3 birds per 100 net-hours. WEIR nets recorded 76 captures of 54 individual birds, for a capture rate of 25.3 birds per 100 net-hours. PARK nets recorded 75 captures of 55 individual birds, for a capture rate of 25.0 birds per 100 net-hours.
- Fall migration monitoring was conducted from August 1- October 10. Staff opened 13 nets daily and recorded 1,641 captures of 58 species, for an overall capture rate of 36.6 birds per 100 net-hours.
- Monitoring of Northern Saw-whet owls was conducted from September 10-November 16 and resulted in the capture of a record high number of owls, with 504 captures recorded. Other captures include three long-eared owls and a single Boreal owl.
- All nest boxes were monitored during the summer months. Five student interns provided extra support for 100 house wren boxes, 150 tree swallow boxes and over 150 bluebird boxes.
- In 2015, 13 geolocators were recovered from tree swallows, for a two-year total of 24, which marked the completion of the field component of this study. Analysis is currently underway and a publication is anticipated.
- An additional six bat boxes were built and installed for a total of 11 active boxes in the natural area, and little brown bats were detected on half of the box-checks. In addition, 32 bat boxes were constructed with the Tofield School Environmental Club.

- Mammal monitoring continued with three trail cameras deployed. Thirteen coyotes, 18 moose, 15 mule deer, one porcupine, two ruby-throated hummingbirds, eight snowshoe hares and 303 white-tailed deer were detected.
- With the help of multiple volunteers, foot trails were cleared in the spring and the fall. This allowed visitors to attend major public events, and small groups to attend the school and community events. This also enabled hunters to access the natural area and Lister Lake.
- Fencing was completed along the northeast side of the natural area and repaired areas on the west side that had become weathered and damaged. Over 40 volunteers and students helped to complete this project, which has excluded cattle and greatly reduced illegal motorized vehicle access.
- In October, over 100 people attended Steaks and Saw-whets over two evenings. Over 20 groups were hosted throughout the field season, some of which included: University of Alberta Chapter of the Wildlife Society, Augustana University, the Friends of Elk Island, the University of Alberta Outdoors Club, the Pathfinders Club, the Tofield School and the Tofield Public Library.
- Over 30 presentations were given at schools in Edmonton and region that focused on bird conservation in Alberta, ecology and the importance of long-term monitoring. We also gave a banding demonstration in Tofield as part of the Annual Snow Goose Chase.
- Compilation of the annual *Beaverhill Bird Observatory* report.
- Data shared with collaborators.
- At least five publications on results of the work being done have been completed.

## Cypress Hills Landbird Monitoring Station

### Calgary Bird Banding Society

Grant: \$25,400

Project Code: 030-00-90-188

Project Status: Funded since 2011/12; Completed

The Calgary Bird Banding Society (CBBS) operated the first official year of standardized landbird monitoring in Cypress Hills in southeastern Alberta in 2012 following a two-year pilot. The primary objective is to facilitate the continuation of two main projects that are effective tools for documenting population status and trends, and habitat effectiveness. Following the guidelines set by the Canadian Migration Monitoring Network (CMMN), results will contribute to Canada's national framework for the conservation of species at risk through reporting on the status of landbird species. Increases and declines of certain populations can be a reliable indicator of the health of not just particular species but also of their ecosystems. Monitoring Avian Productivity and Survivorship (MAPS) is a coordinated long-term program whose goal is to provide data on breeding landbird populations. The banding station also provides environmental education opportunities for school groups and the general public. Increasing the public's understanding and appreciation of wild birds and their habitats is essential to the conservation of our resources. The four programs that operated in Cypress Hills in 2015: spring migration monitoring (SMM), fall migration monitoring (FMM), MAPS and Northern Saw-whet owl monitoring. A total of 2,761 birds were newly banded in 2015. Daily observations were obtained concurrently throughout the migration seasons and over 200 species of birds have been detected. These numbers and exceptional

diversity reiterate how ecologically significant the area is for migrant stop-over, and that habitats in Cypress Hills provide productive habitat for a large diversity of breeding bird species.

#### Deliverables/Results:

- Spring migration monitoring in 2015 started on May 4th at the Elkwater Lake location and ran until June 10th for a total of 29 mornings of banding and 37 days of census. Up to 12 nets contributed to 903 new birds banded of 52 species and forms.
- The fall migration monitoring began on August 4th and ended on October 15th. Mist netting occurred on 52 of a possible 73 days. Exceptionally poor weather conditions in 2015 resulted in 20 days where banding was not conducted. A total of 1,343 new birds were banded of 65 species. Census was performed every day during the programs monitoring species that are not captured using mist nets.
- Three MAPS stations operated for the sixth year in Cypress Hills at Rodeo Grounds, Spruce Coulee and Old Baldy where 76, 181 and 217 new birds were banded respectively. Each site operated seven nets during the six recommended periods in the months of June, July and August. These numbers are exceptional for a breeding site and confirm that Cypress Hills contain critical breeding habitat for many landbird species.
- Twelve mist nets and four owl nets captured 27 and 14 birds respectively for a total of 41 Northern Saw-whet owls.
- Three grade-school groups, one pre-school group, and one field school class from the University of Lethbridge received banding demonstrations in 2015. The Cypress Hills Visitor Center referred interested public to the banding station daily. The season with the highest visitation was fall migration with 431 visitors followed by spring migration with 239 visitors. Eighty-seven people visited during MAPS and 42 visitors observed Northern Saw-wet owl banding in October. A total of 841 members of the public visited the station during operations in 2015.
- A progress report for project activities at Cypress Hills in 2015/16 is available.
- The annual technical report with results of the project will be published upon completion of the project and made available on the CBBS website at [www.calgarybirdbandingsociety.org](http://www.calgarybirdbandingsociety.org).
- A blog website is currently available at [chipmigration.wordpress.com/](http://chipmigration.wordpress.com/) and updated with highlights throughout the active migration season.

## 2015 Camrose Purple Martin Festival

### *Camrose Wildlife and Stewardship Society*

Grant: \$2,400

Project Code: 030-00-90-191

Project Status: Funded since 2011/12; Completed

The Camrose Purple Martin Festival (CPMF) committee held its sixth annual festival on June 21, 2015. The festival was a one-day public celebration of nature, birds and greenspace, with a focus on purple martins. The CPMF involved a collaboration of city, nongovernmental, education and wildlife conservation organizations. The festival's mission was to provide a high profile, community-based nature tourism event to showcase the vision and work of the Camrose Wildlife and Stewardship Society (CWSS). The CWSS strives for a greenspace network that enhances community values and quality

of life for City of Camrose and area residents. The objectives were to: (1) encourage participation in nature-based activities, particularly community members, schoolchildren and nature enthusiasts; (2) raise awareness and develop interest in wildlife conservation, particularly purple martins; (3) enhance the purple martin nest box program and volunteer participation. The festival included several activities, including demonstrations by purple martin landlords, a keynote address by Myrna Pearman from the Ellis Bird Farm, a research talk by Alisha Ritchie from the University of Manitoba, a bus tour and walking tour to active martin colonies, children's activities highlighting purple martin and wildlife natural history, information booths, a wildlife image slide show from the Camrose Camera Club and a summary of the purple martin migration study. The festival attracted 75-80 people who provided very positive feedback. The festival also resulted in recruiting additional landlords, more local publicity (at least three local newspaper articles), and one more nesting structure in the community.

#### Deliverables/Results:

- The main results of the project were enhanced understanding and appreciation of nature, purple martins and greenspace in the Camrose area by Camrose residents and visitors. CWSS also learned key information about how the festival was viewed by visitors (evaluations completed) and how to plan for future festivals.
- 75-80 people attended the festival on June 21, 2015.
- A debrief session was held, evaluations from participants were received, and an evaluation of the event (eg. likes, dislikes, future interest and local economic impacts) was written at the end of June 2015.
- One new nest box was purchased and erected to support the purple martin nest box program. CWSS also purchased maintenance supplies to ensure existing nest boxes can be properly maintained.
- Achieved the goal of three articles about the Camrose Purple Martin Festival and conservation in local newspapers.
- Participation in our volunteer Purple Martin Landlord program was increased by two-three people.
- List of contacts was updated regarding future wildlife stewardship and educational activities.
- The CWSS planning manual for future Camrose Purple Martin Festivals was updated.

## Mapping and Identifying Best Practices for Caribou Range Planning in Northwestern Alberta

### *Canadian Parks and Wilderness Society – Northern Alberta*

Grant: \$21,170

Project Code: 030-00-90-256

Project Status: New; Completed

The goal of this project was to develop a "Best Practices Caribou Range Plan" to guide multi-stakeholder engagement in caribou range planning in Alberta. The document, finally titled *Alberta's Caribou: A Guide to Range Planning* was released in early April 2016 for public consumption. The *Guide* has already proven instrumental in assisting CPAWS Northern Alberta and other stakeholders in participating in range planning exercises in Alberta as was the objective. The main activities undertaken during this project included: (1) gathering of data sets and scientific information review – reviewing existing literature on Alberta's caribou, as well as seeking out and acquiring the necessary data sets to

complete the mapping portion of the project; (2) relationship building – establishing relationships with the government of Alberta's Caribou Recovery team and other individuals at Alberta Environment and Parks, Environment Canada and other stakeholders related to caribou planning; (3) modelling of critical habitat – using their "Conservation Blueprint of Northern Alberta" as a tool to identify priority areas within each caribou range for new protected areas or restoration; (4) document drafting – synthesis of scientific information and modelling into a comprehensive document; (5) use of *Guide in Established Fora* – the *Guide* has been used by CPAWS Northern Alberta to assist environmental organizations in engagement with the government of Alberta's mediator on caribou range planning, as well as in discussions around the table at the Canadian Boreal Forest Agreement; (6) public engagement and information dissemination – including speaking at the Alberta Chapter of the Wildlife Society Conference in Drumheller on conservation planning and the *Guide*; (7) document design – incorporating graphic design into document to produce final product.

Many good things have come as a result of creating and producing the *Guide*. For example, CPAWS Northern Alberta's long-term capacity has been increased through the building of relationships with the government of Alberta, Environment Canada and other stakeholders. Working on the *Guide* has positioned CPAWS Northern Alberta as one of the key players in caribou conservation in Alberta, and has drawn attention to the conservation work done on caribou through the Canadian Boreal Forest Agreement. Working on the *Guide* has also provided CPAWS Northern Alberta with the information necessary to inform other work, and increased the ability to participate in range planning activities already underway.

Deliverables/Results:

- Development of a "Best Practices Range Plan" focusing on the Chinchaga, Bistcho, Yates and Caribou Mountains woodland caribou herds in northwestern Alberta (the *Guide* now focuses on all boreal caribou herds in Alberta).
- Organizational capacity building through engagement of government recovery teams and forestry and oil and gas representatives during the development of the "Best Practices Range Plan" (CPAWS Northern Alberta has built ongoing organizational capacity through the development of relationships with the government's provincial recovery team for caribou, Environment Canada, partners in the forestry industry, as well as new partners in the oil and gas industry. Development of the *Guide* has enabled us to build on existing relationships with some Aboriginal communities and other environmental organizations).
- Organizational capacity building through knowledge acquisition and dissemination within CPAWS and among CPAWS staff and volunteers.
- Sharing of "Best Practices Range Plan" with government and interested industry partners (completed early April 2016).
- Fact sheets and other outreach materials to be provided to the general public during outreach activities attended by CPAWS Northern Alberta (ongoing throughout the project).
- Promotion of the project and dissemination of outreach materials at approximately 30-40 outreach days and events attended by CPAWS Northern Alberta and their volunteers, including: MEC days, Bike Fest, Paddle Fest, the Big Wild Challenge, Best of Vancouver International Mountain Film Festival and Banff Mountain Film Festival (outreach on this project occurred mostly during the summer of 2015 and included the above community events and activities. CPAWS Northern Alberta also organized two caribou Days of Action in both Edmonton and

Grande Cache, presented to school and community groups, and at the Alberta Chapter of the Wildlife Society Conference).

- Education and awareness of over 60 people per outreach day or event (approximately 1,800-2,400 people).
- Promotion of the project and dissemination of outreach materials to CPAWS Northern Alberta's members (approximately 4,000 people—this will increase when the final *Guide* is ready for dissemination).

## 2015 Snow Goose Chase

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### Edmonton Nature Club

Grant: \$2,000

Project Code: 015-00-90-184

Project Status: Funded since 2012/13; Completed

Project Website: [www.snowgoosechase.ca](http://www.snowgoosechase.ca)

The Snow Goose Chase is an annual event held the last weekend in April whereby inner city children and low income families have the chance to study nature and enjoy the marvels of the snow geese migration northwards. The trip also features exhibits, displays and other nature-orientated activities. Morning activities are centred at Tofield Community Hall and include: displays and exhibits by the Valley Zoo, Beaverhill Bird Observatory, Mike Jenkins (City of Edmonton), bird slideshow by Don Delaney, and well-known Alberta personalities John Acorn the Nature Nut and Pete Heule from the Royal Alberta Museum, hawks, owls, snakes, spiders, pond life, fossils and more. Nearby visits for a beaver talk at Ministik Bird Sanctuary, owl banding talk at Francis Viewpoint with Janos Kovacs, a wetland experience by the Tofield Nature Centre, and mounting bluebird nesting boxes. Bag lunches and snacks are provided. Afternoon activity involves bus trips to view the geese, swans, ducks and other birds in the field.

Deliverables/Results:

- The 16th Annual Snow Goose Chase was held April 25- 26, 2015.
- Nine buses of children and three buses for the paying public take part as well local residents and schools in the Tofield and Ryley locations. A team of up to 80 volunteers make the event memorable for those taking part.
- The weather cooperated and the roads were good. Scouting was successful again and buses ran on time with terrific tour guides.

## Foothills Restoration Forum Outreach and Education: Range health assessment training and fall information session

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### Foothills Restoration Forum

Grant: \$11,330

Project Code: 002-00-90-243

Project Status: New; Extended until September 30, 2016

The goal of this project was to implement the following Range Health Assessment Training outreach events to promote the conservation and restoration of native grasslands in Alberta. One range health assessment training course was delivered on Thursday, September 17th to students from Medicine Hat College and other participants based out of Elkwater in Cypress Hills, with activities in both the dry mixedgrass and mixedgrass natural subregions. A second range health course planned for the Stavely Research Station was cancelled due to

lack of participants. This course has been rescheduled to September 15, 2016 based out of the Antelope Creek Ranch in Brooks. The Foothills Restoration Forum (FRF) Annual Fall Information Session: the ninth annual FRF fall information session took place in Claresholm on November 22, 2015. Despite bad road conditions there were 92 participants. The deliverable for this activity is an increase in awareness and knowledge transfer of current restoration efforts and techniques available for restoration of native grassland habitats.

#### Deliverables/Results:

- Range Health Assessment Training: One range health assessment training course was delivered on Thursday, September 17th to students from Medicine Hat College and other participants based out of Elkwater in the Cypress Hills, with activities in both the dry mixedgrass and mixedgrass natural subregions.
- FRF Annual Fall Information Session: The ninth Annual FRF fall information session took place in Claresholm in November 22nd, 2015 (92 participants).
- This project has been extended to allow for another range health training course to be put on in 2016. FRF plans to restage this range health course at a new venue, Antelope Creek Ranch, a demonstration ranch near Brooks, to continue to offer this training at a centralized venue suitable for Medicine Hat College access and with good access for participants from other centers like Calgary, Lethbridge and areas north. The date has been set to Thursday, September 15th and FRF have begun advertising.

## Community Watershed Stewardship Project 2015: Public awareness/education, riparian restoration and stewardship

### *Friends of Fish Creek Provincial Park Society*

Grant: \$3,000

Project Code: 015-00-90-216

Project Status: Funded since 2011/12; Completed

Project Website: [friendsoffishcreek.org/](http://friendsoffishcreek.org/)

The Friends of Fish Creek (the Friends) 2015 Community Watershed Stewardship Project exemplifies their primary goal of community engagement and education related to issues at the heart of the Fish Creek watershed. Each component of this project facilitated the engagement of the public through a variety of different opportunities, encouraging them to learn about the importance of, and physically take part in, beneficial stewardship activities. Through these activities, participants and volunteers become directly connected to the park and learn how they can impact it in positive ways through acts of stewardship. The main activities in this project were twofold: (1) to increase knowledge and awareness of issues related to watershed conservation and stewardship, and to encourage responsible park use – this was done through regular programming such as our monthly Speaker Series, minibus and educational walking tours, our annual Creekfest water festival and community outreach opportunities that include the Friends' representation at external community events throughout the city; (2) to continue to engage the public in hands-on conservation and stewardship activities that promote a healthy Fish Creek watershed – this was accomplished through regularly scheduled weed-pull outings, tree wrapping work and riparian restoration projects. The Friends' objective in all of these activities was to increase awareness and knowledge in people who frequent the park in the hopes that

they become informed park users and consciously act to take care of it how they can. In addition to engaging the public-at-large in these opportunities, a significant part of this work is the engagement of volunteers. Without volunteer support, the Friends could offer only a fraction of what they do for the public, and they also know that a large part of their education and awareness work is facilitated at the level of their volunteers. The Friends believe the key to effective volunteer management is to treat these individuals with the honor and respect they deserve, and knowing this, they prioritize taking good care of them. Throughout the year, snacks and drinks are offered during longer events and outdoor stewardship work days, and an annual volunteer appreciation dinner and Winter Open House event is hosted at the end of the program season in celebration of their contributions to the Friends and their communities.

#### Deliverables/Results:

- Public awareness and education: Creekfest Water Festival (fifth annual), Speaker Series (nine), minibus and other park tours throughout our program season (23), one Star Night event and 13 community outreach events and attendance at other community events to promote the Friends; these components engaged 4,016 members of the public at various different events (182 volunteer hours). The Friends also purchased a retractable banner and canopy detailed with our organization's branding information (website and deer head icon) to support our community outreach efforts and organizational visibility.
- Riparian restoration: four restoration work days were held, with one focusing on the cutting of willows to be transplanted, one on the transplanting of poplar seedlings and two addressing all other restoration activities (transplanting, mulching, watering, etc.) at the Stream Changes and Hull's Wood sites (50 volunteers engaged. 270 volunteer hours. 400 willow cutting and 175 poplars and snowberry seedlings transplanted). One 80 m stretch and one 600 m stretch were subject to restoration activities.
- Weed pulls: Over 500 kg of invasive plant material removed from Fish Creek Provincial Park over eight volunteer-based weed pull outings that will positively impact the extent and abundance of invasive plant species in the park.

## Glenbow Ranch Park Foundation Fishing Club

### *Glenbow Ranch Park Foundation*

Grant: \$2,025

Project Code: 020-00-90-223

Project Status: New; Completed

The creation of the Glenbow Ranch Park Foundation (GRPF) Fishing Club provided adults and children with an opportunity to learn about fishing (angling), fish habitat, riparian areas, and the importance of conservation. The club provided a focus for various educational and social activities which included fishing instruction, fishing opportunities, conservation education and mentoring. Funds from ACA helped GRPF purchase fishing rods and equipment for the program. These resources will remain available on loan for club members and visitors to the park. Summer 2015 Fishing Club activities included six fishing educational sessions for 18 adults and 18 children at Glenbow Ranch Provincial Park and other venues. Educational sessions included lectures and hands-on learning. Volunteers provided training and mentoring opportunities. Teaching materials for the program were developed and included: information of the purchase of appropriate fly-fishing equipment,

diagrams for the proper fly-casting technique, the type of fly fishing lines (floating and the various sinking weights of the sinking lines in the marketplace), the role of the nylon taper leaders of various tippet breaking strength (3, 4, 5, 6, 8 pound) to which is attached is the various type of fly, diagrams showing a variety of knots used in attaching the fly to the tapered nylon leader were included, native game fish (Westslope Cutthroat Trout, Athabasca Rainbow Trout, Bull Trout, Lake Trout, Rocky Mountain Whitefish, Pike, Walleye) of Alberta and the non-native introduced game fish (rainbow trout, brown trout). The Alberta Game Fishing Regulations were thoroughly highlighted. Information about aquatic insects and adult form (where appropriate) which are the main food for Alberta game fish. Particular attention was given to: caddis flies, mayflies, damsel flies, stone flies, dragonflies, chironomids, black and brown ants, grasshoppers, beetles and leeches.

#### Deliverables/Results:

- 18 adults and 18 children took part in the full-day fly fishing workshops at Glenbow Ranch Provincial Park. These sessions were instructed by Stewards of Glenbow Ranch Provincial Park (Ken Stevenson – Team Leader; Laurel Pettigrew, Ed Fedosoff, and Phil Unland) and Gordon Cox – Federal Environmental Conservation Officer. Feedback included comments such as: *Excellent advice & initial skill knowledge on fly fishing. Looking forward to fly tying.*
- The main results of the project were an increased awareness of fishing opportunities at Glenbow Ranch Provincial Park and along the Bow River in the Calgary – Cochrane area. There was an increased awareness of fishing regulations and skills, by park visitors and the individuals in the Calgary Cochrane area who receive the local newspapers and their electronic newsletter (current distribution almost 2,800 people). There was an increase in participants' awareness and appreciation of the significance of fish habitat, riparian areas, and the importance of conservation, and how these concepts relate to the sustainability of fishing opportunities in Alberta.
- Six full-day, hands-on educational sessions were delivered on June 13, 14, 20, 21, July 5, and August 8. Three were for children and three were for adults. Six new anglers took part in each of the above-noted sessions, for a total of 36 participants.
- The Glenbow Ranch Park Foundation Fly Fishing Club (initially for students from their Fly Fishing Schools) will meet regularly at the Park Office and focus on fly tying of the various types of flies used in fly fishing, presentations on game fish, aquatic insects, adult insects, riparian zones of ponds and streams and the history and biology of the Bow River flowing through the Park. It is hoped to have a fly fishing session with Club Members on the Bow River within the Park—weather and regulations permitting. Appropriate Alberta Fishing licences would be required.
- A press release highlighting the program went out on June 16, 2015. An article on the project was published in the Cochrane Eagle in their June 18th edition.

