

Alberta Conservation Association
2020/21 Project Summary Report

Project Name: Connectivity Project

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Partnerships

Alberta Environment and Parks

Alberta Fish & Game Association (Zone 1)

Canadian Agricultural Partnership

Lethbridge Fish and Game Association

Pheasants Forever

Rogers Sugar

Southern Alberta Bowhunters Association

St. Mary River Irrigation District

Taber Irrigation District

Key Findings

- This was our second year working with St. Mary River Irrigation District (SMRID) to develop comprehensive habitat conservation strategies designed to improve wildlife habitat and water quality across 18 reservoirs and 10,000 acres. After the second field season we have completed assessments on eight reservoirs.
- Eighteen lotic riparian health assessments, 63 lentic riparian health assessments, 46 range health assessments, six tame pasture health assessments, and four visual range

assessments were completed for four reservoirs: Chin Reservoir, Grassy Lake, Eight Mile Reservoir, and CPR Reservoir. 566 incidental wildlife encounters were also recorded.

- Working with Pheasants Forever we planted approximately 9,000 shrubs to help enhance 156 acres of habitat for upland gamebirds on the south side of Sauder Reservoir (SMRID).
- Working with SMRID we helped plan and complete fencing to exclude cattle grazing along four kilometers of sensitive shoreline along Murray Lake.
- We assisted SMRID and Lethbridge Fish and Game Association in completing a fencing project around the habitat area at CPR lake.
- We partnered with Taber Irrigation District, Southern Alberta Bowhunters Association, and Rogers Sugar to purchase an offsite watering unit to help defer grazing around Horsefly Reservoir.

Abstract

The Connectivity Project addresses habitat fragmentation in southern Alberta by working collaboratively with irrigation districts, municipalities, conservation groups, recreationists, and agricultural producers to improve water quality and re-establish or enhance existing wildlife habitat. Doing so will benefit agriculture, hunters, anglers, and other outdoor enthusiasts. 2020 was the third year of the project and the second year of extensive data collection around four SMRID reservoirs: Chin Reservoir, Grassy Lake, Eight Mile Reservoir, and CPR Reservoir. Eleven lotic riparian health assessments, 63 lentic riparian health assessments, 46 range health assessments, six tame pasture health assessments, and four visual range assessments were completed for use in the second Habitat Conservation Strategy for SMRID. Five hundred and sixty-six incidental wildlife observations were made across the four reservoirs, 23% of which were species at risk. These data provide a baseline assessment of the plant communities around each reservoir and the wildlife species utilizing them. It also identifies priority sites where habitat enhancements and/or grazing management recommendations will improve ecosystem service provision (carbon sequestration, water filtration and nutrient retention, wildlife habitat and biodiversity). The recommendations put forward in the report are developed to improve

water quality and habitat but will also increase the resilience of irrigation district operations and grassland ecosystems.

Introduction

Loss of habitat and habitat fragmentation is one of the greatest underlying threats to many of our wildlife species in southern Alberta. To mitigate the effects of habitat loss and fragmentation, a broad range of stakeholders are needed to re-establish functional habitat connectivity across a large land base. Establishing strong relationships with partner groups including municipalities, town councils, chambers of commerce, irrigation districts, and other conservation groups is essential for the development of these large-scale projects. The connectivity project aims at capitalizing on the relationships that ACA has built with these various groups through other projects like MULTISAR, the Taber Pheasant Festival, and Milk River Ridge Water Quality Stewardship Initiative. Working collaboratively with other program areas within ACA, we offer landowners, grazing reserves, and irrigation districts a multitude of options to meet their operational needs as well as benefit wildlife and re-establish connectivity across the southern landscape.

Methods

We meet with municipalities, irrigation districts, and grazing reserves to better understand their operations and discuss habitat needs of various wildlife. Using our range (Adams et al. 2005) and riparian (Ambrose et al. 2009; Fitch et al. 2009) assessment data, we work with stakeholders to identify priority habitat enhancements and grazing management recommendations that can be dovetailed into their operations to benefit not only wildlife, but also improve other parameters such as water quality, vegetative stands for grazing, water availability for grazing, social licensing, and recreational access. After initial plans have been developed with the landholder, we approach other conservation groups for assistance in terms of letters of support, funding, and staffing needs. Once finalized plans have been developed, we will begin implementing the multi-year habitat enhancement plan on the landscape.

We engage the public in a variety of ways to profile the projects and partners. Public engagement activities include presentations at workshops, stakeholder meetings