## Bearspaw Trail Buildout

### Glenbow Ranch Park Foundation

Grant: \$20,000

Project Code: 015-00-90-231

Project Status: New; Completed

The Glenbow Ranch Park Foundation's goal was to complete 2.2 km of paved pathway (designated part of the Trans Canada Trail) at the eastern end of Glenbow Ranch Provincial Park. The final 2.2 km section of trail is required to link Glenbow Ranch Provincial Park to Calgary's Haskayne Park. This path will provide the public with access to currently inaccessible lands, great opportunities for conservation and environmental education opportunities centred around native grasslands flora and fauna, and angler access to the Bow River. Trail construction took place between September 11, 2015 and as completed by October 29, 2015. This completes Glenbow Ranch Provincial Park's multi-use recreational and commuter (walking, running, cycling, rollerblading) connection to Calgary via Glenbow Ranch Provincial Park. The route set by the trail will also provide use guidelines for winter sport activities such as cross-country skiing and snowshoeing. In addition, it will provide anglers with access to the Bow River, and a stepping-off point from which outdoor conservation and natural resources appreciation programming can be provided.

#### Deliverables/Results:

- Completion of the final 2.2 km section of trail required to link Glenbow Ranch Provincial Park to Calgary's Haskayne Park.
- Access to the trail was in place immediately following construction completion. User numbers will be tracked in years to come by trail counters along the trail.
- In consultation with the City of Calgary, they have indicated that they will proceed with the initiation of construction in Haskayne Park in 2016. It is anticipated that the trail from the city to Glenbow Ranch will be open in 2017. At that point in time, there will be a better understanding of the actual user numbers.
- ACA has been announced as a supporter of Bearspaw Trail construction in a number of newspaper articles, and radio and television interviews (CBC, CTV, Air 107) since ACA confirmed their contribution towards the project.

## Environmental Education at Glenbow Ranch Provincial Park

### Glenbow Ranch Park Foundation

Grant: \$4,960

Project Code: 002-00-90-241

Project Status: New; Completed

Glenbow Ranch Provincial Park is unique in that the Glenbow Ranch Park Foundation (not the Government of Alberta) provides the park's public programs. The ultimate goal is for environmental education program participants to become environmental stewards in their own communities. The objectives of this program included providing participants with an enhanced public understanding and appreciation of the ecological resources protected both in and outside the park, and instilling in them a sense of appreciation for these resources. The primary activities used to instill in participants a sense of stewardship were the on-park public programs. Interpretation of natural resources

increases the appreciation and ultimately the protection of natural resources. Public programs delivered at the park included golf cart tours, and family, children's (school and daycamp), and adult programs (including a popular lecture series). Most of these programs are delivered by foundation staff and volunteers over the peak summer months (May through August), with some programming in the fall, winter and spring. From ecological tours (focusing on a range of topics, including (among others) grasslands, riparian areas, and bats, birds and trees, to programs specifically designed for youth and schools (ages six to 18), and seniors, the Foundation provides special hands-on opportunities and insight into the importance of environmental protection and conservation for regional tourists and community residents. Other activities used to impart environmental education at the park include the development and installation of interpretive signage and provision of educational brochures. Environmental Education programs and signage provide participants with an understanding of the natural world around them and the innate interconnectedness of the land, water and the plants and animals. More importantly, they provide participants with insight into how their actions can affect the integrity of the ecosystem either positively or negatively. The goal of environmental and conservation programming at Glenbow Ranch Provincial Park is to provide visitors with an understanding of how they can best interact with the environment to protect it and what they can do to enhance and conserve it. The Foundation provides programs to park users whose activities and passions lie both inside and outside the park. The information they glean from our programming staff affects their actions far beyond the park boundaries.

#### Deliverables/Results:

- 3,379 people took part in 146 programs focused on conservation, the environment, and stewardship. Between May 1 and December 31, 2016, 3,379 people were reached through environmental education programming at Glenbow Ranch Provincial Park. The breakdown of program participants is as follows:
  - Golf Cart Interpretive Programs – 493
  - Family Nature Programs – 218
  - School and Daycamp Programs – 537
  - Natural Resources Park Talks – 459
  - Awareness Raising Park Events – 1636
  - ACA Fly Fishing Programs – 36
- Program participants often take part in more than one program. Word of mouth is, by far, the most effective means of disseminating information about the park, its programs and the importance of natural areas stewardship.
- Program posters were developed to advertise the programs offered. These posters were displayed throughout the park and offsite.
- Interpretive signage for Glenbow Ranch Provincial Park—still awaiting approval from the Government of Alberta for the interpretive signs that have been developed
- One of the two summer programmers was specifically designated as the ACA programmer. Her uniform had the ACA logo prominently displayed on the back.
- Media coverage also recognized ACA's contribution to environmental education programs at the park.

## 2015 Vegetation Management at Glenbow Ranch Provincial Park

### Glenbow Ranch Park Foundation

Grant: \$7,000

Project Code: 015-00-90-233

Project Status: New; Completed

The goal of the vegetation management project at Glenbow Ranch Provincial Park is to protect and re-establish ecosystem integrity and biodiversity of Glenbow Ranch Provincial Park and the Bow River watershed by controlling invasive weed species. The primary objective of this project is to maintain and restore the integrity of the natural ecosystems at Glenbow Ranch Provincial Park through invasive species control. The project also aimed to increase public awareness of the importance of controlling invasive species and enhance public understanding of the importance of these activities. Project activities involved physically removing invasive plants by hand; sprayed when and where appropriate and using hound's tongue root-feeding weevils as a biocontrol agent.

#### Deliverables/Results:

- The bio control for hound's tongue is serving its intended function by replacing chemical control (the weevils are still supplemented with manual removal).
- The Foundation has been successful in locating small infestations and removing them before they become large problems. This is called early detection, rapid response. (scentless chamomile, orange hawkweed, oxeye daisy).
- Toadflax has been sprayed everywhere it can be sprayed without environmental restrictions (like water, desirable vegetation)
- The Foundation continues to meet their goal of reducing creeping thistle (aka Canada thistle) on an annual basis
- There has been a noticeable decrease in the abundance and distribution of weeds in treated areas of the park. Creeping thistle, hound's-tongue, perennial sow thistle, common toadflax, yellow clematis and black henbane populations have all decreased as a combined result of chemical and mechanical treatment. Many areas of previous infestations have been completely eradicated and replaced with healthy native plant communities. In other areas, plant communities have shifted from predominantly noxious weeds to native and moderately invasive weeds. This is encouraging to see, as it shows that the treatment is mimicking the natural shift that plant communities make towards a healthy and productive state.
- There is an increased public awareness of the importance of invasive species control thanks to the focus of this topic as part of the general park tours and programming. To date this year, 1,186 people have been reached through programs that address these important concerns (golf cart, family nature, and school and daycamp programs). Feedback included such comments as:
  - *I liked the mention of native species and invasive species.*
  - *Good promotion effort to encourage volunteer participation.*
  - *Enjoyed most learning about the history of the park and its ecological concerns (invasive plants, e.g.)*
- Though the Foundation has tried a number of times, the invasive species talks offered have not drawn the interest of the general public. In advertising these talks, ACA's support for the invasive species management at the park is mentioned. They will be trying to provide these talks later again this year.

## "Extreme by Nature" Environmental Education for 11 to 15 year olds

### *Helen Schuler Nature Centre*

Grant: \$3,000

Project Code: 030-00-90-240

Project Status: Funded in 2014/15; Completed

Extreme by Nature is an interactive program for youth with the purpose of providing engaging opportunities that connects them to nature and brings them closer to their local natural heritage. The goal is to encourage youth to find a deeper connection with nature through increased understanding of environmental issues and a commitment to lifelong stewardship and environmental responsibility. This goal is achieved through the provision of monthly programs on a variety of topics that provide outdoor survival skills, traditional knowledge of the land, and a better understanding of what conservation means. In 2015/16 there were ten Extreme by Nature programs delivered to 126 youth participants and many adult mentors. There was a marked increase in program attendance over last year with a noticeable 59 per cent increase overall. This increase is likely attributable to two exceptionally popular programs including Solar Ovens and Settlers of Alberta. Overall repeat program participation also saw a marked increase with youth participating in an average of 1.85 programs in 2015/16 versus an average of only 0.84 in 2014/15. Repeat program participants benefit from a richer mentorship experience as they forge closer connections with Extreme by Nature program staff and volunteers.

#### Deliverables/Results:

- Program participants: 126 program participants. There were 46 more program participants in 2015/16 than in 2014/15 which represents a 59 per cent increase. The Solar Oven program was the most popular of the year and accounts for 20 per cent of the increase. The main demographic of program participants is 11-13 year olds. Fourteen and 15 year olds continue to be difficult to engage in Extreme by Nature programs due to part-time jobs, sports teams and extracurricular activities.
- Seven community partnerships: Chinook Waters Fly Fishing Club; Environment Lethbridge; Lethbridge Naturalists' Society; Lethbridge Public Library; Lethbridge Sustainable Living Association; Oldman Watershed Council; Rotary Club of Lethbridge East. Partnerships and contact with Nature Centre volunteers, staff and partners have allowed teen participants to meet mentors in many different fields of interest and prospective careers.
- Unexpected results included:
  - Noticeable increase in repeat program participation from teens who participate in class-based nature programming (Natural Leaders Project).
  - Nature Photography program participants submitted photos to the Get To Know national contest. Regional submissions to the Get to Know program were put on display at the Nature Centre Community Art Gallery thanks to a partnership with the Rotary Club of Lethbridge East.
- Monthly promotions in print media and on social media:
  - Recreation & Culture Guide included ¼ page ads in 11 issues promoting the Extreme by Nature program featuring the ACA logo and recognizing financial support.
- Extreme by Nature programs were advertised through social media with specific mention/tagging and back-linking to ACA.
- Communication with local media photographers:
  - Lethbridge Herald photographers were made aware of all Extreme by Nature programs and were invited to take photos—some photos were featured throughout year.
  - Full page story in *Lethbridge Herald* on the solar oven program.
- Photographs taken during programs to showcase participation and engagement in activities:
  - Photos placed into a presentation to be showcased within the lobby of the Helen Schuler Nature Centre. Extreme by Nature program photos compliment program advertisements on lobby TV.
  - Photos used to promote program at local special events and presentations.

## Riparian Education Program

### *Highway Two Conservation*

Grant: \$11,900

Project Code: 015-00-90-209

Project Status: Funded since 2013/14; Completed

Since 2013, Highway Two Conservation (H2C) has delivered a riparian improvement and education program in partnership with ACA. The goal of this project was to take a two-pronged approach through both education and reclamation/protection to improve riparian habitat in Alberta. The educational side comes from "Pond Days" which engages Grade 5 students through outdoor learning to appreciate the importance of riparian ecosystems. The reclamation/protect part engages local landowners to become part of the "Riparian Improvement Program" to protect and restore habitat along rivers and streams. H2C has had great success with both aspects of this project. To date, H2C has assisted producers in reclaiming approximately 25 acres of riparian zone and protected approximately 72 acres of intact riparian zone land throughout four counties. Eight Riparian Health Inventories were performed by Cows and Fish on H2C "Riparian Improvement Program" sites to give a quantifiable understanding of the health and resiliency of the land. This year, an additional partner was added with the Land Stewardship Centre supporting the Riparian Improvement arm of the program which increased the acreages of land they were able to reclaim. The program's success is evident as more landowners are expressing their interest in improving riparian health and wanting to sign up for the project. Over 1,500 enthusiastic students were educated since Pond Days began as to the importance of riparian areas to the landscape. The educational component of the program has been very popular with the local schools and H2C has received excellent reviews from the teachers who participated. The 425 students who participated last year got to enjoy a field day and learn the importance of healthy waterways and riparian areas. The educational benefit of being outside interacting within the landscape cannot be emphasized enough.

#### Deliverables/Results:

- 425 students participated in "Pond Days". An additional event on September 2015 saw a further 220 students receiving riparian education bringing the total number of students engaged in riparian education to 645 children.
- Four Riparian Health Inventories were completed with assistance from Cows and Fish.

- 6.75 acres of riparian habitat has been reclaimed. Approximately 24 acres will be completed in the summer of 2016 with the grant funding from the Land Stewardship Centre. An additional site in Westlock County has added approximately 30 acres of protected riparian areas.
- Signs have been ordered and are ready to be placed at sites this summer. Two sites have already had their signs installed.
- One article released in the Summer of 2015, second released March 2016

## Fyten Reservoir Rehabilitation

### Kneehill County

Grant: \$10,000

Project Code: 020-00-90-226

Project Status: New; Completed

The Kneehill County originally started a plan to install aeration units and a floating vegetative island in the Fyten Reservoir (Swalwell Dam). The main objectives of this project were the enhancement of habitat, and facilities with the final goal of increasing angling and improving and increasing wildlife and fish productivity at the site with the additional objective of conservation education. In August of 2015, a baseline water quality analysis was completed and consecutive dissolved oxygen and potability analyses have been taken each month since to the present day. With these analyses, Kneehill County hope to be able to show the long-term effects of the rehabilitation project. Although initially experiencing set-backs due to the need to revise the original project scope, in the fall of 2015, two solar-powered aeration units were installed in the Fyten Reservoir. Initially intended to run through the winter due to legal complications brought forward by ACA, the units were turned off in November 2015 with plans to restart them in the spring of 2016. A floating island base was also procured by fall of 2015 and there are plans to vegetate and install this unit in the spring of 2016. In the summer of 2016, an interpretive sign will be installed on site outlining the project, its benefits and the partnership with ACA. There will also be a stop at the site on the Kneehill County Agriculture Service Board Summer Tour where the project will be showcased. This project will continue to be ongoing as aeration is continued, the vegetative island is established and water quality continues to be monitored.

#### Deliverables/Results:

- Construction and completion of the island and aeration will be done during the spring and summer of 2015: This deliverable was delayed due to having to revise the project scope due to the reduced grant, this required re quoting for the purchasing of smaller aeration units then previously planned. As well, the Kneehill County procurement officer was put on short-term disability half-way through the procurement process delaying this further. These delays resulted in the supplies not arriving until the fall of 2015. Although the aeration units were installed, they did have to be turned off for the winter due to a legality brought forward by ACA. Due to the late arrival of the floating island base, it was determined that installation should be delayed until the next growing season in the spring of 2016. All the remaining projects such as turning on the aeration units and installing the floating island are on schedule for completion in the spring of 2016.
- Water Quality Monitoring: Although baseline quality analysis was completed in August 2015 and monthly analysis on dissolved oxygen and potability have been completed since then, there is not a correlating improvement due to the incomplete status of the remediation project. This data can therefore be considered baseline. The collection of monthly dissolved oxygen and potability, as well as an annual full-quality analysis, will continue in the following year to observe the changes from completing the remainder of the project.
- Education: This project has been highlighted in county publications such as the rate payer newsletter and website. This publicity will continue throughout 2016. As well, in the summer of 2016, an interpretive sign will be installed on-site outlining the project, its benefits and the partnership with ACA. There will also be a stop at the site on the Kneehill County Agriculture Service Board Summer Tour where the project will be showcased.

## Avian Monitoring and Education Programs at Lesser Slave Lake

### Lesser Slave Lake Bird Observatory

Grant: \$26,000

Project Code: 030-00-90-128

Project Status: New; Completed

Project Website: [www.lslbo.org/](http://www.lslbo.org/)

The first goal of this project was to document the population status and trends for migratory and breeding bird species at Lesser Slave Lake. During 2015, the Lesser Slave Lake Bird Observatory (LSLBO) completed three core avian monitoring programs: Spring and Fall Migration Monitoring, Monitoring Avian Productivity and Survivorship (MAPS) program, and the Northern Saw-whet Owl Fall Migration Monitoring Program. The Migration Monitoring program incorporated four protocols to monitor boreal bird populations: visual migration counts, daily census, casual observations and mist netting. During Spring migration, 78,000 birds representing 146 species were recorded at the station, and an additional 630 birds were banded from 48 species, which was well below the spring average. During Fall migration, over 64,000 birds representing 130 species were observed during the season and 2,955 birds were banded representing 61 species for the third busiest fall banding season at the LSLBO. All data was submitted to Bird Studies Canada and the Canadian Migration Monitoring Network for population trend analysis. The MAPS program monitored boreal birds at four study sites during the 2015 breeding season. A total of 396 birds representing 30 species were banded during MAPS. The breeding status was determined for all species encountered during visits to the MAPS stations and all data was submitted to the Institute of Bird Populations for analysis. Northern Saw-whet Owl Fall Migration Monitoring was conducted during September 1-October 22, 2015. A total of 139 northern Saw-whet owls were banded, above the average banding total for the LSLBO. The LSLBO also provided field support for several collaborative academic research projects including a University of Manitoba geolocator project studying migration of the Canada warbler: a SARA threatened species. Final reports were completed for all projects and provided to ACA, stakeholders and the public. The second goal of this project was to develop and deliver outdoor education programs that promote a great understanding of the importance of the boreal forest for Alberta's wildlife. Based at the Boreal Centre for Bird Conservation, educators delivered hands-on, interactive outdoor education programs to almost 11,000 participants. Programs included LSLBO banding lab tours, school fieldtrips, boreal forest nature club events, community outreach programs, special events and online webinars.

## Deliverables/Results:

- Successful completion of 2015 Spring and Fall Migration Monitoring Programs (22nd consecutive year). Spring migration monitoring began on April 20 and ended on June 10 for 52 days of coverage. Over 78,000 birds representing 146 species were recorded through the season, including the LSLBO's first sighting of stilt sandpipers, which became the 253 species to be recorded at the station during monitoring activities. A total of 630 birds were banded from 48 species, which was well below the spring average of 930 birds.
- Fall migration monitoring extended from July 12 to September 30 for 81 days of coverage. Over 64,000 birds representing 130 species were observed during the season. It was a busy banding season with 2,955 birds representing 61 species banded; the third highest banding total on record.
- Successful completion of 2015 MAPS (Monitoring Avian Productivity and Survivorship) program (22nd consecutive year). The LSLBO operates four MAPS stations and each site was visited six times between June 11 and August 2. A total of 396 birds representing 30 species were banded during MAPS banding. This was the second highest MAPS banding total in the 22 years of participating in the project which is largely due to record numbers of white-throated sparrows, Lincoln's sparrows and mourning warbler banded.
- Successful completion of the 2015 Northern Saw-whet Owl Fall Migration Monitoring Program (12th Consecutive year). Northern Saw-whet owl fall migration monitoring was conducted on 40 nights from September 1–October 22. A total of 139 Northern Saw-whet owls were banded, above the average banding total for the LSLBO. Two foreign recapture Saw-whet owls were captured; one originally banded in 2012 near Prince Albert, Saskatchewan, the other was originally banded in 2014 near Tofield, Alberta. No other species of owls were captured.
- Field support and technical expertise provided for collaborative Canada warbler geolocator research project with University of Manitoba (Dr. Kevin Fraser). LSLBO field staff provided their expertise with target banding, call playback, and knowledge of Canada warbler territory locations and behavior. Four 2014 geolocators were successfully recovered this summer (10 per cent recovery rate) and another 40 geolocators were deployed as planned this summer for retrieval next summer.
- Under the Joint Research Partnership with the U of A and AEP, LSLBO banders collected retrice tail feathers from a list of priority species only this year.
- New collaborative research project: ABOve NASa project, Dr. Natalie Boelman, Columbia University. GPS tagging of American Robins at Slave Lake. LSLBO to assist with public education programs.
- Almost 11,000 adults and children participating in 473 outdoor education programs supported by this project. Full program statistics available upon request.
- Over 5,100 visitors came to the Boreal Centre for Bird Conservation to learn about the importance of the boreal forest and our boreal birds. See the final report for ACA for more detailed information on education and outreach programs.
- Reports and Publications:
  - 2015 LSLBO Annual Report completed and submitted to ACA and other funders. All data submitted for population trend analysis.
  - Work continues towards publication of results from the LSLBO Canada warbler research project. Final report for the LSLBO habitat stewardship project with Dr. Erin Bayne, U of A, was submitted to Environment Canada. Preliminary results and data were also provided to federal and provincial agencies working on recovery strategies including the new Alberta *Status of the Canada Warbler in Alberta* document. Preliminary results were presented at the Canada Warbler Breeding Ground Summit in March as well as the Canadian Society of Canadian Ornithologists conference in Wolfville, Nova Scotia in July 2015 by co-author Greg Mitchell, Environment Canada. *Factors driving territory size and breeding success in a western population of Canada Warblers (Cardellina canadensis)*. Richard Krikun (1), Greg W. Mitchell \*(2), Erin M. Bayne (3), and D. T. Tyler Flockhart (1). The journal article on this LSLBO Canada warbler project was submitted this spring to a peer-reviewed journal. Work has also commenced on a paper that will describe Canada warbler breeding habitat.

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## Youth Fly Tying Club

### Lethbridge Fish & Game

Grant: \$2,960

Project Code: 020-00-90-222

Project Status: New; Extended until November 30, 2016

The goal with the youth flying tying course is to engage youth into the many aspects of fishing and outdoor education. With this course, the Lethbridge Fish & Game Association (LFGA) hope to recruit new anglers into our community. Whether it be the youth in attendance of the course, or family members who are associated. Experience has shown that when youth have equipment to fish with and they are working with their parents, who may not have previously been anglers, to take them out fishing and to learn more. LFGA is also working towards youth involvement within the club and the surrounding community. LFGA believes that youth are the gateway to the future and with our help we can expand their knowledge of the world around them. This is another step for the LFGA youth involvement expansion project.

#### Deliverables/Results:

- The original volunteer did not complete this project because of business and personal pressures. Rick Blakeley of the LFGA has met with members of Trout Unlimited and the Chinook Waters Fly Fishing Club; these organizations have the volunteers and the equipment. There is interest in putting on an event.

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## LFGA – Conservation Community and Education Program

### Lethbridge Fish & Game

Grant: \$24,000

Project Code: 002-00-90-217

Project Status: Funded by CCEG in 2014/15 and previously via the R&R Fund; Completed

The LFGA provided multiple entry points through mentored hunts, public offerings and range-based programs with a focus on urban youth and new adults. Parents or guardians volunteer and accompany the youth so the impact of the programs affects whole families. These programs provide educational support and practice for first-time

hunters. All equipment and supplies are provided without cost to participants. Low-income families are further subsidized to encourage continued participation after completion in the programs. Lethbridge Fish & Game Association's goal was to introduce 550 people to outdoor activities, conservation and ethical enjoyment of nature through a variety of programs, public offerings and mentored hunts. We recorded 571 participants, so expectations were mildly exceeded. There was some significant ad-hoc activity resulting from some of these activities that was led by LFGA's 1,600+ adult members/volunteers who mentored and encouraged people to join their ranks. All this was accomplished with volunteer time and efforts since the LFGA range is totally managed and supported by volunteers.

Deliverables/Results:

- The level of activity in LFGA programs increased. Archery equipment and programming is being added. The mentored hunts were a great success with whole families becoming involved in hunting, camping and other outdoors activities with a definite sensitivity to conservation and outdoor ethics. A detailed listing of programs and offerings augmented by this ACA grant was provided in a spreadsheet.
- In 2015/16, 571 participants of all ages were recorded in programs, open houses, clinics and rifle sight-in days without cost to the participants. The majority were not LFGA members. Volunteer and club financial support came from over 1,100 LFGA volunteer Range Officers. LFGA had donations of firearms and service from Bow Benders, Ducks Unlimited and Pheasants Forever.

### 5th Annual LFGA/ACA Youth Fishing Recruitment Day

#### *Lethbridge Fish & Game*

Grant: \$6,800

Project Code: 020-00-90-207

Project Status: Funded in 2014/15; Completed

The project objective was to increase the interest in conservation and ethical fishing as an outdoor activity. Target audience was children two- to ten-years old. This event was open to youth from two-18 years of age. Volunteer, Steph Roberts-Brandon has organized this event for the fifth successful year. There were 327 youth entered and 83 fish were caught and released. Alberta Fisheries came and did research on the fishery observing the measurements and fish health.

Deliverables/Results:

- One-day event at Payne Lake exposed 327 youth to fishing experience accompanied by their families for the day or for a weekend camping experience.
- Every child was given multiple prizes and recognition of their accomplishments. Many had the ACA logo on them.
- All participants were provided with fishing equipment and the support of knowledgeable people. The Fish & Wildlife officers were present and provided guidance to the participants.

### Education Through Habitat Enhancement

#### *Lone Pine Farming Co.*

Grant: \$2,000

Project Code: 002-00-90-237

Project Status: Similar projects funded in 2012/13 & 2014/15; Completed

Lone Pine Farming Co. has successfully completed the Education through habitat enhancement project. Sixty-two cedar bluebird boxes have been placed on native grasslands within the County of Stettler and Special Areas along Hwy 589 and Twp roads. A loon or duck platform has been placed on an unnamed man-made waterbody to try and attract island nesting waterfowl. Two observation beehives have been completed for observation and educational purposes.

Deliverables/Results:

- 62 bluebird boxes have been placed in pairs on a 40 km radius on and nearby Secondary Hwy 589.
- One operational beehive has been completed and one portable educational hive has been completed.
- One waterfowl nesting platform has been completed.

### Ecological and Riparian Enhancement Fund

#### *Mountain View County*

Grant: \$20,000

Project Code: 015-00-90-102

Project Status: Funded since 2005/06; Completed

Project Website: [www.mountainviewcounty.com/riparian](http://www.mountainviewcounty.com/riparian)

Mountain View County (MVC) has been in partnership with ACA since 2000 and has received an ACA grant since 2005 to support MVC's Riparian Area Management Improvements Program; funding over 180 projects. This year the program has been expanded to include ecologically sensitive areas, encompassed under a new name to reflect this change, Ecological & Riparian Enhancement Fund which has since evolved to Riparian & Ecological Enhancement Program (REEP). Funding is offered to producers who want to protect, restore or maintain the health of their riparian and sensitive areas, encouraging biodiversity and maintaining fish and wildlife habitat using the following means: permanent riparian and sensitive area, wildlife-friendly fencing; native grass, tree and shrub protection and establishment; off-site watering system installation; and approved creek crossings. A riparian or rangeland health assessment is done on each project in the year of completion and again in five years, once contract commitments are completed; improvements are consistently documented, speaking to the program's success. The contract with the County also allows the site to be used for demonstration purposes and for the posting of a road-side sign, describing the project. This program encourages the principles of Beneficial Management Practices including controlled and rotational grazing, an accessible off-site water supply, nutrient management, noxious and prohibited noxious weed control and chemical application setbacks. The health of the watersheds within the County are improved through this program and there is an increased awareness regarding the importance of riparian and sensitive areas for biodiversity, water quality, native plant life, wildlife habitat, fish distribution and population.

## Deliverables/Results:

- In 2015/16 there were 19 projects that were funded by REEP. Funded projects included seven fencing projects, eleven off-site watering systems and one creek crossing. The total area surrounding waterbodies that has been fenced off this year is 18.5 ha with the total length of newly installed riparian fence being 5.3 km. This results in thirteen more producers who are aware of the importance of beneficial management practices and sustainable agriculture. Additionally, two producers signed conservation agreements with Alternative Land Use Services (ALUS) for projects focused on wetland preservation, encompassing an additional 53.4 ha with 2.6 km of riparian fencing. With the mild winter, projects were able to be drawn out longer than in previous years which assisted in more projects being completed. Focusing on specific watersheds and partnering with other organizations has become an important aspect of the program and MVC will continue to build on this momentum in the coming years.
- Meeting of Eagle Creek Residents to continue work in that watershed: An Eagle Creek meeting was held April 16, 2015. There were 11 attendees interested in continuing efforts to improve the health of their watershed.
- Profile sheets have been completed for each project and are available upon request.
- Riparian Health Assessments on 2015/16 projects are completed and available.
- Additional summer staff was hired to complete five-year riparian health assessments. Due to an increase in MVC summer staff, 17 five-year follow-up riparian health assessments were completed in 2015; landowners were encouraged by the measured improvements, as a result of their project and this has sparked renewed interest in building on this success and sharing it with others.
- Examples of completed projects will be highlighted at workshops and in presentations to encourage more participation: presentations were delivered at Olds College this year highlighting MVC REEP program and also to the Red Deer River Municipal Users Group with a focus on the MVC – ALUS partnership. REEP was also highlighted at approximately one workshop or event each month throughout the year.
- Projects will be available for tours and road-signs may be posted: each applicant has signed a contract with the County stating their project area is available for tours and signs may be posted.
- In summary, MVC estimates that they have had one-on-one conversations with 75+ landowners around beneficial management practices, an additional 2,500 acres of land is managed with increased sustainability and eight km of wildlife friendly fencing has been installed.

## Junior Fire Arms and Archery Program

### Mundare Fish & Game Association

Grant: \$3,000

Project Code: 002-00-90-230

Project Status: New; Completed

Mundare Fish & Game Association's (Mundare FGAs) objective is to teach firearm and archery safety in a fun-filled atmosphere, and introduce the youngsters to the outdoors and target shooting, with the end result

attracting new member to the club, as well as increasing, and retaining the number of outdoor enthusiasts in the area. Mundare FGA has accomplished setting up the archery targets, in a new area on the range that does not interfere with anyone using the rifle range, putting up the mesh behind the targets, and marked off the ten ft. fifteen ft. twenty ft. and thirty ft. for the adults. Ten young adults have already signed up for the Archery/Trap Shooting courses. They have three archery teachers, two males and one female and four trap shooting teachers. Courses started in April.

## Deliverables/Results:

- All archery targets have been made and are in place.
- All trap shooting equipment is in place and ready to go.
- Archery/Trap Shooting Courses started in April.
- Mundare FGA membership up by 25 people.

## Living by Water

### Nature Alberta

Grant: \$36,516

Project Code: 015-00-90-129

Project Status: Funded since 2003/04 (not funded 2008/09, 2012/13); Completed

Project Website: [naturealberta.ca/programs/living-by-water/](http://naturealberta.ca/programs/living-by-water/)

The goal of the Living by Water (LBW) program is to promote healthy shoreline communities that maintain and enhance the recreational and environmental integrity of Alberta's shorelines. The main objective of the project is to educate and provide support to shoreline residents to increase the number of shoreline best management practices they are adopting. This is done primarily through free home-site consultations where a trained shoreline advisor works one-on-one with shoreline residents and their property. During this visit, the shoreline advisor collects information about the property and points out best management practices and resources to help the property owner make the most informed decisions about managing their property. After the visit, a report based on the findings at the property is created and delivered to the property owner. Two years after the initial consultation, homeowners are encouraged to participate in a follow-up consultation which helps the program monitor any changes that have occurred on the property and provides an opportunity for the property owners to ask further questions. The program also performs education and outreach events to shoreline communities. This year, 25 different events were attended. Events allow LBW to reach a larger audience, and encourage residents to participate in the home-site consultation program. This year the LBW program completed 57 initial consultations, and 10 follow-up consultations. Many community stewardship groups requested presentations on the LBW program to gain insight into the program and how they can help to promote it at their lakes in future years.

## Deliverables/Results:

- Collaborate with the Red Deer River Watershed Alliance (RDRWA) to hire, train and house a shoreline advisor based out of the RDRWA office: LBW collaborated with RDRWA and it was determined that the allocated staff person was best situated with other LBW staff to allow for team support.
- Conduct and report on 70 initial home site consultations across 12 Alberta lakes: Completed 57 initial consultations.

- Conduct and report on 30 follow up consultations: Completed 10 follow-up consultations.
- Extend the project to two new lakes: there had been several lake communities that had expressed interest in starting the program; however, LBW was unable to secure volunteers or consultations. LBW will continue to work with targeted lake communities to provide support and identify opportunities for program expansion. LBW continued to work with 17 lakes across Alberta this summer.
- Deliver presentations at 15 shoreline community events: LBW staff attended eight events with a formal PowerPoint presentation and attended an additional 17 events with a display and materials. LBW also participated in the Central Alberta Lakes Forum where they presented on the program with other ENGOs and stewardship groups working on shoreline management issues around Alberta.
- Conduct three community workshops for stewardship groups and community members to learn about community engagement, water quality, and lake management: the shoreline advisors this year have had the opportunity to conduct two workshops with shoreline owners, where the owners have requested demonstrations of the consultation process, information about shoreline living and then have subsequently signed up for consultations as a result. LBW was also present to help with facilitation at this year's Central Alberta Recreational Lakes (CARL) forum.
- Conduct three urban workshops focusing on urban stormwater lakes: LBW participated in three urban workshops in partnership with Strathcona County, to talk to residents about what they can do to manage stormwater ponds and to provide children a chance to interact with a watershed model.

### The Young Naturalists Club of Alberta (now known as Nature Kids)

#### *Nature Alberta*

Grant: \$30,000

Project Code: 002-00-90-225

Project Status: Funded by CCEG in 2014/15 and previously by R&R Fund; Completed

Project Website: [naturealberta.ca/nature-kids/](http://naturealberta.ca/nature-kids/)

The major objective of Nature Kids is to increase the number of individuals in Alberta given opportunities to learn about and appreciate our province's natural spaces. In order to achieve this, the program operates by delivering four key components: (1) monthly editions of *NatureWild* e-magazine; (2) monthly Explorer Day field trips; (3) access to the Action Awards program; (4) public outreach events. Over the past year, Nature Alberta's Nature Kids program has operated smoothly across the province. A steady influx of new memberships has been seen, and has been able to participate in four more public events than the previous year. Most exciting of all, the Nature Kids summer public outreach series "Family Nature Nights in Edmonton" saw an increase in attendance from an average of 40 participants to 150 participants, totaling over 1,000 for the entire series. As a result of this, Nature Kids piloted an additional Family Nature Night: Winter Edition, which saw over 50 attendees. Overall, program activities have been met with excitement and enthusiasm for a continuation of Nature Alberta's good work.

#### Deliverables/Results:

- 32 Explorer Days held by four local chapters. Topics included: live Saw-whet owl demonstration, canoeing, snowshoeing, food web presentation, Yellow Fish road project, shoreline clean-up and more. Leaders fill out evaluation forms for each of four reporting periods per year, which are sent to the provincial office for evaluation and record keeping.
- Seven events in total: Six summer events (1,000+ attendees) and one pilot winter event (50+) attendees. Topics of these events were: Wetlands, Birding, Forest Fables, Crawling Critters, Edmonton's Backyard Creatures, Rocks and Fossils and Winter Adaptations in Animals.
- Over 500 trees and shrubs were planted at two events in partnership with Root for Trees (Tree planting Family Nature Night, and Root for Trees "Tree Fest").
- Nine events included trade shows (Morinville Community Trade Show), farmers' markets (St. Albert Farmers Market, Calgary Northland Farmers Market, Old Strathcona Farmers Market) community education events (Explore More Ponoka event, International Migratory Bird Day, Snow Day, Tree Fest, etc).
- Talks to expand the Nature Kids club are ongoing. Nature Alberta has chosen to focus on improving their current delivery of materials to potential chapters before actively pursuing new chapters. This has involved a community visitation approach in which all Nature Alberta clubs were assessed for interest in running Nature Kids programming. Based on this information, it's clear that local clubs are interested in Nature Kids but lack the resources to run it based on the earlier model of delivery. Improving start-up resources, providing greater ongoing support, and creating additional educational tools will enable us to more easily expand Nature Kids clubs across the province.
- The Nature Kids badge program or "Action Awards," has undergone evaluation and plans are underway to complete the new content and layout. Nature Kids chapter leaders were brought together to participate in a "Leaders Workshop" to review usefulness of the existing program. Feedback indicated that much of the content in addition to the overall program appearance is in need of updating. Nature Alberta plans to re-tool the new program to be more engaging and to be more actively tied in to Explorer Day field trips. Additionally, Nature Alberta will be partnering with the Alberta Biodiversity Monitoring Institute in adding a basic wildlife and plant life identification module that will be paired with their upcoming App *NatureLynx*.

### Promoting Beneficial Management Practices for Maintaining Bird Habitat and Decreasing Bird Mortality in Urban and Rural Alberta

#### *Nature Alberta*

Grant: \$18,300

Project Code: 030-00-90-257

Project Status: similar projects funded 2003/04, 2006/07 and since 2009/10 (except 2012/13); Completed

Project Website: [naturealberta.ca/programs/bird-conservation/](http://naturealberta.ca/programs/bird-conservation/)

In 2014, Nature Alberta undertook an assessment of the state of bird conservation in Alberta. A key finding of this assessment was that almost 50 per cent of all bird species in Alberta could be categorized

as being at some level of risk, sensitive or in a declining state. A key contributor to these alarming statistics is increased mortality associated with industrial infrastructure and residential development. Promoting beneficial management practices for maintaining bird habitat and decreasing bird mortality in urban and rural Alberta (the “project”) is targeting Albertans who can implement changes on their own properties, cumulatively, to assist with bird population recovery in some small ways. The project is focused on providing simple and inexpensive ways to modify and enhance habitat and built environments in a manner that will help to reduce bird mortality and have the potential to reverse the decline of key species. This past year, Nature Alberta has managed to make some progressive steps for bird conservation in the province: (1) creation of “Protecting Birds of Alberta” postcards to distribute to nature clubs, bird observatories and at events (International Migratory Bird Day events, Snow Goose Chase, etc.); (2) Important Bird Areas Workshop which allowed Nature Alberta to reengage with caretakers, members of government, conservation organizations and any other interested individuals to generate more awareness of the program in Alberta, but also to identify necessary action items for Nature Alberta as we move forward with programming in the future. These action items will help Nature Alberta to outline their own needs to achieve these goals moving forward.

#### Deliverables/Results:

- Develop a communications plan using a variety of materials and distribution methods: Linked to national and international partner efforts to ensure alignment and duplication of effort [naturecanada.ca/initiatives/save-bird-lives](http://naturecanada.ca/initiatives/save-bird-lives).
- Research and develop content for beneficial management practices for a variety of sectors including rural, urban and acreage homeowners, municipal planners, agriculture, power generation, forestry, oil and gas, etc. Postcard series developed and printed. Currently, they are being distributed and posted to the Nature Alberta website in PDF format [naturealberta.ca/programs/bird-conservation](http://naturealberta.ca/programs/bird-conservation).
- Using social media to promote key messages around how to maintain, improve or create bird habitat, reduce bird strikes from built infrastructure, reduce predation, etc.: ongoing and remains directly related to the implementation of the communications plan.
- Using one-on-one encounters and distribution of materials, attend partner events to promote content: several events have been attended, and recently Nature Alberta hosted the Important Bird Area (IBA) workshop where materials were distributed. Upcoming events (the Snow Goose Chase and International Migratory Bird Day events) will provide Nature Alberta with an opportunity to continue distributing materials to the public.
- Working with Nature Canada, host a webinar and workshop to promote content to Alberta’s bird conservation community: this was held March 21, 2016.
- Use the International Migratory Bird Day to launch: initial launch was completed using draft content and associated Nature Alberta products; however, Nature Alberta is in the planning stages to enhance distribution of the postcard series at several local Migratory Bird Day events and throughout the nature centres in Alberta.
- Visit IBA sites to distribute materials: materials have been distributed to caretakers, nature centres and bird observatories and Nature Alberta has compiled an updated caretaker list, reconfirmed existing caretaker commitments and are providing training and resources for interested caretakers. Targeted IBA site visits over the summer were not completed owing to a lack of formal plan and support products.

## Conserving and Restoring Arctic Grayling in the Upper Pembina River Watershed – Habitat restoration planning

### *Northern Lights Fly Tyers/TUC Edmonton Chpt*

Grant: \$21,500

Project Code: 020-00-90-197

Project Status: Funded since 2012/13; Completed

Project Website: [www.nlft.org/grayling/grayling-history](http://www.nlft.org/grayling/grayling-history)

The 2015 volunteer initiative was the fifth year of a five-year project. Northern Lights Fly Tyers/TUC Edmonton Chapter built upon previous work on streams identified in 2011-2014 as having particular conservation value for local Arctic grayling populations (i.e., currently support remnant populations, and suitable habitat). This includes Dismal Creek, Rat Creek and Nelson Creek, which historically provided high-quality sport fishing for Central Alberta residents. In 2015, current baseline data on Arctic Grayling distribution, abundance and habitat quality (programs initiated in 2011) was expanded, with a major focus on Dismal Creek. Primary efforts included targeted angling, and water temperature monitoring using data loggers. Four ‘Grayling Blitz’ days were coordinated to gather angling data from representative sites in Dismal Creek in a coordinated manner, with up to 20 anglers involved in each blitz. The Arctic Grayling Conservation Signage Program was maintained at major stream crossings and access points. The major deliverable will be a draft of recommendations and publication of data collected throughout the five-year program. All data collected by the project was forwarded to AEP as a contribution to an updated conservation and management strategy for the watershed. One of the stated project objectives was to deliver recommendations on strategies to aid in the recovery of Arctic grayling populations in the Upper Pembina River watershed. The project findings supported AEP in the implementation of a “Recovery Rest Period.” One element of the program will be total closure to angling throughout the study area, effective April 1, 2016 (as specified in the 2016 Alberta angling regulations). The project findings confirm that Arctic grayling numbers in the watershed have declined drastically, but there are remnant populations in Dismal Creek, Rat Creek and Nelson Creek. Water temperatures in many streams that formerly supported grayling are no longer suitable. Dismal Creek in particular still provides suitable water temperatures and habitat for Arctic grayling. The project team is supportive of the Recovery Rest Period implemented by AEP and will continue to work with AEP on opportunities for habitat restoration or other activities to help conserve and restore Arctic grayling populations in the Upper Pembina watershed.

#### Deliverables/Results:

- The draft report containing recommendations and supporting data was delivered by the end of May (delayed two months). A major fisheries management initiative will come into effect in April 2016 (i.e., change to 2016 angling regulations). That information was made public in mid-March, and this project team would like to include more details and strategy to assist AEP going forward.
- Progress reports and details of field activities are complete. The reports include a summary of angler catch and effort, and water temperature at the various sampling locations.
- Angler catch forms, habitat descriptions, site coordinates (UTM’s) and water temperature data reports are complete and were forwarded to AEP for detailed analyses and reporting.

- Electronic files of digital, geo-referenced photographs of angling sites, typical and unique habitats, adverse land use features will be filed.
- Tables and spreadsheets indicating location of conservation signage, and stream crossing data are complete.
- PowerPoint presentation of the key findings of the project (March 15, 2016) is complete.
- The article produced for *Conservation Magazine* published by ACA (for use as desired), and *Currents* published by Trout Unlimited Canada in nationally published *FlyFusion Magazine*, possible inclusion in Michael Short's *Let's Go Outdoors* completed along with the draft report at the end of May.

### Jim Graham Park Fencing Project

#### *Okotoks and District Fish & Game Association*

Grant: \$1,500

Project Code: 015-00-90-226

Project Status: New; Not Completed

Jim Graham Park is a 12-ha Crown-owned property in Okotoks. It provides extensive wildlife viewing opportunities and valuable habitat for wildlife. Fencing bordering the Park defines the park boundary, encourages users to remain on existing trails, and serves to allow wildlife access while limiting domestic dog intrusion. The existing fence is old, is made up of barbed wire, and portions were severely damaged during the southern Alberta flood event of 2013. The objective is to replace the old fence with a new fence. The new fence will include strands of smooth wire to prevent harm to passing wildlife. Damaged portions of the fence will be replaced. This project did not proceed.

Deliverables/Results:

- This project did not take place. No reporting was received, and no payments made on this grant.

### Alternative Land Use Services (ALUS)

#### *Parkland County*

Grant: \$37,900

Project Code: 015-00-90-235

Project Status: New; Extended until July 31, 2016

The ALUS program in Parkland County assists farmers and ranchers in implementing projects that provide wildlife habitat and other ecosystem services that benefit the entire community. With the help of ACA funds, the ALUS program was able to implement two projects that in combination provide more than 54 acres of improved wildlife habitat within and adjacent to classified environmentally sensitive areas. The 50-50 cost-share was used to help one of the landowners reforest 10.5 acres of steeply sloped upland adjacent to an environmentally sensitive wetland. The other participant installed exclusion fencing around 42 acres of creek riparian and 1.5 acres of wetland directly adjacent to Lake Isle. In addition to the two completed projects, six other participants have projects designed and approved by Parkland's ALUS Advisory Committee that will be implemented in spring and early summer of 2016. Previously established projects were showcased in a full day tour held in the fall of 2015 with prospective ALUS participants. The tour enabled conversations with a number of producers that led to an increased awareness of the benefits to society of ALUS projects. ACA

grant funds ultimately assisted in the expansion and community-led development of the ALUS program in Parkland County.

Deliverables/Results:

- Projects Established: 10.45 acres of marginal hayland bordering a permanent wetland reforested. This upland project is intended to provide slope stabilization and habitat for multiple species; 41.91 acres of riparian area along an unnamed direct feeder creek for Lake Isle in addition to a 1.4 acre wetland bordering Lake Isle protected. This riparian project included 3,300 meters of fencing and a solar watering system to keep cattle out of the creek at all inappropriate times.
- Projects Planned (Subject to landowner's ability to install): planting 4.5 acres of beneficial grass along a field's border and surrounding a 1.4 acre ephemeral wetland in cropland to provide habitat and ensure cropping attempts are stopped; plant shrubs and install exclusion fencing around 1.7 acres of ephemeral wetlands within pasture; plant gamebird specific habitat on 18 acres of upland habitat and install exclusion fencing on one border of this area; implement a 1.1 acre shelterbelt to connect two woodlots and provide beneficial species; install exclusion fencing around a treed small drainage ditch to improve vegetation and plant a row of spruce seedlings; reforest both banks of a regionally significant wildlife corridor along Atim Creek and install exclusion fence to protect the tree planting and corridor from OHV disturbance.
- First Annual ALUS Tour: the tour occurred in September 2015 with five producers and three other residents touring four established ALUS project sites. The producers for each of these sites discussed the benefits of their respective projects and what else could be done.
- A postcard was developed in promotion of the tour, as well as summary document of each of the four ALUS tour sites.

### Parkland Youth Wetlands Stewardship Project

#### *Parkland School Division #70*

Grant: \$19,500

Project Code: 002-00-90-244

Project Status: Funded in 2014/15; Completed

Engaging in collaborative activities within school and outdoor natural environments gave students the confidence and lived experience to learn from multiple perspectives about stewardship, conservation and connecting to wildlife and the outdoors. Students were given multiple resources to identify problems and determine solutions including access to the Franklins Wetlands area where they learned how to explain the importance of a balanced ecosystem to younger students. By taking on the role of change agents, these 100 students positively impacted their individual learning journey, built resiliency and created a long-term impact on the culture of the school community. This course addressed the need to develop environmental life skills in youth so that they become environmentally responsible citizens who are committed to modelling a healthy, active lifestyle and shaping their surrounding community using their individual gifts and talents.

Deliverables/Results:

- Three Conservation and Environmental Education Immersion Experience at YoWoChAs Outdoor Education Centre: Completed with 100 student leaders in the fall of 2015, winter and spring of 2016. Student leaders worked with various environmental and conservation non-profit groups during their experiential learning sessions.

- One Conservation Summit in the spring of 2016: summit was completed at Wabamun School for Grades K-9 and opened up to Paul Band First Nation School. Because of weather, the learning summit hosted around 125 student learners.
- Final Camp was held out at Wabamun Provincial Park, June 2-3, 2016: 95 Grade 6 students camped overnight at Wabamun Provincial Park, engaging in final activity wrap-up for their conservation studies as well as engaging in discussions about government decision making and influence on the preservation and conservation of land (this ties directly to Grade 6 Social Studies curriculum).
- On top of their own activities, the 95 Grade 6 students facilitated student-led stations for Wabamun students around conservation and environmental stewardship. The activities directly linked what the Grade 6 students had learned about conservation and their role as environmental stewards to the Grade 4 Waste and Our World and Grade 5 Wetlands Science curriculum. Parklands School Division 70 is grateful for this amazing partnership and appreciates the opportunity to move students into the outdoors to learn about, interact with and protect their own environment.

## Partners in Habitat Development

### *Partners in Habitat Development c/o Eastern Irrigation District*

Grant: \$15,000

Project Code: 015-00-90-103

Project Status: Funded since 2005/06; Completed

The Partners in Habitat Development (PHD) program is an initiative developed to mitigate the loss of wildlife habitat in the agricultural areas of southern Alberta due irrigation infrastructure improvements, agricultural intensification and industrial activities. The PHD program works with landowners to create and, when possible, preserve wildlife habitat. The program's focus is on the creation of shelterbelts and block plantings to provide critical winter habitat to upland game birds. In 2015, 10,977 trees and shrubs were planted in the Eastern Irrigation District on six new habitat sites.

The PHD program also assists with fencing livestock out from existing and newly created habitat sites. In 2015, 3.6 km of fence material was distributed to fence out three new habitat sites.

Deliverables/Results:

- 10,977 trees and shrubs were planted and fabric mulch applied on ten tree and shrub planting projects.
- 3,707 replacement trees and shrubs were planted on four project sites from 2014 where they failed to survive.
- 3.6 km of fencing on three new tree and shrub planting projects was supplied by the PHD and installed by the landowner.
- 14 of 16 transects were surveyed for late summer upland bird broods.
- PHD staff met with landowners interested in new, or additional, PHD projects and inspected the potential sites.

## 14th annual Youth/Novice Shoot

### *Pheasants Forever Calgary*

Grant: \$7,000

Project Code: 002-00-90-245

Project Status: Funded previously by R&R Fund; Completed

This event was attended by over 150 individuals including youth and adult novices, shooting instructors and volunteers. Instruction was carried out by certified AHEIA instructors in the safe and proper use of firearms, specifically shotguns, field etiquette and shooting techniques in the field. A half-hour lecture describing the Pheasants Forever philosophy and the role that habitat plays in successful upland bird hunting, as well as a discussion on ACA and how it fits in the outdoor wildlife story in Alberta was carried out by ACA's Layne Seward and the Pheasants Forever Calgary's Bob Haysom.

Deliverables/Results:

- More than 150 youth and adult novices were introduced to the shooting sports at the 14th Annual Pheasants Forever/AHEIA youth novice shoot held September 19, 2015.
- A field lunch was provided by Pheasants Forever Calgary at the conclusion of the morning.

## Conservation Partners 2015

### *Red Deer County*

Grant: \$40,000

Project Code: 015-00-90-128

Project Status: Funded since 2006/07; Completed

Project Website: [rdcounty.ca/207/Conservation](http://rdcounty.ca/207/Conservation)

The goal of the Conservation Partners 2015 initiative was to work with interested landowners who wish to implement actions on their land, which conserve or improve riparian and native range habitat in Red Deer County (RDC). Interested landowners were invited to complete an application form that describes what they wanted to do on their land. The application form included a budget, a description of the project and its impact on range and riparian health. Applications were reviewed, and successful applicants entered into written funding agreements with RDC. The program is intended to be a cost-shared program. Landowners were expected to cover a significant portion of the costs for the projects they wished to do. The objectives of the project were: to support RDC landowners in enhancing and stewarding riparian and native range habitat on their land; to enhance riparian and native range habitat on private land in RDC; to assist landowners in developing an informal management plan for each of the completed projects. The main results of the project were: 52 projects were initiated by 35 landowners throughout RDC; 315 acres of riparian area or native range, 381 acres of wetlands/sloughs/lakes and 5.7 miles of river and creek are now being protected or restored by these 16 projects; 2,425 Animal Units are now "under new, sustainable management approaches", when it comes to their access or use of these riparian and native range acres.

Deliverables/Results:

- 35 RDC landowners have been supported with financial and technical resources for their 52 on-the-ground riparian and native range habitat enhancement and stewardship projects on their land. With the 52 approved projects to date, about 315 acres of riparian and native range habitat, 5.7 miles of river and stream, and 381 acres of

wetland and lake will be conserved or enhanced through sustainable management. Approximately 2,425 animal units will be impacted in the new livestock management regimes. These projects include: 24 off-site watering systems, 18 riparian or range management fencing projects, three riparian tree and shrub plantings, two wetland crossings, one wetland creation, one long-term rest project, one wetland buffer zone establishment project, one new septic system and one portable livestock shelters project.

- Four advertisements and 12 articles in the *County News*.
- Information about the project was communicated live at five workshops (total attendance about 80).
- Article about the ALUS Program in the *Alberta Farm Express* in August.
- One past Conservation Partners project was toured on their annual Enterprising Agriculture Tour in July (attendance about 75 people), and another past Conservation Partners Project hosted their Riparian Health Field Day in August (attendance about 20 people).

### Piper Creek Restoration Agriculture Project's Pollinator Hotel

#### Red Deer River Naturalists

Grant: \$3,000

Project Code: 020-00-90-224

Project Status: New; Completed

The goal of this project is to create an awareness of pollinators and the important role that they play in our lives by building pollinator habitat structures (e.g., pollinator hotel) with community involvement. The pollinator hotel is to be a component of the larger Piper Creek Restoration Agriculture Project (2014-2019). The pollinator hotel is now a permanent feature on the city-owned Piper Creek restoration agriculture project site and is accompanied by permanent interpretive signage. On sunny day in early May 2015, a group of volunteers gathered at the Piper Creek agricultural restoration site to learn about pollinators and help construct a pollinator hotel. Participants left at the end of the day with an understanding of Alberta's indigenous pollinators, why they are important, and what can be done to create healthy pollinator habitat. The building process and the hotel's usage has been photographically documented and shared with the public via the Piper Creek restoration agriculture project Facebook page. Volunteer participants gathered again in early July to install the first stage of a large pollinator garden which surrounds the pollinator hotel. Planting of indigenous flowering forbs within the prepared site will occur in 2016. The combined pollinator garden and pollinator hotel will provide the public an excellent example of how to create pollinator habitat showcasing both elements required within pollinator habitat, food and nesting sites. A pollinator walk-and-talk public event was held on July 30, 2015. The City of Red Deer Councillors were personally invited to attend the event. Four of the councillors attended and it was thoroughly enjoyed by all. Red Deer City Council has decided to designate four of its city parks as pollinator parks. Signage describing the project and acknowledging ACA's contribution was installed in the spring of 2016.

Deliverables/Results:

- Pollinator Hotel – a functional and attractive habitat for pollinators has been constructed on the Piper Creek restoration agriculture project site (May 9, 2015).

- Workshop – delivery of pollinator presentation, construction and installation of pollinator hotel (May 9, 2015).
- Signage – Permanent signage identifying the project and providing donor recognition.
- Promotional material – production of press release (May 1, 2015), project description and date was included in Piper Creek restoration agriculture project's publications, workshops, meetings and records.
- Approximately 70 participants attended events.
- Hundreds of people reached, as the installation site for the pollinator hotel is adjacent to a large area of community vegetable gardens. There is the potential to reach thousands over the life span of the project.

### Upland Bird Habitat Enhancement With Pheasants Forever

#### Red Deer Woodchucks (Red Deer Club of the Junior Forest Wardens)

Grant: \$2,000

Project Code: 015-00-90-229

Project Status: New; Completed

The project objectives were: to plant about 4,000 coniferous trees, deciduous trees and shrubs near Hansen's Reservoir in Lacombe County and to create and improve awareness amongst the youth members (and their families) of the Red Deer Woodchucks (the local Junior Forest Wardens Club) about the importance of upland habitat, game birds and habitat connectivity. The project activities were: planned, coordinated tree planting day; planted trees and shrubs (on May 1, 2015); celebrated with a barbecue lunch (onsite).

Deliverables/Results:

- The main result was the improved habitat (in years to come) for upland birds, mammals, pollinators, etc. that will result from the planting. Perhaps equally important, is the experience for the children and their families, in doing the planting ("learn by doing" is an unofficial motto of Junior Forest Wardens).
- Unexpected, thanks to the donation from the Medicine River Watershed Society and the family connections that Pheasants Forever was able to utilize, was the fact that the Junior Forest Wardens could get even more trees and shrubs in the ground than originally planned.
- 6,000 coniferous trees, deciduous trees and shrubs (all native) planted.
- About ten acres of habitat seeded (with the above trees and shrubs) for future use by upland game birds and other upland wildlife.
- About 60 youth (age three to 18) and their siblings and parents (representing 32 Red Deer area families) have increased their knowledge and appreciation for upland game birds and their habitat requirements.

## Stage 2: 2015 Re-naturalization of Riverlot 56 Disturbed Spaces

### *Riverlot 56 Natural Area Society*

Grant: \$12,500

Project Code: 015-00-90-232

Project Status: New; Completed

The project goal is to re-establish native plants and trees on previously forested land which is presently an open area, infested with non-native plants and noxious weeds. Project objectives are to: initiate a long-term re-naturalization plan to reintroduce, support and sustain the natural and native wild animals and plants that historically dominated the landscape of Riverlot 56; rectify habitat loss due to agricultural practices that opened various parts of the natural area to an influx of non-native plants and noxious weeds. The 2015 project focused on the second of four selected areas, an open hayfield that is inundated with noxious weeds, field scabious and Canada thistle being the most serious. The intent of the project is to re-naturalize the open field with trees and bushes indigenous to the community and in so doing, confront the weed problem through successional shading. Promotion of nature-oriented educational and recreational activities through the creation of a new hiking trail that will loop through the area. The Riverlot 56 Natural Area Society pre-staked planting sites and a new trail; created ten planting islands with a total of over 600 small spruce trees; 30 large trees transplanted; created the first fenced area within which deciduous trees and shrubs were planted. Larger spruce trees (that needed to be thinned out) from the edge of the property were transplanted to strategic locations; transplanted plugs of suckering poplar that were thickly reaching out from the forested area. Over 575 trees and plugs have been transplanted. Watering of the trees and shrubs occurred throughout the spring to fall. Seven truckloads of water were brought in, more than anticipated but necessary due to the drought conditions. Additional watering was done by hand, using large onsite containers filled by the truck and rainfall. The MD of Sturgeon County mowed open areas three times to curb weed flowering; hand mowing and weed whacking in planted areas was carried out to control weed and grass competition. Through careful monitoring and extensive watering the survival rate has been impressive. Aside from the loss of two large aspen poplars due to vandalism, only about 30 trees, mostly small spruce, have not survived.

Deliverables/Results:

- 30 large white spruce trees planted. Over 575 large trees and suckering poplar tree plugs have been transferred from the forest edge of the property to appropriate locations.
- Seven truckloads of water were brought in. Additional hand watering, using large onsite containers filled by the truck and rain, continued throughout the season.
- The MD of Sturgeon County mowed open areas three times to curb weed flowering; hand mowing and weed whacking in planted areas to control weed and grass competition continued throughout the season.
- One fenced protective area was completed.
- St. Albert Clean and Green Riverfest: The Riverlot 56 Society booth display recognized the grant assistance of ACA. Volunteer sign-up was encouraged.
- Riverlot 56 volunteers manned a booth at the City of St. Albert Fall ParkFest which included a photo collage of the re-naturalization project progress and recognition of grant sponsors; historical

information, Riverlot 56 pamphlets, trail maps; environmentally oriented children's games; a guided tour including discussions emphasizing the importance of the natural environment.

Many people were discussing and seeking information regarding the project.

- A school presentation was conducted and subsequent onsite planting by school students.
- An article was submitted to the *St. Albert Gazette* requesting the help of volunteer workers. A class of school students and about 30 community volunteers helped to plant over 600 small trees.
- Plastic mulch applied in designated areas; regular mulch provided by the City of St. Albert; protective pegging and labeling of trees.

## Trail Clearing Big Grave to Monaghan Creek

### *Rocky Mountain Wilderness Society*

Grant: \$14,000

Project Code: 015-00-90-230

Project Status: similar project funded in 2014/15; Completed

This past July (2015), Rocky Mountain Wilderness Society (RMWS) had a crew pack up and head into Big Graves on the Sulfur river south of Grande Cache, after two days of travel with 40 head of horses, a camp was set up at Big Graves and the trail clearing commenced to Monaghan Creek. The trail crew had two brush saws and two power saws along with a diligent crew. The old historic trail route was grown in with a heavy willow growth and a lot of large blowdown as the trail went through an old growth forest for the most part. The goal of RMWS is to get this old historic trail reopened from Grande Cache to Rock Lake to a high standard that allows all users from hikers, mountain bikers, trappers and horseback adventures to have a safe enjoyable trip. This trail suffered a lot of water damage two years ago and there was a portion of the trail that was completely washed out by the river in a location where the trail followed along the river bank. The trail was relocated in this area further back from the river bank. Over the past two years, travellers couldn't find where the trail was so the new trail is well marked and easy to follow. After six days of trail work, the camp was packed up and taken to Monaghan creek campground close to 14 kms up the trail to shorten the travel time to the clearing site as the crew progressed. With a few more days spent from Monaghan Creek side the crew achieved the goal of reopening this section of trail to a high standard, in total the distance worked on was approximately 13.5 kms which now has this trail in very good shape from Grande Cache to Monaghan Creek.

Deliverables/Results:

- This trail now allows for a safe journey from Grande Cache to Monaghan Creek following a well-marked trail which makes a more enjoyable trip. By reopening this old trail, travellers will find this is a safer and more enjoyable route to travel. Meanwhile protecting the integrity of the river course through offering an alternative route.
- When this trail project was scheduled to be cleaned up in 2015, the RMWS Board knew that it had to be completed in the allotted time because the distance into the location was too far to let portions of the project carry over to another year. So the crew had a mandate to finish the distance and put in the required time to ensure completion of the project during the time they were there. With the due diligence of the crew, the last day available for trail work the crew of nine met the goal of completion.

## Operation Water Drop and Operation Water Pollution Kits for a C.W. Perry Middle School's Field Trip

### *Safe Drinking Water Foundation*

Grant: \$850

Project Code: 002-00-90-235

Project Status: New; Completed

Safe Drinking Water Foundation (SDWF) provided educational materials for students to enable them to conduct hands-on analyses of water samples. SDWF sent four High School Operation Water Drop kits and one Operation Water Pollution kit to C. W. Perry Middle School on May 11th, 2015. The intention was for the school to use the kits to test water during a field trip. However, at the last minute, they could not go on their field trip. Due to the fact that his field trip was cancelled, the kits were given to another teacher to use in class with collected water. The students found that one result of last spring's water tests that stood out was the pH and the concentration of copper in the water. This may either be due to the acidity of the pond water causing pipes to break down, or leaching from the nearby golf course where copper is used as weed control in water hazards. While the Operation Water Drop kits have been used (or the majority of the materials in them have been used), the Operation Water Pollution kit (which is composed of a digital TDS and a digital pH meter) is guaranteed to be reusable for at least two years.

Deliverables/Results:

- Sent four High School Operation Water Drop kits and one Operation Water Pollution kit to C. W. Perry Middle School (May 11th, 2015).
- 112 students will use these educational kits in a hands-on manner during their field trip—unfortunately the field trip was cancelled, so students tested water samples collected from various locations. Many students used the kits and will continue to use the Operation Water Pollution kit because it is guaranteed to be reusable for at least two years.
- Students sample water from four different locations—students sampled water collected from a number of different locations. Each High School Operation Water Drop kit enables students to test five different water samples.

## Monarch Butterfly Habitat

### *Sherwood Park Fish & Game*

Grant: \$750

Project Code: 030-00-90-254

Project Status: New; Completed

The objective of this project was to grow low milkweed for monarch butterfly habitat. The project area was cleared of old grass and rototilled with the help of Jr. Forest Wardens and the seeds were planted. With the dry spring and summer of 2015 the milkweed seeds did not germinate. The project manager is hoping for better growing weather in 2016, although it appears that the seeds have still not germinated.

Deliverables/Results:

Milkweed seeds were planted spring 2015, but did not germinate due to lack of rain. The project leader checked again this spring 2016 and the milkweed seeds had still not germinated.

## Archery Curriculum

### *Southern Alberta Bible Camp*

Grant: \$2,500

Project Code: 002-00-90-216

Project Status: Funded by CCEG in 2014/15 and previously by the R&R Fund; Completed

Again the Archery Program was the most popular activity at the Southern Alberta Bible Camp (SABC). This summer the archery program served 440 campers. Through mentorship by a NASP-trained instructor, the campers developed skills through a progressive lesson plan each week. This lesson plan was delivered with hands-on instruction, demonstration, correction, repetition and encouragement. Each camper was able to leave camp with a report card documenting their skill achievement. SABC have also had the privilege of instructing one-hour introduction sessions to school groups and children who have attending SABC day camps.

Deliverables/Results:

- Participant numbers: Summer camp – 440 and one-hour participants – 150.
- Events: SABC has been able to use the outdoor range for summer and indoor range for school groups. SABC took the equipment to a site used for daycamp activities.
- Curriculum: SABC keeps on developing their wildlife curriculum to be interesting and challenging to all participants.
- SABC has seen three main results in this project:
  - SABC has been able to introduce kids to archery. Many campers and one-hour participants have never used a bow and arrow before. With good working equipment and trained skill instructors our campers and participants have success in a short time.
  - SABC has a large number of kids that return to archery year after year to develop their skills. They want to continue to work towards the targets outlined on their report cards.
  - SABC has been able to educate their largely urban-based camper demographic with a better understanding of the value and significance of the outdoors and wildlife in general.

## Pellety Curriculum

### *Southern Alberta Bible Camp*

Grant: \$1,500

Project Code: 002-00-90-236

Project Status: New; Completed

This summer's SABC pellety program served 264 campers. The campers developed skills through a progressive lesson plan each week. Campers learned firearm safety and basic aiming and shooting techniques, delivered in a fun and educational way. The lesson plan was delivered with hands-on instruction, demonstration, correction, repetition and encouragement. Each camper was able to leave camp with a report card documenting their skill achievement.

Deliverables/Results:

- Participant numbers: Summer camp – 264.
- Curriculum: SABC keeps developing their wildlife curriculum to be interesting and challenging to all participants.

- SABC has seen three main results in this project:
  - SABC has been able to introduce kids to safe use of firearms. Many campers have never used a firearm before. With good working equipment and trained skill instructors our campers and participants have success in a short time.
  - SABC has a large amount of kids that return to pelletry year after year to develop their skills. They want to continue to work towards the targets outlined on their report cards.
  - SABC has been able to educate their largely urban based camper demographic with a better understanding of the value and significance of the outdoors and wildlife in general.

## Walleye – Pike Fishing

### *Southern Alberta Bible Camp*

Grant: \$4,200

Project Code: 020-00-90-217

Project Status: Funded by CCEG in 2014/15 and previously by the R&R Fund; Completed

SABC has had a great year with their fishing program. This summer 352 campers participated in the SABC fishing program. With the addition of a new floating fishing dock SABC was able to double the number of campers in the skill each week. Through the instruction of AHEIA mentored staff, this program educated campers on habitat, fish identification, safe release and basic fishing skills. Over the eight weeks of camp SABC documented catching over 30 fish during skills times. The biggest of these a 23" pike. Each camper in the fishing skill left camp with their own fishing rod to be able to take this skill home and continue fishing.

Deliverables/Results:

- Participant numbers: Summer camp – 352
- Curriculum: SABC keeps developing their identification and habitat curriculum to be interesting and challenging to all participants. They have different locations to take their campers to fish from. They start at the SABC dock and then move to the floating dock and pontoon boat.
- SABC has seen three main results in this project:
  - SABC has been able to introduce kids to fishing. Many campers and one-hour participants have never fished before. With good working equipment and trained skill instructors our campers and participants have success in a short time.
  - SABC has a large amount of kids that return to fishing year after year to develop their skills and try to catch a fish.
  - SABC has been able to educate their largely urban based camper demographic with a better understanding of the value and significance of the outdoors and fishing in general.

## TCS Outdoor Education Archery Equipment Project

### *Taber Christian School*

Grant: \$4,000

Project Code: 002-00-90-242

Project Status: New; Completed

As Taber Christian School met their goal of purchasing the Standard School Archery Program Kit, they were able to bring exposure to the activity and sport of archery. Most of the necessary skills related to archery were taught during their Outdoor Education program, and with great success. Taber Christian School students spent numerous occasions using the bows and targets in a natural setting that allowed for engagement and excitement. As the school always felt it is necessary for students to learn outdoor skills in a safe, controlled and highly supervised environment, the kit allowed them to engage their students. A byproduct was seeing the enjoyment of the students as they were connected with the outdoors and archery.

Deliverables/Results:

- Approximately 40 kids used the bows in the first season. As the Outdoor Education class is part of the Career and Technology Foundations program in Alberta, Taber Christian School will be cycling through other classes within each school year. Several events were held for the students to use the bows as part of the Outdoor Education program. The school communicated with their school community that the bows were being used and that grant funding was received from ACA.

## Faith-based Organizations and Conservation: Engaging volunteers in recovery plans of endangered pines

### *The King's University College*

Grant: \$4,985

Project Code: 030-00-90-225

Project Status: Funded since 2013/14; Completed

Volunteer-based conservation efforts are critical for cost-leveraging the recommended recovery actions for the endangered limber pine (LP) and whitebark pine (WBP) in Alberta. The King's University, a Christian post-secondary institution, is acting upon eight years of endangered pine research by providing a volunteer-based, species recovery initiative, for students and church youth groups that want to practically express their stewardship values. This report summarizes work completed in the third year of a five-year initiative that annually plans to enhance one population of limber pine in the Crowsnest Pass that lacks adequate natural regeneration. The long term objectives are to: (1) implement recommended recovery actions for the endangered limber pine; (2) promote, educate and engage faith-based organizations in local conservation activities; (3) test whether cattle disturbance versus seedbed type, and white pine blister rust infection, influences seedling survivorship. Activities in 2015 included: (1) site visits with landowners; (2) monitoring of seedling survivorship from 2013/14 plantings; (3) data collection from a grazing study, and a seed predation study; (4) two educational field tours; (5) restoration plantings of seedlings grown in the King's greenhouse; (6) greenhouse germination and survivorship trial relative to substrates. The project involved 32 King's university students in monitoring and research activities of the seedling survivorship study and grazing study. Forty-five Grade 9 students were

also involved in planting 200, one-year old seedlings produced in King's greenhouse, and 3,000 seeds, enhancing 2 ha of limber pine habitat near Lundbreck Falls. Monitoring work on the 2013 planting sites showed that seedling survivorship had declined to 36 per cent. Seedling survivorship was significantly better on lower elevation sites that lacked grazing. Greenhouse trials showed significantly better germination of seedlings after 60 days of cold stratification, and better germination on potting soil than natural substrates. These results are currently reported in undergraduate student theses at King's University. The project has partnered with the Whitebark Pine Ecosystem Foundation to raise the profile of this community-based conservation initiative. They will also feature it as a case study in church workshops and scientific conferences on the role of faith-based organizations in partnering with conservation organizations and government agencies to achieve conservation goals.

#### Deliverables/Results:

- Seedling Survivorship (Site 1): 37 per cent seedling survivorship was observed (33 per cent healthy) in their fall assessment (a three per cent decline in healthy seedlings from 2014). These results suggest that seedlings mortality is stabilizing, and two years post-planting, they may be able to consider the healthy seedlings established. Detailed statistical analyses of seedling survivorship indicates that exposure significantly lowers survivorship (better on lower elevation sites with open forest conditions) and protection from cattle enhances survivorship.
- The lead researcher suspects that cattle affect seedling survivorship primarily through trampling, as there was little evidence of direct grazing on seedlings (under one per cent). Cattle grazing altered surrounding vegetation, resulting in significant reductions in herb biomass, particularly under heavily versus lightly grazed conditions (32 per cent and 41 per cent reductions, respectively). Grass and overall root biomass were impacted less, and although reduced, were not significantly lower than plots protected from grazing, two growing seasons after protection.
- Germination Trials (Greenhouse): Greenhouse trials showed significantly better germination of seedlings after 60 days of cold stratification (versus 30 and 50 days), and up to 61 per cent germination on potting soil and 71 per cent on sand; this reflected significantly better germination than natural substrates (humus and mineral soil).
- Seed Predation Trials (Site 2): Granivores appear to negatively affect the success of restoration efforts with planted seed, removing 65 per cent of the seed in areas of heavier vegetation (23 per cent vegetation cover) and 40 per cent of the seeds in more open areas (15 per cent cover). Germination success and seedling survivorship remains the largest barrier to successful restoration with LP seed, as only 8.5 per cent of seed protected from granivores germinated, and less than one per cent of germinants survived one year.
- The provincial Recovery Team members were updated on plans for plantings in 2015. The number of seedlings planted, volunteer planters, individuals attending educational field tours and monitoring results were reported annually to Robin Gutsell, Wildlife Policy Branch, AEP for inclusion in the Species at Risk website for limber pine under the heading of "citizen science" and "research."
- Two B.Sc. theses on limber pine germination and growth were completed in April 2015, two theses on grazing and seed predation effects on LP restoration (Dec. 2015) and three theses on LP germination, survivorship and growth will be submitted in April 2016 to The King's University.
- Vern Peters presented their community-based approach to limber pine restoration in a conservation biology course taught for the Au Sable Institute (June – July 2015), a faith-based field institute serving students from Christian Colleges and Universities across the USA and Canada.
- An abstract for a conference presentation at the Society of Conservation Biology Conference was submitted (July 18-20, 2016, Madison, WI), on partnerships between faith communities and ecological organizations. Acceptance pending.
- While outside the scope of this ACA funded project, Vern Peters collaborated with several Recovery Team members, colleagues at the University of Alberta, provincial parks and fire staff, Parks Canada and the Alberta Tree Improvement and Seed Centre, in submitting a WBP research proposal on the role of prescribed fire in provincial recovery plans (Approved in fall 2015 – \$ 75,000)

## Rainbow Trout Stocking of Mitford Ponds

### Town of Cochrane

Grant: \$1,000

Project Code: 020-00-90-225

Project Status: New; Completed

The Town of Cochrane has been happy to offer the angling public a Trout Stocking Program at Mitford Ponds since 1999. Over the years, countless anglers have enjoyed the benefits of this program. The ponds are centrally located in Mitford Park and offer an excellent opportunity to introduce urban fishing to all members of the community. The natural surroundings and ease of access enhance the experience of new anglers and encourages continued enjoyment of the sport of fishing. However, due to increasing prices and lack of partnership funding, the number of stocked trout has significantly decreased. It is the goal of the Town of Cochrane to enhance the Trout Stocking Program at Mitford Ponds. With the support of ACA, the Town of Cochrane was able to stock the ponds in early May with approximately 500 15-20cm rainbow trout.

#### Deliverables/Results:

- On April 16, ACA released 600 brown trout at the Mitford Ponds.
- On May 26, the Grade 2 students at Elizabeth Barrett Elementary School were able to release rainbow trout raised through the FINS program.
- 2015 has been a very successful year at the Mitford Ponds. Both local community members and visitors alike have been able to enjoy the angling opportunities provided at Mitford Ponds. The combination of rainbows and browns has proven to be quite sustainable and both seem to be well suited to the ponds and their ecology.

## Golf Course Creek Wetland Biofilter Restoration

### Town of Sylvan Lake

Grant: \$3,700

Project Code: 015-00-90-234

Project Status: New; Extended until October 31, 2016

The Golf Course Creek Wetland Biofilter Restoration project is intended to address declining water quality and aquatic habitat in Golf Course Creek, one of the primary tributaries to Sylvan Lake. Declining water quality in tributaries can contribute to detrimental effects in lake water, the prevention and mitigation of which is a significant goal for the Town and lake stewardship groups. In addition, increasing education and awareness of the benefit of naturalized areas and wetlands is important, which the Town hopes to accomplish through completion of this project and the involvement of local school children. Project design is completed and construction is anticipated in Fall 2016.

Deliverables/Results:

- Design of wetland is complete. Construction is pending approval of access from private landowner. Publicity surrounding grant funding and project environmental impacts has been positive thus far. Further public notification will be enacted once construction is scheduled. Education in schools will provide a legacy component of the project.
- Project status is listed as behind schedule due to delays in acquiring landowner access permission for the project. Due to the delay in construction, no deliverables noted for this project have yet been provided.

## Stewardship License Pilot Project

### Trout Unlimited Canada

Grant: \$2,390

Project Code: 020-00-90-196

Project Status: Funded since 2012/13; Completed

The 2015 Stewardship License Pilot Project (SLPP) was a unique partnership between Trout Unlimited Canada (TUC) and Alberta Environment and Parks (AEP). The project engaged 129 anglers through fish identification testing and utilized them as a conservation tool; 104 licensees were able to harvest 1,885 non-native brook trout and 148 rainbow trout from streams where they may be impeding the recovery of native cutthroat trout and bull trout. The project's primary objective was to educate anglers on how to accurately identify, and differentiate between, the fish species they would encounter while fishing under the Stewardship License. Educating participants on the issues which native fish species face, and those which have led to their decline was also an important part of this project and was emphasized during seven supervised outings at Willow Creek, and Jumpingpound Creek.

Deliverables/Results:

- The 2015 Stewardship License Pilot Project engaged 129 anglers through fish identification testing.
- 104 licenses were issued and seven supervised outings were conducted by TUC staff and designated volunteer coordinators.
- A total of 1,885 brook trout, and 148 rainbow trout were harvested by licensed anglers from project streams.

- For the first time ever, summer closures on many fishing streams took place in 2015, while the Stewardship License streams remained open; TUC felt it was necessary to refrain from fishing in these waters to reduce stress on these fish populations. AEP is evaluating the objectives of the program and whether or not these are being achieved, TUC will continue to work with the province on this matter and will inform project participants of their findings.
- A short survey regarding how participant's identification skills and awareness of native species has changed as a result of the SLPP was sent to project participants in early spring 2016.

## Hidden Creek Riparian Restoration Project

### Trout Unlimited Canada

Grant: \$2,400

Project Code: 015-00-90-228

Project Status: New; Completed

The goal of the Hidden Creek Riparian Restoration Project was to restore two degraded riparian areas along Hidden Creek to reduce sedimentation in Hidden Creek. Hidden Creek is an important spawning tributary in the upper Oldman Watershed for bull trout, and a core habitat for westslope cutthroat trout. To achieve this goal, the project aimed to plant willow and other native vegetation along two reaches of Hidden Creek where slumping and erosion were severe. TUC aimed to achieve this by collaborating with partners to achieve a successful restoration project and to catalyze future work on Hidden Creek and in the upper Oldman River watershed. Site visits and aerial surveys were used to identify two sites where sedimentation was occurring and bioengineering techniques could be applied to reduce this. A volunteer workday held in late September provided an opportunity for volunteers to harvest live plant material for use the following week as part of the restoration project. During this workday, over 2,500 willow and poplar cuttings were harvested and subsequently transported to Hidden Creek via helicopter. On October 2nd, TUC conducted a site visit with a representative from Alberta Environment and Parks and soil bioengineering expert, Dave Polster. A Bioengineering workshop led by Dave Polster, and attended by stakeholders, contractors and government staff took place October 3rd and 4th. This workshop was sponsored by the Alberta Environment and Parks FISHES program, and consisted of a one-day classroom component and a one-day field component during which participants were able to work together to harvest additional willow and poplar cuttings, and restore an eroding bank along Hidden Creek using the techniques they had learned during the in-class portion. Another volunteer workday was held the following day and volunteers and project partners were able to finish the works started the previous day, complete additional willow staking at another site further downstream. On the morning of October 3rd, a redd count was conducted along Hidden Creek in the reach extending from the confluence of Hidden Creek and the Oldman River to the upper-most restoration site. The project was successful in bringing together people from diverse backgrounds to complete a restoration project and learn about alternative approaches to restoring degraded sites.

Deliverables/Results:

- The Hidden Creek Riparian Restoration Project was a success. During a two-day Bioengineering Workshop led by renowned soil bioengineering expert Dave Polster, and sponsored by the Alberta Environment and Parks FISHES program, and during two additional volunteer workdays, two degraded sites along Hidden Creek were

rehabilitated by volunteers and workshop participants. Over 2,500 live willow and poplar stakes were flown to the upstream restoration site by helicopter on October 2nd, and were incorporated in wattle fences and as live stakes.

- Prior to the restoration work commencing, a redd survey was conducted on Hidden Creek on the morning of October 4th. The survey began at the confluence with the Oldman River and concluded at the upper restoration site (approx. 6.5 km upstream of the confluence). In total, 15 redds were observed, no redds were observed upstream of the falls. During the redd survey, it was noted that highly embedded substrate was present in many areas, and that redds were absent from many areas where they had previously been observed. Several failed attempts at redd excavation were also observed.
- Riparian Health Inventory conducted on both reaches (Complete, final report from Cows and Fish pending).
- Restoration plan and preferred vegetation was determined (Complete).
- A promotional/educational sign was designed and installed by TUC on February 23rd, 2016 to celebrate the project and its partners and funders. Sign installed at the fork of the Oldman River Road and the Forestry Trunk Road.
- One unexpected result was the realization that it is actually cheaper to fly materials to remote restoration sites by helicopter, than it is to use significant manpower and time to transport them by foot or OHV. Using a helicopter saved considerable time and effort, and was a safe and quick means of transporting large numbers of cuttings to a relatively remote project site. TUC would certainly consider using this method of transport again.

## Yellow Fish Road

### *Trout Unlimited Canada*

Grant: \$30,000

Project Code: 020-00-90-211

Project Status: Funded in 2014/15; Completed

Project Website: [tucanada.org/yellow-fish-road/](http://tucanada.org/yellow-fish-road/)

The Yellow Fish Road (YFR) program is Trout Unlimited Canada (TUC)'s premiere environmental education program. This program started in BC by DFO but has become an Alberta-grown phenomenon that teaches youth about stormwater pollution prevention and the importance of water conservation. The program is delivered to youth in schools, community groups and daycamps across the province. Presentations leave people with an understanding and appreciation for our rivers, streams and creeks and the importance of clean, healthy water. If you walk through the streets of any major city in Alberta, you will see bright "yellow fish" painted on the stormdrains, serving as a reminder that "only rain should be going down the drain." The painting offers active learning by involving youth in public service that educates the rest of the community. YFR builds on a culture of caring for our most important natural resource: water. Through this program, Albertans become motivated to be part of a positive change for the environment. In the spring of 2015, the Yellow Fish Road program won the Emerald "Water Challenge" Award. This past year TUC developed new components to the program within four distinct presentations for Kindergarten – Grade 9. TUC's program delivery is carried out by highly professional Yellow Fish Road staff and program partners. TUC is continually expanding the program throughout the province reaching new participants and

communities. These programs ensure youth feel a sense of community within the classroom and group and take on a leadership role in their community with the action project. The features of this program include: ease of implementation, community-based action, high visibility of "Yellow Fish" and a ripple effect to families and friends.

### Deliverables/Results:

- This year's results were especially exciting as the TUC YFR program was able to expand their reach across the province while still providing interested groups free stencils and doorhangers. This success is seen in the continually high number of program bookings, repeat bookings and consistently positive feedback. Here is a summary of the program results for 2015/16:
  - 4,500 youth and 1,000 adults participate in 180 water education presentations.
  - 115 groups painted 2,400 stormdrains and distributed 12,800 doorhangers.
  - Participated in 28 events, expos and fairs province-wide and saw 9,000 participants.
  - 15 cities participated and were actively engaged in the program and taking action.
  - One new partnership with the Town of Okotoks.
- The main result of the Yellow Fish Road project in 2015 was an overall increase in program participation (9,000 event participants in 2015, 6,600 in 2014). New cities participated, and an increase in participants involved in action projects and attending events. These yearly increases in program uptake provide exponential environmental benefits for all communities throughout Alberta. This program educates more people and reaches more and new municipalities every year, demonstrating its creativity and leadership in education and outreach.
- This is an ever-evolving program that has grown with Alberta communities through the passion of teachers and community leaders. The wide breadth of support through varied industries, organizations and government speaks to the universality of the message. One unexpected result was the smaller increase in the number of storm drains painted and door hangers distributed. This may be attributed to untimely weather conditions prohibiting the action project from proceeding in certain areas.
  - Presented over 180 Yellow Fish Road storm water pollution prevention presentations to classes and groups in ten major Alberta cities including: Airdrie, Brooks, Calgary, Cochrane, Edmonton, Lethbridge, Okotoks, Sherwood Park, Strathmore and Red Deer.
  - Created a sense of community with youth and provided information regarding their local waters and storm-drain painting opportunities in 15 Alberta communities.
  - Fostered an environmental stewardship ethic in youth by facilitating 115 classes and groups to take action and do the storm-drain painting program in Alberta.
  - Protecting our waters and the life within them in Alberta by educating 14,000 participants in presentations and 28 events about how to protect their local waters through the reduction of storm-water pollution.
- Developed new promotional and educational materials and resources for the program.
- Produced a Yellow Fish Road story for TUC newsletter's *Currents*.

## Understanding Fish, Water and Conservation

### *Trout Unlimited Canada*

Grant: \$12,500

Project Code: 020-00-90-218

Project Status: Funded by CCEG in 2014/15 and previously by R&R Fund; Completed

After two highly successful years, TUC's fish education program continued to thrive and grow in 2015. The program has two components; an informative, fun, hands-on, in-class presentation, and a "learn to fish" field trip using catch and release techniques. The goal is to increase interest and knowledge about fish, fish habitat, fish communities, water, water quality, watersheds and conservation and promote stewardship of our valuable fisheries and aquatic resources. Since the program was launched three years ago, TUC continues to see new participants, repeat bookings from teachers and very positive feedback. TUC further engaged youth and continued to increase their capacity this year. The program was offered to twelve different schools (around 1,500 students), as well as a community group (around 50 people). Eleven field trips were offered to 22 classes (around 650 students) and participated in six major events (around 4,500 people).

The program included:

- Identification of selected Alberta Fish Species, (native, introduced, invasive) numbers and distribution.
- Fish life cycle, anatomy, special features, adaptations, habitat needs and invertebrate food species ID.
- Fish communities in Alberta, stocking programs, *Threatened and Endangered* species and conservation.
- How to fish guidelines, where and when to fish, safe handling, proper equipment and techniques.
- A 'Ripple Effect' of interest extending from program participants and leaders to their friends and family.

The program's main objective is to empower youth to have a passion for the outdoors and a commitment to protecting the special places that are home to wild fish species. As our population expands and pressures increase on these special fish habitats and ecosystems, trout and other native fish need more advocates to pass on this legacy and protect the waters we all love and need. By working with sponsors and program partners we can achieve our common goal and be their voice.

Deliverables/Results:

- New activities for Grade 7-9 were developed and TUC provided fly fishing with this age group.
- TUC created a new fish conservation game for Grades 3-6.
- The new promotional was created in April 2015.
- Program participants increased from 1,500 in 2014 to over 6,000 in 2015/16. TUC has seen a steady and marked increase in the rate of participation in the program and continues to see phenomenal interest in the program and was encouraged by the amazing response and comments received, especially from students. Students say the program is wonderful, fantastic, excellent, amazing and great! TUC feels very lucky to be able to provide this opportunity to so many students and especially to those who may not otherwise have the opportunity to experience our mountain rivers, catch water bugs or

hold a fishing rod. Teachers are excited to be able to bring this fun educational program to their classrooms giving students a valuable education experience.

- 34 total presentations:
  - 12 spring presentations (one at Cedarbrae School, Grade 4/5/6; five at Elbow Park School, K-Grade 4; two at Langevin Science School, Grade 3/4; two at Trinity Christian, Grade 4/5; two at Hillhurst, Grade 4/5).
  - 22 fall presentations (15 classes Beakerhead, Grade 4/5 St. Patrick's Island; one at St. Timothy's, Grade 11/12 CTF Outdoor Ed; one at Cochrane High School, Grade 10 Outdoor Ed; two at Cambrian Heights, Grade 5; two at St. Helene, Grade 9 CTF class; one at Don Bosco, Grade 9 CTF class).
- 11 field trips with 22 classes:
  - 18 in spring (Elbow Valley Beavers one at Fisherman's Pond; Cranston School two classes; Bow Habitat Station; Killarney School two at Mt. Lorette Ponds; Langevin School two at Sibbald Meadows Pond; Glenbow Ranch one at Cochrane High School; Cecil Swanson four classes, Grotto Mountain Pond; Elbow Park School four at Strathmore Pond; Trinity Christian School [Strathmore] two at Bow Habitat Station).
  - Four in fall (Cambrian Heights Grade 5, two at Sibbald Meadows Pond; St Timothy's Grade 11/12 Outdoor Ed, one at Grotto Mountain Pond; Cochrane High School Grade 10 Outdoor Ed, one at Big Hill Creek).
- Six events ("Wild About Wildlife" at Bow Habitat Station; Mayor's Environmental Expo at City Hall; TD FEF pop-up event in the downtown core; "Reins 'n Reels" at Bow Habitat Station; "Creekfest" Friends of Fish Creek Provincial Park; Western Canadian Fly Fishing Expo at Spruce Meadows).

## Weaselhead Invasive Plant Program

### *Weaselhead/Glenmore Park Preservation Society*

Grant: \$3,000

Project Code: 015-00-90-127

Project Status: Funded since 2009/10; Completed

Project Website: [theweaselhead.com/invasive-plant-program](http://theweaselhead.com/invasive-plant-program)

The goals of the Weaselhead Invasive Plant Program are to maintain natural ecosystem processes in the Weaselhead Natural Environment Park, Calgary (especially the contribution such processes make towards maintaining water quantity and quality in the adjacent Glenmore Reservoir) and to prevent loss of biodiversity in the Park and elsewhere. The objective of the Program is to reduce the abundance of invasive species that interfere with the above goals. To achieve this objective the Society organizes and leads weeding workshops to reduce the abundance of targeted non-native plants; organizes EDRR (Early Detection Rapid Response) activities that prevent novel unwanted species establishing and new colonies of existing invasive species forming; carries out citizen science projects to monitor the effect of weeding and to improve effectiveness of manual control methods; and raises awareness among the general public of the impact invasive species have on natural areas and how one can help prevent their spread. Since its inception in 2009 the Program has:

- Informed some 24,000 adults and children about invasive species through its outdoor education programs, indoor presentations, stewardship activities and publicity events.
- Prevented new invasive plant species establishing in the Park.
- Reduced the area of the Park heavily infested with non-native shrubs from 52 ha to 23 ha. (total area of the Park is 243 ha, "heavily infested" means around 185 plants/ha).
- Collected data every year from monitoring plots to checking native vegetation is recovering after removal of invasive plants.
- Carried out research into results of different manual control methods and different timing of control activities.

Deliverables/Results:

- 450 people volunteered with the project and saw first-hand the impact of invasive species.
- Two presentations on the Program and invasive plants were given to around 30 people.
- Information about the Program was posted at four public events.
- Around 4,000 participants in the Program's educational field-trips were introduced to the subject.
- Two new horticultural escapees and three new occurrences of noxious weeds were found in the Park and removed; six new patches of non-native species were reported by members and removed; one non-native memorial tree with invasive characteristics was planted by the City in the Park then after concerns expressed, exchanged for a native species.
- Control of weeds: 59 weeding workshops held; around 2,800 Peking cotoneaster and bush honeysuckles, approximately 600 European mountain ash saplings and seedlings, and 1,200 litres of flowers and seedheads from other species of invasive plants were removed. Herbicide treatment of common buckthorn took place (City); European barberry eradicated by City (to be confirmed).

- Unexpected result of efforts to restore native grassland: native grass in control plot appeared in spring 2015 to be doing better than in treatment plots. The site was visited by City rangeland specialist for evaluation. She recommended continuing current treatment in 2015 with the addition of removing thistle and re-evaluating in 2016.
- Restoration of native grassland: 12 x 150L bags of thatch removed; data collected on health of fescue in control and treatment plots; additional deliverable (after consultation with Parks Ecologist): 6 x 150L bags of creeping thistle removed.
- Survey: six fixed transects established and data on creeping thistle abundance collected.
- EDRR activities: no new species of invasive plant established; new colonies of existing invasive plant species removed.
- Monitoring of vegetation recovery: results from 2010-2014 published online: [theweaselhead.com/wp-wh/assets/seedling-monitoring-Feb-2016.pdf](http://theweaselhead.com/wp-wh/assets/seedling-monitoring-Feb-2016.pdf) ; new monitoring plots established and data collected.
- Review of successes and failures: Weed management strategy updated and agreed by partners.

Test of alternative method of removing shrubs: decision made not to continue study (method effective but too time-consuming).

Summary of results posted to Society website:

[theweaselhead.com/wp-wh/assets/cut-plant-Feb-2016PCOT.pdf](http://theweaselhead.com/wp-wh/assets/cut-plant-Feb-2016PCOT.pdf)

and [theweaselhead.com/wp-wh/assets/cut-plant-Feb-2016THON.pdf](http://theweaselhead.com/wp-wh/assets/cut-plant-Feb-2016THON.pdf)

## Willingdon Fish Pond and Park

### *Willingdon and District Fish & Game Association*

Grant: \$1,700

Project Code: 020-00-90-221

Project Status: New; Completed

The project goal was to get more fish put in the Willingdon fish pond so more people will have fun catching them, which was a great success. A lot more visitors to the pond this year. They hope to get more fish next year.

Deliverables/Results:

- More people came out to the park than expected, which is great.

## ACA Research Grants

### Effects of Industry on Wolverine (*Gulo gulo*) Ecology in the Boreal Forest of Northern Alberta

#### University of Alberta (Dr. Boyce)

Grant: \$68,138

Project Code: 030-00-90-218

Project Status: Funded since 2013/14; Completed

Project Website: [www.northernalbertawolverine.com](http://www.northernalbertawolverine.com)

The University of Alberta wolverine project was initiated by members of the Alberta Trappers Association and ACA and was intended to provide biological information on wolverine populations residing in Alberta. Wolverines in Alberta may be *At Risk*, with the uncertainty in population status a result of wolverines being Data Deficient in the province. Trappers wanted good science to be conducted on wolverines so that stakeholders (e.g., government, hunters, trappers, conservation groups, industry) can make important management decisions pertaining to wolverines with adequate information. The University of Alberta was tasked with designing a study that included trappers and collected robust scientific data. Because industry is widespread in Alberta and there is concern by stakeholders on the impacts of industry on wolverine populations, our project aimed to investigate the effects of industry on wolverine movement, distribution, density, food habits and denning. The study design relied on radio-collaring and tracking wolverines living with varying levels of industrial development. The research team established field sites in Rainbow Lake and the Birch Mountains of northern Alberta, with Rainbow Lake heavily developed and the Birch Mountains lightly developed by industry. Wolverines were captured using log live-traps that were baited with beaver. When wolverines were captured, radio-collars were attached that took GPS fixes at two-hour intervals. These GPS data allowed the researchers to track wolverines on foot so they could investigate their foraging and den site selection. The GPS data also provided information on movement rates and habitat selection of wolverines in an industrial landscape. Lastly, a system of run-poles was built on the landscape. These run-pole data, combined with data from the live-traps, allowed the researchers to estimate the density of wolverines at their field sites.

#### Deliverables/Results:

- The research team had great success over three winter field seasons in Rainbow Lake and two winter field seasons in the Birch Mountains. Forty unique wolverines were captured in live-traps in Rainbow Lake (18 males and 22 female) and have acquired over 40,000 GPS points from 30 animals. An additional ten unique wolverines have been identified at run-poles. In the Birch Mountains, three wolverines (two females and one male) were captured and radio-collared and eight wolverines have been identified at run-poles. These data point to a healthy population of wolverines residing in the oil patch. The researchers are finding that wolverines spend much of their time near streams and open water, hunting for beaver in both summer and winter. Besides beaver, wolverines also feed on snowshoe hare, grouse and wolf-killed moose carcasses. Wolverines tend to avoid areas with lots human activity (e.g., all season roads, active well sites) but seem to tolerate development with minimal human use. Lastly, wolverines are denning in large protected structures such as timber slash piles, tree root wads and beaver lodges.

- Providing industry and government with specific strategies for managing wolverine populations in industrialized habitats is a work in progress. Matthew Scrafford has given numerous presentations to industry and detailed ways they can reduce their effects on wolverines. Journal articles and reports will provide additional methods to reduce negative effects on wolverine populations. It is anticipated these deliverables will be ready by June 2017. Delay is a result of needing enough field data to properly analyze the data.
- Peer-reviewed journal articles will be available starting in June 2017. Matthew Scrafford has written numerous articles for magazines such as *The Alberta Trappers' Association* magazine and *Nature Alberta* (*Wildlife Conservation Society*, May 2014, "Finding F8"; *Alberta Outdoorsman*, July 2014, "Wolverines in the boreal"; *Alberta Trappers' Association*, January 2016, November 2015, July 2015, June 2015, January 2015 and November 2014 "Wolverine project updates"; *Nature Alberta*, June 2015, "The niche of the boreal wolverine"). Matthew was also a part of the *Nature of Things* documentary.
- Academic presentations: Alberta Chapter of the Wildlife Society, March 2015, and 2016; Northern Research Day, University of Alberta, March 2015; WeaselFest, BC Government, May 2015; The Wildlife Society, invited speaker, October 2015.
- Public presentations: Boreal Center for Bird Conservation, Slave Lake, Alberta, October 2015; Daishowa-Marubeni International, Peace River, Alberta, February 2016; Dene Tha First Nation, Assumption, Alberta, February 2015; Harvest Energy, Calgary, Alberta, May and September 2015; Husky Energy, Calgary, Alberta, September 2015; Peace River Natural History Museum, Peace River, Alberta, February 2016.

### In Paradise or Peril? Using bear rubs to understand black bear populations in southwestern Alberta

#### University of Alberta (Dr. Boyce)

Grant: \$25,000

Project Code: 030-00-90-252

Project Status: New; Completed

Website: [www.biology.ualberta.ca/blackbear](http://www.biology.ualberta.ca/blackbear)

Reliable population metrics such as abundance and trend estimates are useful for successful management of wildlife, particularly for wide-ranging, low-density species like black bears. Across the US and Canada, however, black bear population estimates are often based on extrapolation and expert opinion. Alberta is no exception: aside from harvest and conflict records, few data exist for black bears and provincial population estimates are 20 years old. Licenced hunters are not required to report harvest data and private landowners can harvest black bears year-round without a tag. Despite high harvest pressure, black bear-related complaints to Fish & Wildlife have been increasing; human-black bear conflicts nearly quadrupled in 2014 compared to the previous year. In partnership with a non-invasive genetic sampling project to monitor grizzly bears, the research team established 899 sampling stations to facilitate hair collection from black bears. The study area is in Bear Management Area Six in southwestern Alberta. Rub objects were visited eight times from May to November in 2013 and 2014. Genetic analysis of the hair samples identified species (grizzly or black bear), unique individuals and sex. The research objectives are to: (1) evaluate black bear abundance, density and distribution; (2) investigate how black and grizzly bears segregate habitat; (3) understand the spatial variation of human-black bear conflicts using Government of Alberta conflict records. Genetic analyses of black bear hair samples were completed by

Wildlife Genetics International (Nelson, BC). In the study area in 2013, 232 individual black bears were detected (129 males, 103 females). In 2014, 222 individuals were detected (122 males, 100 females). In sum, 347 unique black bears were detected in the study area at some point in 2013 and 2014. This project is not completed. Human-wildlife occurrence data from 2015 are currently being processed by a technician. Analysis and modelling to complete the objectives will begin in earnest in April 2016.

#### Deliverables/Results:

- Genetic analyses of black bear hair samples to identify sex and individuals has been completed by Wildlife Genetics International (Nelson, BC). In the study area, at some point in 2013 and 2014, 347 unique black bears were detected. Of these bears, 107 individuals were detected in both years. By 2013, 232 individual black bears were detected (129 males, 103 females), in 2014, 222 individuals were detected (122 males, 100 females).
- Genetic data for both black and grizzly bear samples collected in 2013 and 2014 is complete. Spatial modelling to assess habitat selection differences in grizzlies and black bears will begin in April 2016.
- Human-wildlife occurrence data from 2015 are currently being processed by a technician. All entries are being categorized according to definitions used by Hopkins *et al.* 2010. Upon further research, it seems unlikely they will be able to directly address whether hunting can mitigate human-wildlife conflicts. This was expressed by the proposal's reviewers in 2015. However, they are still tracking human-wildlife conflict "hot-spots" and will be compiling an annual report. This will be shared with ACA.
- One-page flyer outlining project design and findings to be distributed at public events and posted to Waterton Biosphere Reserve Association's (WBRA) website (June 2015: 2,500 people reached)
- Oral presentation given by Anne Loosen at Waterton Biosphere Reserve's Carnivores and Communities Meetings on March 2nd and 3rd, 2016. Anne's talk, "Hair Snares for Black Bears, Too: Black bear abundance and shared habitat use with grizzlies" was discussed in a print article, see [www.pinchercreekvoice.com/2016/03/carnivore-discussion-left-some.html](http://www.pinchercreekvoice.com/2016/03/carnivore-discussion-left-some.html) (150 people reached).
- Poster presentations:
  - Alberta Chapter of The Wildlife Society (Edmonton, AB), March 20-22, 2015.
  - Twelfth Western Black Bear Workshop (Canmore, AB), May 12-14, 2015.
  - The Wildlife Society Annual Conference (Winnipeg, MB), Oct 16-21, 2015.
  - Alberta Chapter of The Wildlife Society (Drumheller, AB), March 4-6, 2016.
  - R.E. Peter Conference (Edmonton, AB), March 10, 2016.
- Anticipated deliverables:
  - Field day with local residents and public on the utility of non-invasive genetic monitoring (Rescheduled for May 2016).
  - Population estimate for black bears in Bear Management Area 6 (May 2017)
  - Publication of at least two peer-reviewed journal articles (September 2017)
  - Master's student thesis (May 2017)

## Evaluating Prairie Waterfowl Hunter Recruitment and Retention

### University of Alberta (Dr. Harshaw)

Grant: \$26,126

Project Code: 030-00-90-249

Project Status: New; Extended until September 20, 2016

Waterfowl hunting plays important roles in the conservation of waterfowl species and wetlands. A challenge facing waterfowl hunting associations, and waterfowl and wetlands managers across North America is the decline of participation in waterfowl hunting. This project is part of a larger program of research that is examining the recruitment and retention of waterfowl hunters in the Prairies. In particular, this project will document patterns of hunting participation in Alberta, and examine factors that contribute to hunting participation, lapse and nonparticipation. This project addresses the lack of current information about waterfowl hunters' motivations, their preferences for management and the constraints to participation faced by current and prospective hunters. The mentorship of new waterfowl hunters is examined through semi-structured interviews with mentors and mentored hunters. Current, lapsed and non-hunters are surveyed to understand the issues that influence hunter recruitment and retention. Workshops with hunters provide an opportunity to reflect on survey results and seek deeper understanding of constraints to waterfowl hunting in Alberta. Lastly, a workshop with waterfowl and wetland experts will serve to refine strategies for the recruitment and retention of waterfowl hunters. Preliminary interview and survey results suggest that waterfowl hunters exhibit an intrinsic joy of hunting; the social aspects of hunting are particularly valued. The age of many waterfowl hunters is above 55 years; there are fewer younger hunters. Current hunters have a history of waterfowl hunting in their family, and expressed willingness to mentor family members or friends in the activity. Mentorship programs seem to provide short-term benefits (long-term benefits still need to be assessed) as people that have been mentored are likely to participate in the next year's hunt. The use of technology to support waterfowl hunting seems to resonate more with new hunters and less with more experienced hunters. The majority of lapsed hunters consider waterfowl hunting to be a worthwhile activity, and would support family or close friends taking up waterfowl hunting; their reasons for not continuing hunting include life changes and regulatory complexity. Few non-hunters indicated a desire to take up waterfowl hunting and do not cite incentives that would get them to do so; few non-hunters would be supportive of close friends or family member taking up the activity. Moral opposition, the cost (and suitability) of equipment, access to firearms and lack of knowledge were among the reasons for non-participation in waterfowl hunting.

#### Deliverables/Results:

- The initial phase of this study involved a general survey of 1,211 Albertans. The survey was a multi-study study; questions about waterfowl hunting were among the questions asked. The sample was representative of adult Albertans (stratified by location: Metro Edmonton, Metro Calgary and the rest of the province); no effort was made to stratify the sample by waterfowl hunting participation. The survey was administered July 2- August 9, 2015. As this was a general population survey, the responses reflect the attitudes and beliefs of the general Albertan population; 85.75 per cent were non-hunters, 3.31 per cent were waterfowl hunters, and 10.94 per cent were lapsed hunters. A report documenting the results of this survey is available.

- The second phase of this study was focused on in-depth semi-structured interviews of waterfowl hunters in Alberta, Manitoba, and Saskatchewan. Participants of the mentored hunt programs (i.e., mentors and those that have been mentored) in these three provinces. To date, 17 waterfowl hunters in Manitoba and Saskatchewan have been interviewed, and 10 interviews are planned for Alberta (primarily focusing on waterfowl hunters that have been mentored), and will be completed in early April 2016. Interviews have been conducted in person with the average of 44 minutes per interview. These interviews have focused on participants' history of involvement with waterfowl hunting, their motivations to participate in waterfowl hunting, the quality of their experiences as waterfowl hunting mentors and mentees, their attitudes towards and their experiences with using different technologies (e.g., internet-based technologies, and high-tech hunting gear), and their perceived constraints to waterfowl hunting. Waterfowl hunters' attitudes toward the conservation aspects of hunting, the influence of social surroundings on their decision to pursue waterfowl hunting, as well as their perception of control over hunting activities were also asked about. Interviews were structured based on three social psychological theories: the theory of planned behavior, self-determination theory and leisure constraints theory. A report documenting these interviews will be provided to ACA.
- The stratified survey of 800 current, 800 lapsed and 800 non-hunters in Alberta has not been administered, which has delayed the delivery of a synopsis of these results and associated workshops, presentations and manuscript preparation. The survey will be administered and these deliverables will be completed.
- The research activities associated with this program of research, with the exception of the delivery of the Alberta survey (an initial step in scoping the motivations and constraints of current, lapsed and non-hunters), have been delayed. The cause of this delay was a personnel issue: the candidate that was selected as the post-doctoral fellow was ultimately unable to follow through on his commitment to come to the University of Alberta. A new post-doctoral fellow was recruited and began his position on September 1st, 2015.

### **Persistence of the Ya Ha Tinda Elk Population: The role of calf survival**

#### ***University of Alberta (Dr. Merrill)***

Grant: \$29,386

Project Code: 030-00-90-204

Project Status: Funded in 2003/04; 2008/09; 2009/10; 2012/13 - present; Completed

Project Website: [www.yahatinda.biology.ualberta.ca](http://www.yahatinda.biology.ualberta.ca)

The Ya Ha Tinda (YHT) elk herd is declining. This 15-year study continues to monitor shifts in distribution and population demography, but the research team initiated an in-depth calf mortality study because low and spatially-variable summer calf survival may be a major factor in the observed shifts and herd decline. Recent evidence suggests that key to herd persistence may be new summer migration patterns related to burning and timber harvest. How burning and timber harvest differ in their impact remains unknown. Both types of early successional forests provide foraging sites for elk, but may render predation mortality on calves additive, particularly by grizzly bears also attracted to these areas. Thus, calf survival is a key link to the overall understanding of the decline in migratory elk and migratory behavior. This study has three objectives:

(1) continue monitoring elk population trends; (2) continue monitoring pregnancy rates, mortality and migratory movements of cow elk; (3) determine differential survival and cause-specific mortality of elk calves between migratory herd segments. Now the second longest-running study on North American elk, the long-term, continuous nature of this research has uniquely poised us to better assess the adaptability of migratory elk in the face of dynamic landscape conditions and what this means in terms of persistence of this herd into the future.

#### *Deliverables/Results:*

- In February and March 2016, 46 cow elk were free-range darted. Two of these cows were not pregnant (4 per cent) and yet still collared; all pregnant elk were collared and fit with vaginal implant transmitters (VITs) in preparation for capturing and tagging calves in spring and summer 2016. As of March 15, 2016, a total of 80 elk were collared (46 GPS, 30 VHF; though four are considered missing or dead) or around 26-28 per cent of total adult female population. In winters 2014/15 and 2015/16, the pregnancy rates were 94 per cent and 96 per cent, respectively. The researchers monitored all VHF and GPS-collared resident and eastern migrant elk on an almost daily basis to determine migratory status and survival. In summer 2015, 31 per cent of the radio-collared adult female elk migrated to the east, on or near lands operated on by Sundre Forest Products—West Fraser and Shell Energy Canada. Twelve per cent of the radio-collared adult female elk migrated west into Banff National Park, and 57 per cent remained resident on YHT.
- Based on VITs and location of neonatal elk calves, 16 per cent of cows gave birth in Banff National Park, 23 per cent of cows gave birth to the north of the ranch mostly in the Bighorn Creek cut blocks and along Scalp Creek, 26 per cent of cows gave birth to the east of YHT, 32 per cent of cows gave birth in the vicinity of the ranch, and 3 per cent gave birth to the south of the ranch. Thirty-four calves (22 residents, 12 eastern migrants) were captured via ground monitoring vaginal implant transmitters in May and June 2015. The median birth date for calves born in 2013-2015 was May 30 and the mean mass at birth was 17.7 plus or minus 2.1 kg. Calves equipped with radio ear tags were monitored one-three times daily from a distance for mortality. Fourteen of the 34 calves were alive as of March 15, 2016. Of the known mortality causes in 2013-2015, most were attributed to bears (43 per cent), followed by wolves (7 per cent), and cougars (7 per cent).
- The YHT study website continues to be updated, and information from this summer's research will be posted in the coming months.
- Scientific presentations were given at the conferences for Alberta Chapter of The Wildlife Society, The Wildlife Society, and Western States Deer & Elk Workshop.
- Two manuscripts are in production: (1) an article on vaginal implant transmitters; (2) a collaboration with a group of elk biologists on a meta-analysis of overwinter calf survival, in complement to the ongoing calving studies.

## Microhabitat Selection by Western Toads (*Anaxyrus boreas*) in North-central Alberta

University of Alberta (Dr. Paszkowski)

Grant: \$13,200

Project Code: 030-00-90-248

Project Status: New; Extended until March 2017

Western toad (*Anaxyrus boreas*) is a species at risk in Canada (COSEWIC: *Special Concern*) and habitat loss and fragmentation is a major threat to this species. Western toads breed in aquatic habitat, but forage and hibernate on land. They have large home range sizes and can use terrestrial habitat over two km straight-line distance from breeding sites; therefore, protecting all habitat within a toad's home-range is not always a realistic management strategy. The overall goal of this project is to document habitat selection by western toads so that essential habitat features are identified and these patches are protected. Previously, the researchers examined large-scale, land-cover selection by western toads (Browne and Paszkowski 2014). Building on this work, the research team now plan to examine selection of microhabitat features (moisture level, temperature, amount and type of cover) in order to understand the fine-scale physical habitat attributes that toads require and relate these to land-cover selection. Western toads were radio-tracked in 2004-2006 from three study areas that represented three different land-use types: Elk Island National Park (EINP), an agricultural area 3.2 km from EINP, and an area moderately disturbed by forestry and the energy sector north of Lac La Biche. Microhabitat features within a 0.25 m<sup>2</sup> grid were recorded at each toad location and at a paired random location for comparison. Data from 92 individuals will be used to create resource selection functions to identify microhabitat features selected by western toads. The field work for this project was completed as part of C. Browne's doctoral research. Under this project the data will be prepared for analysis, data analyses conducted and a manuscript produced. The work is very timely as the western toads in Alberta have been designated federally as a separate "designatable unit" from populations in British Columbia, requiring separate management actions.

Deliverables/Results:

- This project has been delayed for one year, because Constance Browne who collected the data and will be doing all analysis has the opportunity to take part in another herpetological project that is time sensitive.
- A manuscript is planned for March 2017.

## Paleolimnological Reconstruction of Westslope Cutthroat Trout (*Oncorhynchus clarkii lewisi*) in Alpine Lakes

University of Alberta (Dr. Poesch)

Grant: \$27,000

Project Code: 020-00-90-205

Project Status: Funded in 2014/15; Completed

A century of introduction of non-native sportfish into mountain parks has biologically impoverished hundreds of lakes. A mission of the UNESCO World Heritage Site program is to see these damaged ecosystems restored in our national mountain parks, which involves assessment of the net impacts of invasive salmonids and ultimately their complete removal. However, lack of reliable long-term fish-stocking data for many of these lakes has confounded the efforts of

resource managers. In the absence of baseline data, paleolimnological techniques can provide valuable data concerning the origins and histories of exotic fish in these lakes. A novel and sensitive metric for quantifying the histories of non-native and native sportfish in a lake is environmental DNA (eDNA) preserved in sediments (paleo-eDNA) because physical evidence (e.g., scales, otoliths) of past fish abundance is scarce. As eDNA encompasses a variety of organisms, it is essential to utilize molecular markers that are specific to the target species. A suite of six diagnostic single nucleotide polymorphism (SNP) markers taken from Campbell *et al.* (2012) were used to determine the purity and relatedness of westslope cutthroat trout relative to all other salmonids in the study area. To ensure these markers were diagnostic, 160 fin clips were analyzed from representative individuals that encompass the *Oncorhynchus* and *Salvelinus* species diversity present in Banff National Park. Further analyses revealed a number of new SNP sites for each species that helped increase confidence in the diagnostics of each marker. Sediment cores were obtained from seven alpine lakes within Banff National Park that contain populations of westslope cutthroat trout that have questionable origins and genetic purity. As Pb-210 radioisotopic analysis revealed that 150 years of sediment accumulation in our lakes never exceed 15 cm of sediment accumulation, the top 15 cm of each sediment core was used for next-generation sequencing. An Illumina MiSeq platform was used to identify the presence or absence of salmonid eDNA throughout each core. Although sequencing of each core has been completed, the large amount of data associated with a single sediment section (16-19,000 reads) and lack of appropriate high-throughput software has resulted in an ongoing analysis.

Deliverables/Results:

- As the final results from this project are ongoing, deliverables that were expected in the summer of 2015 have been pushed back to 2016. Results will be presented at a scientific conference and will be written as both a scientific peer-reviewed publication and public-release newsletter article in the Parks Canada Research Links. ACA will be acknowledged as project contributors for all deliverables.

## Wild Pollinator Conservation and Restoration in Southern Alberta Croplands: Tests of neonicotinoid and habitat change

University of Calgary (Dr. Galpern)

Grant: \$22,700

Project Code: 015-00-90-225

Project Status: New; Completed

Project Website: [ecologics.ucalgary.ca/lab/science/pollinator-conservation](http://ecologics.ucalgary.ca/lab/science/pollinator-conservation)

The research team completed a successful survey for pollinating insects at 100 sites across an agricultural landscape 3,000 km<sup>2</sup> in size south of Calgary. Sampling occurred continuously over eight consecutive weeks during summer of 2015. In total, field work involved 10,000 km<sup>2</sup> of driving and the labour of two research assistants. During the fall and winter, nearly 5,000 bumble bees from 17 species were processed, pinned and identified. This time consuming task was achieved with the help of five research assistants and several volunteer students. Initial results suggest that although species richness may be high, species evenness is not, with one species *Bombus borealis* dominating samples (approximately 50 per cent of all bees collected). This dominance by a single species was unexpected, and is not reflected in a historical database for this region. Another notable finding is new evidence

of persisting populations of the declining western bumble bee (*B. occidentalis*) a species that is being considered for listing under the *Species At Risk* Act. The goal in this work is to relate the conditions of the agricultural landscape to the abundance and community structure of bumble bees and to determine whether pollinator populations have been impacted by proximity to canola, a crop with high application rates of insecticides known to be harmful to bees. The data set they have assembled enables a robust test of these questions, and analysis of these data by a Master's student are beginning now that finalized and error-checked data have become available. Sampling was more extensive than initially proposed to ACA achieving substantially more coverage in both space and time. This was possible through co-funding for this project from three other organizations. The systematic nature of sampling across a broad range of landscape conditions and the large sample size achieved both within and among species has produced an invaluable resource for identifying pollinator reservoirs and the conditions that maximize pollination potential for both crops and wild plants in Southern Alberta croplands. In addition to deliverables based on the analyses of these data, this dataset funded by ACA will become part of longer-term beneficial insects surveillance network that the principal investigator and colleagues are establishing in Alberta and Saskatchewan.

#### Deliverables/Results:

- Website for project: a website for the project has been established at [pollinate.ucalgary.ca](http://pollinate.ucalgary.ca). Given that the research team has not yet completed any of the major analyses, the website is not yet populated with content. As content becomes available, the researchers intend to use this website to publicize main results and use it as a platform for public engagement with the ongoing investigation of pollinators and other beneficial insects in Alberta croplands.
- Risk and mitigation maps: these too require a finalized data set. As mentioned, these depend on there being a modelled relationship between land cover and pollinator variables. Statistical analyses for this purpose will be conducted in April and May 2016, with the production of maps, if results permit, thereafter.
- A report summarizing main findings: this will follow the development of the risk and mitigation maps. To be completed during spring and summer 2016 and posted on the website.
- Manuscripts for submission to academic journals: the researchers have begun drafting a manuscript based on their *B. occidentalis* findings, given the high interest in this species that is likely to be listed as a species at risk. Other manuscripts examining the relationship between crops with neonicotinoid applications and other land covers will depend on ecologically significant findings. They anticipate that there will be at least one additional publication possible given the rigour of the data collection process and current high interest in the influences of landscape on pollinators. As with any academic project, they anticipate a few months lag between the completion of the data collection and the preparation of manuscripts and reports that are ready for submission given the time required to do this. The main graduate student working on this project and the principal investigators will focus on the analysis of these data during the spring and summer.

## Analysis of Polymorphisms in the Prion Protein of Alberta Caribou as an Indicator of their Susceptibility to Chronic Wasting Disease

### University of Calgary (Dr. Gilch)

Grant: \$16,500

Project Code: 030-00-90-251

Project Status: New; Completed

Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy of wild and captive cervids in North America, including the Canadian provinces Saskatchewan and Alberta. CWD is caused by infection with prions, infectious entities that consist only of a misfolded isoform (PrP<sup>Sc</sup>) of the cellular prion protein (PrP<sup>C</sup>). PrP<sup>C</sup> is a normal host-encoded protein mainly expressed in the central nervous system. Currently, white-tailed and mule deer, elk and moose are affected. One concern is that caribou will be infected, which have been demonstrated to be susceptible to CWD by experimental oral infection. In all cervid species susceptible to CWD polymorphic amino acids in the PrP are known which modulate incubation times and susceptibility to disease. The project goal was to analyze the distribution and frequency of prion protein gene (*Prnp*) polymorphism in Alberta caribou populations. The research team has isolated genomic DNA from blood samples, used PCR to amplify the sequence encoding the mature form of PrP and sequenced the PCR products of a representative number of five populations each of woodland caribou (*Rangifer tarandus caribou*) of the boreal and mountain ecotypes, respectively. Single nucleotide polymorphisms at codons 129 (G/S), 138 (S/N), and 146 (synonymous; N/N) have been identified. A previous study analyzing polymorphisms in Alaska caribou (*Rangifer tarandus grantii*) has reported codon 169 to be polymorphic, in this study no animal was identified carrying a substitution at this amino acid position. However, they found a significant difference (p-value = 0.00019; Fisher's Exact Test) between the Chinchaga population (boreal ecotype) to all other population. In this population, an increase frequency of the allele encoding asparagine at codon 138 (138N) was found. This is particularly interesting since the 138N allele has been reported to confer a certain degree of resistance to CWD infection in caribou that were orally infected during an experimental study. CWD-endemic areas in Alberta are now expanding towards western Alberta. There is no efficient approach to eliminate environmental contamination and spread of CWD. This study provides a concept of *Prnp* allele distribution among woodland caribou. The high frequency of a potentially protective allele (138N) we found in the Chinchaga population underline the importance to protect this population against further decline, as presumably there will be a high degree of CWD resistance among these animals.

#### Deliverables/Results:

- A significantly higher frequency of the *Prnp* allele encoding asparagine at codon 138 (138N) in the Chinchaga population of woodland caribou (boreal ecotype) was found, compared to the nine other populations analysed. This is an important finding, as 138N has been associated with possible resistance to CWD infection in both *in vitro* and *in vivo* studies on CWD transmission.
- A PCR protocol has been established and extracted high-quality DNA from the blood samples and performed all PCR and sequencing reactions and sequence evaluation.
- Currently, a publication is in preparation for submission to the peer-reviewed journal *Veterinary Research*: "Prion protein gene polymorphisms and allele frequencies in woodland caribou (*Rangifer tarandus caribou*) in Alberta" by Yo Ching Cheng, Marco Musiani, Sabine Gilch.

## Genetic Origins, Diversity and Parasitology of Alberta's Feral (Wild) Horses

### University of Calgary (Dr. Gilleard)

Grant: \$35,262

Project Code: 030-00-90-250

Project Status: New; Completed

The goal of this project was to increase knowledge on the genetics and parasitology of Alberta feral horses to assist with the development and application of a socially acceptable, evidence-based management plan. The specific objectives consisted in: (1) reconstructing the genetic history of the Alberta feral horse population; (2) quantifying its contribution to Canada's equine gene pool; (3) evaluating the impact of different management options on the long-term retention of genetic diversity; (4) assisting in delineating biologically relevant management units; (5) assessing the risk of gastrointestinal nematode parasite transmission from feral to domestic horses. The main activities were: (1) obtaining DNA and fecal (parasite) samples from horses from across the population's range; (2) applying molecular genetic tools to describe both horse genetic diversity and their intestinal parasitic nematode communities. Sample collection was highly successful: for the horse genetics component of the project, 188 DNA samples were obtained (24 hair roots, 30 saliva and 134 fecal swabs). For the parasitology component of the project, 146 samples were obtained. Sampling took place in five (out of six) equine zones (Elbow, Ghost River, Sundre, Clearwater, Nordegg) and covered most of the feral horse population range. Assistance from AEP and volunteers from the Wild Horses of Alberta Society (WHOAS) proved to be highly valuable in locating and sampling free-living horses and played a key role in reaching the project objectives. Genetic analysis of the samples collected is still underway but preliminary data for the parasitology component of the project indicate that feral horses exhibit very high parasite load (1,700 strongyle eggs per gram of feces) compared to what is typically observed in domestic horses. The researchers also observed a surprisingly high prevalence of highly pathogenic nematode species, in particular *Strongylus vulgaris* (more than 90 per cent prevalence) and *Parascaris equorum* (around 25 per cent). Overall, the research team were very successful in achieving their sampling objectives, and the planned upcoming publication of associated genetic analyses is expected to be an important contribution to equine veterinary science and biodiversity conservation in Alberta.

#### Deliverables/Results:

- Through this project, the researchers have confirmed that Alberta feral horses can be effectively sampled for host genetic and parasitology analyses. With a current population size estimated at around 1,000, they have effectively sampled more than 15 per cent of the population with minimal effort (mainly driving along roads where horses have been seen during aerial counts). Monitoring temporal trends in genetic diversity and parasites of Alberta wild horses could thus easily be incorporated into future management plans. The analysis of genetic data generated during this project will assist AEP in developing a socially acceptable management plan for the horses.
- While infection by large strongyles including *S. vulgaris* was expected, the very high incidence of such infection (over 90 per cent) was unforeseen. *S. vulgaris* is present in domestic horses but it is believed that the intense use of anthelmintics over the past decades has reduced its incidence to very low levels. Because these parasites can cause severe pathological issues in domestic horses, it appears

advisable to consider deworming of domestic horses that come into contact with feral horse habitat, as well as feral horses that are captured and put up for adoption. Doing so would limit the risk of spreading highly pathogenic parasites into the Alberta domestic horse population. Further research investigating the role of feral horses as a reservoir and source of *S. vulgaris* in Alberta seems warranted.

- Peer-reviewed scientific articles will be published following the completion of data analysis. Raw data will be made public upon publication.

## The Distribution of the European Strain of *Echinococcus multilocularis* in Alberta

### University of Calgary (Dr. Massolo)

Grant: \$32,856

Project Code: 030-00-90-247

Project Status: New; Extended until March 2017

This project aimed to survey the distribution of the strains of *Echinococcus multilocularis*, an important zoonotic parasite, across Alberta, using carcasses (200 coyotes and 120 foxes) that are normally collected and destroyed by the Alberta Trappers' Association (ATA) trappers. The project had a good start in June 2015 when the research team met with the ATA board to present the project and discuss the details about sampling, tagging and delivery of carcasses of coyotes and foxes. In September 2015, all the needed material and documentation was sent to the liaison person at the ATA and this material was sent to the trappers. The sampling did not start until February. Although the researchers (with the ATA people) expected it to start earlier, the trappers waited to have an adequate number of carcasses before delivering them and they started receiving some carcasses only in the last three weeks. In total 48 carcasses (41 coyotes and 7 foxes) have been received, necropsies have already been performed on more than 50 per cent of them (26). In the meanwhile, the researchers have developed a PCR-based technique to expedite the detection of the parasite in the carcasses. Many trappers are now in the process of delivering more carcasses, but they do not yet know how many and from where. This project had erroneously a timeline of two years instead of one, and to amend that mistake a one-year extension of the project was required to allow for the completion of the delivery and new collection and the processing of the samples.

#### Deliverables/Results:

- Expected deliverables (not yet completed):
  - A map with the spatial distribution of the European strain of *Echinococcus multilocularis* in Alberta with varying degrees of prevalence aggregated for Fur Management Zones.
  - An estimate of the time of invasion and estimate the minimum number of invasion events that have occurred in Alberta.
  - Identify possible sources of invasions.
  - The results of this study will be written as one or more manuscripts and submitted to appropriate scientific journals.
  - The essence of the findings will also be conveyed to wildlife managers and stakeholders through technical reports to the ATA and AEP, and through information material directly to trappers and hunters through their associations.
  - A web-page will be added to the existing web page at U of C to describe in lay language the results of the proposed study.

## Determining Range-wide Influences on Breeding Productivity of Declining Migratory Songbirds in Alberta

*University of Manitoba (Dr. Fraser)*

Grant: \$24,458

Project Code: 030-00-90-253

Project Status: New; Completed

This research project is aimed at mapping year-round habitat use, migratory connectivity, and seasonal interactions for two declining songbird species that breed in Alberta: mountain bluebird and purple martin. With ACA support, migration routes and overwintering sites have been mapped for mountain bluebird for the first time as well as furthered our understanding of migratory connectivity for the Alberta population of purple martins. During the 2015 breeding season, ten archival, migration tracking units (light-level geolocators) were retrieved from mountain bluebirds and 17 units from purple martins, deployed the previous season (2014). These will be complemented by retrievals in 2016 of 70 units deployed on both species during the 2015 breeding season. Data collected to date are currently being analyzed and migration maps for each individual bird tracked with a geolocator are being created. So far, the research team has discovered that tracked bluebirds overwinter in the mid-eastern region of the overwintering range, and have few stopover sites during both spring and fall migration. They have also collected provisioning rate data (i.e. parental feeding rates) for purple martins, using new RFID technology, which will be used to determine seasonal interactions between the migratory period and nesting behaviour and productivity. Preliminary data analysis shows that the timing of migration influences first egg date and that provisioning rates are highly variable between individuals and over time; future analyses will reveal how migratory route conditions may contribute to these patterns. The education and outreach component of this project has also been highly successful: this project supports the MSc thesis of Alisha Ritchie (current MSc student in Fraser lab), the training of student field assistants and volunteers, and because it has been conducted at a public nature interpretive center (Ellis Bird Farm, Lacombe), hundreds of members of the public of all ages have interacted with project activities. Preliminary data has already been presented at the Prairie Conservation & Endangered Species Conference (February 2016) and will be featured in two invited keynote talks (by K. Fraser) at the 2016 North American Bluebird Society Conference, as well as at additional future scientific and public presentations.

Deliverables/Results:

- Data analyses to date for mountain bluebirds reveal migratory connectivity between Alberta and overwintering locations in the mid-eastern portion of their nonbreeding range. These include overwintering sites in several US states (Texas, Oklahoma, New Mexico, Nebraska).
- Purple martins originating from Alberta study sites show indirect fall migration routes to the gulf coast (large eastward movements first), rapid initial fall migration, long-stopover duration (as compared to other populations and often over 20 days) in the eastern Yucatan Peninsula and along east coast of Honduras and Nicaragua.
- Nest provisioning behavior of purple martins varies widely throughout the season and between individuals. Nest provisioning rates peak for both males and females during nestling age day 10-20, but seems to be strongly influenced by local temperature and rainfall patterns (analyses in progress). First egg date or clutch initiation was influenced largely by migration timing and arrival date.

- Based on the 2015 summer season of research on this project and preliminary analyses, the researchers can already identify some project deliverables:
  - Two public project research talks given by project member Alisha Ritchie at the Ellis Bird Farm and at the Camrose Purple Martin Festival. These talks focused on new migration and RFID data for both mountain bluebird and purple martin (approximately 85 attendees total). A talk at a scientific conference (presenter: A. Ritchie; Prairie Conservation & Endangered Species Conference, February 2016). Two upcoming (July), invited keynote talks at the 2016 North American Bluebird Society Conference (Ellis Bird Farm) on mountain bluebirds and purple martins will be mostly based upon data and analyses from this project (presenter: K. Fraser). Lastly, both K. Fraser and A. Ritchie will present results of this project at the North American Ornithological Conference (Washington, August 2016; 2,000 attendees expected).
  - Public outreach and education with approximately 500 visitors to Ellis Bird Farm. Visitors included many elementary school children visiting with school programs and others of all ages.
  - *Red Deer Advocate* article on the purple martin research at the Ellis Bird Farm ("High Tech for High Flyers" Crystal Rhyno, July 9, 2015). Project members Alisha Ritchie and Myrna Pearman interviewed.
- The main deliverables of this project will be the resulting scientific papers, related media and outreach activities based on the final results, and A. Ritchie's MSc thesis at the University of Manitoba. These deliverables are anticipated after the conclusion of the 2016 field season (when tracking tags deployed in the previous year are retrieved), and continuing toward A. Ritchie's thesis defense.

## Experimental Management of Bighorn Sheep

*University of Sherbrooke (Dr. Festa-Bianchet)*

Grant: \$9,360

Project Code: 030-00-90-174

Project Status: Funded in 2014/15; Completed

Project Website: <http://marco.recherche.usherbrooke.ca/marco.htm>

The 43rd year of research at Ram Mountain sought to attempt a genetic and demographic rescue of the population, which had declined to low numbers and has lost genetic variability. The translocation of nine sheep from Cadomin was successful, all remained on Ram and their behaviour, social integration and changes in mass and horn size were monitored. The researchers continued to monitor survival, growth and reproduction of the entire population (61 sheep in September) as well as the spread of genes from previous translocations from Cadomin. Two adult rams were not trapped, all other sheep were captured and measured at least twice, except for one lamb that was only caught once. A new analysis confirmed that 30 years of selective hunting led to genetically smaller horns in this population, and documented that the genetic decline stopped when the legal definition of "trophy ram" was changed to full curl. Seven papers were published in the refereed literature, and another five were submitted. The researchers also increased their level of interactions with wildlife managers and stakeholders in Alberta, by contributing to the ongoing discussion about bighorn sheep management through popular articles, blogpost, media interviews and presentations at scientific meetings.

## Deliverables/Results:

- Fieldwork in 2015 ended on September 22. With the exception of two rams, all sheep were captured at least once, and all ewes and yearlings were captured at least twice. The new supplementation of sheep from Cadomin appears to be a success as described above and the researchers look forward to seeing which sheep will still be on the mountain in late May 2016. Survival over the last winter was back to normal, following apparent removal of a sheep-eating cougar during the 2013 hunting season. There were no unexpected delays or changes in plans.
- This is a long-term program, so there are rarely main results in any particular year, but the researchers were pleased to see the initial success of the transplant. The population should be well on its way to recovery if adult survival will remain at normal levels for a couple of years. There were nine female lambs in September 2015; therefore, this may end up as a strong cohort compared to recent years, depending on overwinter survival. An unexpected result over the last three years has been the poor survival of adult rams, for unknown causes although cougar predation in 2013/14 may have been a contributing factor. In September 2015, there were only ten adult and two yearling rams in the population, half as many as two years earlier.
- In addition to the scientific publications listed below, we published a popular article in *Alberta Outdoorsman* ("Actually, selective hunting does select" by M. Festa-Bianchet), a blog about this research that was viewed over 1,200 times <http://ecoevoevoeco.blogspot.ca/2016/01/like-it-or-not-intense-trophy-hunting.html> and made a presentation at the meeting of the Alberta Chapter of the Wildlife Society ("When does selective hunting lead to evolutionary change and so what if it does?" by M. Festa-Bianchet). The researchers have been very engaged in the ongoing discussions about sheep management in Alberta. This research is a major contributor of scientific data for the new Management Plan for bighorn sheep in Alberta, which cites 37 publications from the Ram Mountain study and another 15 from their other research programs in Alberta, at Sheep River and Caw Ridge.
- List of publications using data from the Ram Mountain study since 2015:
  - Martin, A.M., M. Festa-Bianchet, D. Coltman, and F. Pelletier. Demographic drivers of age-dependent fluctuating sexual selection. *Journal of Evolutionary Biology*, in press.
  - Pigeon, G., M. Festa-Bianchet, D.W. Coltman and F. Pelletier. Intense selective hunting leads to artificial evolution in horn size. *Evolutionary Applications*, in press.
  - Douhard, M., M. Festa-Bianchet, D.W. Coltman and F. Pelletier. 2016. Paternal reproductive success drives sex allocation in a wild mammal. *Evolution*, 70: 358-368.
  - Vander Wal, E., A. Gagné-Delorme, M. Festa-Bianchet and F. Pelletier. Dyadic associations and individual sociality in bighorn ewes. *Behavioral Ecology*, in press
  - Festa-Bianchet, M., S. Schindler and F. Pelletier. 2015. Record books do not capture population trends in trophy size. *Wildlife Society Bulletin*, 39: 746-750.
  - Martin, A.M., M. Festa-Bianchet, D. Coltman, and F. Pelletier. 2015. Comparing measures of mating inequality and opportunity for selection with sexual selection on a quantitative character for bighorn sheep. *Journal of Evolutionary Biology*, 28: 223-230.
  - Vander Wal, E., M. Festa-Bianchet, D. Réale, D. Coltman and F. Pelletier. 2015. Sex-based differences in the adaptive value of social behavior contrasted against morphology and environment. *Ecology*, 96: 631-641.
- These papers have been submitted:
  - Hamel, S., et al. Cohort variation in individual body mass dissipates with age in large herbivores. To *Ecological Monographs*.
  - Douhard, M., M. Festa-Bianchet, S. Guillemette, F. Pelletier. Effects of weather and climate on horn growth in male bighorn sheep. To *Oikos*.
  - Schindler, S., M. Festa-Bianchet and F. Pelletier. Assuming no evolution: expected hunting effects on demography and trophy distribution of bighorn sheep rams. To *Journal of Wildlife Management*.
  - Vander Wal, E., M. Festa-Bianchet, A. Gagné-Delorme, D. Réale, D. Coltman and F. Pelletier. Disentangling behavioural pathways to network centrality in a fusion-fission society: implications for individual fitness. To *Behavioral Ecology and Sociobiology*.
  - Gagné-Delorme, A., E. Vander Wal, M. Festa-Bianchet and F. Pelletier. Testing the 'gambit of the group': a comparison of three social networks for a gregarious ungulate. To *PloS1*.

# APPENDIX

## Projects in Relation to Grants Funding Priorities 2015/16

### CCEG Funding Priorities

#### FUNDING PRIORITY #1: 5 CCEG PROJECTS

*Habitat enhancement activities specifically listed on provincial recovery plans for Alberta's endangered species (to be done in cooperation with recovery teams).*

**Alberta Fish & Game Association;** Can Livestock Production Support Sustainability of Prairie wildlife? (Operation Grassland Community); \$39,750

**Cows & Fish (Alberta Riparian Habitat Management Society);** Developing Westslope Cutthroat Trout Riparian Habitat Improvement Action Plans; \$5,000

**CPAWS Northern Alberta;** Mapping and Identifying Best Practices for Caribou Range Planning in Northwestern Alberta; \$21,700

**Lesser Slave Lake Bird Observatory;** Avian Monitoring and Education Programs at Lesser Slave Lake; \$26,000

**The King's University College;** Faith-based Organizations and Conservation: Engaging volunteers in recovery plans of endangered pines; \$4,985

#### FUNDING PRIORITY #2: 34 CCEG PROJECTS

*Site specific enhancements of habitat, structures and facilities aimed at increasing recreational angling or hunting opportunities, improving habitat or increasing wildlife/fish productivity on the site (i.e. planting/seeding vegetation, development of new fisheries access sites, nest box initiatives, food plot trials and cover plot trials, spawning bed enhancement, etc.).*

*Stewardship Initiatives (e.g. ongoing maintenance of conservation sites or fisheries access sites; adopt a fence; property inspections for invasive weeds; manual weed control; grass mowing).*

**Alberta Fish & Game Association;** Can Livestock Production Support Sustainability of Prairie wildlife? (Operation Grassland Community); \$39,750

**Alberta Fish & Game Association;** Pronghorn Antelope Migration Corridor Project; \$35,675

**Alberta Riparian Habitat Management Society (Cows & Fish);** Grazing School for Women: Promoting habitat and improved grazing stewardship to livestock producers in south and central Alberta; \$3,000

**Alberta Riparian Habitat Management Society (Cows & Fish);** Developing Westslope Cutthroat Trout Riparian Habitat Improvement Action Plans; \$5,000

**Ann & Sandy Cross Conservation Area;** Protect Your Watershed: Riparian area protection project; \$25,000

**Battle River Research Group;** Eco-buffer Shelterbelt Demonstration; \$2,900

**Beaverhill Bird Observatory;** Wildlife Conservation, Monitoring and Public Engagement at Beaverhill Lake; \$19,900

**Calgary Bird Banding Society;** Cypress Hill Landbird Monitoring Station; \$25,400

**Camrose Wildlife Stewardship Society;** 2015 Camrose Purple Martin Festival; \$2,500

**Friends of Fish Creek Provincial Park Society;** Community Watershed Stewardship 2015; \$3,000

**Glenbow Ranch Park Foundation;** Glenbow Ranch Park Foundation Fishing Club; \$2,025

**Glenbow Ranch Park Foundation;** Bears paw Trail Buildout; \$20,000

**Glenbow Ranch Park Foundation;** Environmental Education at Glenbow Ranch Provincial Park; \$4,960

**Glenbow Ranch Park Foundation;** 2015 Vegetation Management at Glenbow Ranch Provincial Park; \$7,000

**Highway 2 Conservation;** Riparian Education Program; \$11,900

**Kneehill County;** Fyten Reservoir Rehabilitation; \$10,000

**Lesser Slave Lake Bird Observatory;** Avian Monitoring and Education Programs at Lesser Slave Lake; \$26,000

**Lone Pine Farming Inc.;** Education through Habitat Enhancement Project; \$2,000

**Mountain View County;** Ecological and Riparian Enhancement Fund; \$20,000

**Nature Alberta;** Living By Water; \$36,516

**Nature Alberta;** Promoting Beneficial Management Practices for Maintaining Bird Habitat and Decreasing Bird Mortality; \$18,300

**Northern Lights Fly Tyers/TUC Edmonton Chpt;** Conserving and Restoring Arctic Grayling in the Upper Pembina River watershed; \$21,500

**Okotoks and District Fish & Game Association;** Jim Graham Park Fencing Project; \$1,500 (NOT COMPLETED)

**Parkland County;** Alternative Land Use Services (ALUS); \$37,900

**Partners in Habitat Development c/o Eastern Irrigation District;** Partners in Habitat Development; \$15,000

**Red Deer County;** Conservation Partners 2015; \$40,000

**Red Deer Woodchucks;** Upland Bird Habitat Enhancement with Pheasants Forever; \$2,000

**Riverlot 56 Natural Area Society;** Stage 2: 2015 Re-naturalization of Riverlot 56 Disturbed Spaces; \$12,500

**Rocky Mountain Wilderness Society;** Trail Clearing Big Grave to Monaghan Creek; \$7,000

**Sherwood Park Fish & Game Association;** Monarch Butterfly Habitat; \$750

**Town of Sylvan Lake;** Golf Course Creek Wetland Biofilter Restoration; \$3,700

*Trout Unlimited Canada*; Hidden Creek Riparian Restoration Project; \$2,400

*Trout Unlimited Canada*; Yellow Fish Road; \$30,000

*Weaselhead/Glenmore Park Preservation Society*; Weaselhead Invasive Plant Program; \$3,000

**FUNDING PRIORITY #3: 2 CCEG PROJECTS**

*Urban fisheries development, including: initial evaluation of water quality aspects of existing ponds to determine their suitability for fish stocking; purchase of equipment required to ensure suitable water quality for fish stocking (e.g. aeration equipment); fish stocking in public ponds; promotion of an urban fishery (including natural water bodies).*

*Town of Cochrane*; Rainbow Trout Stocking of Mitford Pond; \$1,000

*Willingdon and District Fish & Game Association*; Willingdon Fish Pond and Park; \$1,700

**FUNDING PRIORITY #4: 11 CCEG PROJECTS**

*Impacts of non-native species on persistence of native species.*

*Alberta Invasive Species Council*; PlayCleanGo Implementation; \$20,000

*Alberta Riparian Habitat Management Society (Cows & Fish)*; Developing Westslope Cutthroat Trout Riparian Habitat Improvement Action Plans; \$5,000

*Friends of Fish Creek Provincial Park Society*; Community Watershed Stewardship 2015; \$3,000

*Glenbow Ranch Park Foundation*; 2015 Vegetation Management at Glenbow Ranch Provincial Park; \$7,000

*Nature Alberta*; Living By Water; \$36,516

*Parkland County*; Alternative Land Use Services (ALUS); \$37,900

*Riverlot 56 Natural Area Society*; Stage 2: 2015 Re-naturalization of Riverlot 56 Disturbed Spaces; \$12,500

*The King's University College*; Faith-based Organizations and Conservation: Engaging volunteers in recovery plans of endangered pines; \$4,985

*Trout Unlimited Canada*; Stewardship License Pilot Project; \$2,390

*Trout Unlimited Canada*; Yellow Fish Road; \$30,000

*Weaselhead/Glenmore Park Preservation Society*; Weaselhead Invasive Plant Program; \$3,000

**FUNDING PRIORITY #5: 1 CCEG PROJECTS**

*Improvements and innovation in matching sportsmen with landowners (e.g. facilitating hunter access to depredating waterfowl, elk and deer).*

*Parkland County*; Alternative Land Use Services (ALUS); \$37,900

**FUNDING PRIORITY #6: 35 CCEG PROJECTS**

*Projects related to the retention, recruitment and education of hunters, anglers or trappers (including attracting new mentors, training mentors and providing mentors for new hunters/anglers/trappers; sharing information in schools and with the general public about the link between conservation and hunters/anglers/trappers; this category also includes educating new hunters/anglers/trappers). Generate awareness of the hunting/angling/trapping opportunities available to the public.*

*Alberta Envirothon*; Alberta Envirothon Annual Provincial High-school Competition; \$3,000

*AHEIA*; Bowhunter Education Camp; \$3,000

*AHEIA*; Instructor Recruitment and Recertification; \$3,000

*AHEIA*; Mobile Archery Safety Trailer; \$3,000

*AHEIA*; Outdoor Bound Mentorship Program Handbook; \$1,000

*AHEIA*; 12th Annual OWL Day "Outdoor Wildlife Learning"; \$3,000

*AHEIA*; Outdoor Youth Seminar; \$3,000

*AHEIA*; Youth Fishing Initiatives; \$3,000

*AHEIA*; Conservation Education Instructor's Guide; \$12,000

*AHEIA*; "Essentials Series" Online Education Program: Field Technique Essentials; \$20,000

*AHEIA*; AHEIA's National Archery in the Schools Program \$31,000

*AHEIA*; Outdoor Bound Mentorship Program; \$12,000

*AHEIA*; 22nd Annual Outdoor Women's Program; \$25,080

*AHEIA*; Youth Hunter Education Camp (Week 1, 2, 3, 4); \$48,000

*AHEIA*; Provincial Hunting Day Initiatives; \$21,000

*Glenbow Ranch Park Foundation*; Glenbow Ranch Park Foundation Fishing Club; \$2,025

*Glenbow Ranch Park Foundation*; Bearspaw Trail Buildout; \$20,000

*Highway 2 Conservation*; Riparian Education Program; \$11,900

*Lesser Slave Lake Bird Observatory*; Avian Monitoring and Education Programs at Lesser Slave Lake; \$26,000

*Lethbridge Fish & Game Association*; Youth Fly Tying Club; \$2,960

*Lethbridge Fish & Game Association*; LGFA - Conservation Community and Education Program; \$24,000

*Lethbridge Fish & Game Association*; 5th Annual LFCA/ACA Youth Fishing Recruitment Day; \$6,800

*Lone Pine Farming Inc.*; Education through Habitat Enhancement Project; \$2,000

*Mundare Fish & Game Association*; Junior Fire Arms and Archery Program; \$3,000

*Pheasants Forever Calgary*; 14th annual Youth/Novice Shoot; \$7,000

*Southern Alberta Bible Camp*; Archery Curriculum; \$2,500

*Southern Alberta Bible Camp*; Pelletry Curriculum; \$1,500

*Southern Alberta Bible Camp*; Walleye - Pike Fishing; \$4,200

*Taber Christian School*; TCS Outdoor Education Archery Equipment Project; \$4,000

**Town of Cochrane;** Rainbow Trout Stocking of Mitford Pond; \$1,000  
**Trout Unlimited Canada;** Stewardship License Pilot Project; \$2,390  
**Trout Unlimited Canada;** Hidden Creek Riparian Restoration Project; \$2,400  
**Trout Unlimited Canada;** Yellow Fish Road; \$30,000  
**Trout Unlimited Canada;** Understanding Fish, Water and Conservation; \$12,500  
**Weaselhead/Glenmore Park Preservation Society;** Weaselhead Invasive Plant Program; \$3,000

## **FUNDING PRIORITY #7: 47 CCEG PROJECT**

*Projects related to outdoor conservation education.*

**AHEIA;** Bowhunter Education Camp; \$3,000  
**AHEIA;** Instructor Recruitment and Recertification; \$3,000  
**AHEIA;** 12th Annual OWL Day "Outdoor Wildlife Learning"; \$3,000  
**AHEIA;** Outdoor Youth Seminar; \$3,000  
**AHEIA;** Youth Fishing Initiatives; \$3,000  
**AHEIA;** Conservation Education Instructor's Guide; \$12,000  
**AHEIA;** "Essentials Series" Online Education Program: Field Technique Essentials; \$20,000  
**AHEIA;** Outdoor Bound Mentorship Program; \$12,000  
**AHEIA;** 22nd Annual Outdoor Women's Program; \$25,080  
**AHEIA;** Youth Hunter Education Camp (Week 1, 2, 3, 4); \$48,000  
**AHEIA;** Provincial Hunting Day Initiatives; \$21,000  
**Alberta Invasive Species Council;** PlayCleanGo Implementation; \$20,000  
**Alberta Riparian Habitat Management Society (Cows and Fish);** Grazing School for Women: Promoting habitat and improved grazing stewardship to livestock producers in south and central Alberta; \$3,000  
**Battle River Research Group;** Eco-buffer Shelterbelt Demonstration; \$2,900  
**Beaverhill Bird Observatory;** Wildlife Conservation, Monitoring and Public Engagement at Beaverhill Lake; \$19,900  
**Camrose Wildlife Stewardship Society;** 2015 Camrose Purple Martin Festival; \$2,500  
**Edmonton Nature Club;** 2015 Snow Goose Chase; \$2,000  
**Foothills Restoration Forum;** Foothills Restoration Forum Outreach and Education; \$11,300  
**Friends of Fish Creek Provincial Park Society;** Community Watershed Stewardship 2015; \$3,000  
**Glenbow Ranch Park Foundation;** Glenbow Ranch Park Foundation Fishing Club; \$2,025  
**Glenbow Ranch Park Foundation;** Bears paw Trail Buildout; \$20,000  
**Glenbow Ranch Park Foundation;** Environmental Education at Glenbow Ranch Provincial Park; \$4,960  
**Helen Schuler Nature Centre;** "Extreme by Nature" Environmental Education for 11 to 15 Year Olds; \$3,000.00  
**Highway 2 Conservation;** Riparian Education Program; \$11,900

**Kneehill County;** Fyten Reservoir Rehabilitation; \$10,000  
**Lesser Slave Lake Bird Observatory;** Avian Monitoring and Education Programs at Lesser Slave Lake; \$26,000  
**Lethbridge Fish & Game Association;** 5th Annual LFGA/ACA Youth Fishing Recruitment Day; \$6,800  
**Lethbridge Fish & Game Association;** LGFA - Conservation Community and Education Program; \$24,000  
**Lone Pine Farming Inc.;** Education through Habitat Enhancement Project; \$2,000  
**Nature Alberta;** Living By Water; \$36,516  
**Nature Alberta;** Promoting Beneficial Management Practices for Maintaining Bird Habitat and Decreasing Bird Mortality; \$18,300  
**Nature Alberta;** The Young Naturalist Club Program of Alberta (Nature Kids); \$30,000  
**Parkland County;** Alternative Land Use Services (ALUS); \$37,900  
**Parkland School Division #70;** Parkland Youth Wetlands Stewardship Project; \$19,500  
**Red Deer River Naturalists;** Piper Creek Restoration Agriculture Project's Pollinator Hotel; \$3,000  
**Red Deer Woodchucks;** Upland Bird Habitat Enhancement with Pheasants Forever; \$2,000  
**Riverlot 56 Natural Area Society;** Stage 2: 2015 Re-naturalization of Riverlot 56 Disturbed Spaces; \$12,500  
**Safe Drinking Water Foundation;** Operation Water Drop and Operation Water Pollution Kids to CE Perry Middle School's field trip; \$850  
**Sherwood Park Fish & Game Association;** Monarch Butterfly Habitat; \$750  
**Southern Alberta Bible Camp;** Walleye – Pike fishing; \$4,200  
**Taber Christian School;** TCS Outdoor Education Archery Equipment Project; \$4,000  
**Town of Sylvan Lake;** Golf Course Creek Wetland Biofilter Restoration; \$3,700  
**Trout Unlimited Canada;** Stewardship License Pilot Project; \$2,390  
**Trout Unlimited Canada;** Hidden Creek Riparian Restoration Project; \$2,400  
**Trout Unlimited Canada;** Understanding Fish, Water and Conservation; \$12,500  
**Trout Unlimited Canada;** Yellow Fish Road; \$30,000  
**Weaselhead/Glenmore Park Preservation Society;** Weaselhead Invasive Plant Program; \$3,000

## ACA Research Grants Funding Priorities

### FUNDING PRIORITY #1: 2 RESEARCH PROJECTS

Research activities specifically listed on provincial recovery plans for Alberta's endangered species (to be done in cooperation with recovery teams).

**University of Alberta;** Effects of Industry on Wolverine (*Gulo gulo*) Ecology in the Boreal Forest of Northern Alberta; \$68,138

**University of Alberta;** Paleolimnological Reconstruction of Westslope Cutthroat Trout (*Oncorhynchus clarkii lewisi*) in Alpine Lakes; \$27,000

### FUNDING PRIORITY #2: 1 RESEARCH PROJECT

Impacts of non-native species on persistence of native species.

**University of Calgary;** Genetic Origins, Diversity and Parasitology of Alberta's Feral (Wild) Horses; \$35,262

### FUNDING PRIORITY #3: 0 RESEARCH PROJECT

Develop and validate inventory tools to determine the relative density and range of ungulate species using innovative techniques such as trail cameras or passive DNA samples.

### FUNDING PRIORITY #4: 0 RESEARCH PROJECTS

Evaluate the effect of pesticides or herbicides on upland game birds (sharp-tailed grouse, pheasant, gray partridge) in agricultural landscapes.

### FUNDING PRIORITY #5: 2 RESEARCH PROJECTS

Evaluate the effect of recreational access (mode, timing, duration) on wildlife & fish populations and habitat.

**University of Alberta;** Effects of Industry on Wolverine (*Gulo gulo*) Ecology in the Boreal Forest of Northern Alberta; \$68,138

**University of Alberta;** Persistence of Ya Ha Tinda Elk Population: The role of calf survival; \$29,386

### FUNDING PRIORITY #6: 1 RESEARCH PROJECT

Investigation of methods for reducing the spread and/or impact of wildlife or fish related diseases.

**University of Calgary;** The Distribution of the European Strain of *Echinococcus multilocularis* in Alberta; \$32,856

### FUNDING PRIORITY #7: 2 RESEARCH PROJECTS

Evaluate the impact of various harvest management regimes on fish or wildlife populations (e.g. fish size limits, three-point or larger elk requirements, etc.).

**University of Alberta;** In Paradise or Peril? Using Bear Rubs to Understand Black Bear Populations in Southwestern Alberta; \$25,000

**University of Sherbrooke;** Experimental Management of Bighorn Sheep; \$9,360

### FUNDING PRIORITY #8: 1 RESEARCH PROJECT

Evaluate the social demographics of hunting and angling to determine the factors influencing the decision to become involve in hunting or angling and the reasons why people opt out in a particular year.

**University of Alberta;** Evaluating Prairie Waterfowl Hunter Recruitment and Retention; \$26,126

### FUNDING PRIORITY #9: 0 RESEARCH PROJECTS

Evaluate the effect of biological solutions of carbon sequestration on grasslands and treed lands.

### FUNDING PRIORITY #10: 0 RESEARCH PROJECTS

Effects of agricultural run-off on fisheries.

### FUNDING PRIORITY # 11: 1 RESEARCH PROJECT

Evaluate approaches for improving the abundance of pollinators in agricultural landscapes.

**University of Calgary;** Wild Pollinator Conservation and Restoration in Southern Alberta Croplands: Tests of neonicotinoid and habitat change; \$22,700

### FUNDING PRIORITY #12: 4 RESEARCH PROJECTS

Work towards clarifying status of current data deficient species.

**University of Alberta;** Effects of Industry on Wolverine (*Gulo gulo*) Ecology in the Boreal Forest of Northern Alberta; \$68,138

**University of Alberta;** In Paradise or Peril? Using Bear Rubs to Understand Black Bear Populations in Southwestern Alberta; \$25,000

**University of Alberta;** Microhabitat Selection by Western Toads (*Anaxyrus boreas*) in North-central Alberta; \$13,200

**University of Manitoba;** Determining Range-wide Influences on Breeding Productivity of Declining Migratory Songbirds in Alberta; \$24,458

### NONE OF THE FUNDING PRIORITIES: 2 PROJECTS (1 CCEG; 1 RESEARCH)

**Alberta Hunters Who Care;** Wild Game for the Food Bank Project; \$12,000

**University of Calgary;** Analysis of Polymorphisms in the Prion Protein of Alberta Caribou as an Indicator of Their Susceptibility to Chronic Wasting Disease; \$16,500 (Has strong link to the Background document Boyce, M and M. Poesch, Research needs for fisheries and wildlife in Alberta. University of Alberta. 35pp.)

Note: Projects can relate to multiple funding priorities.





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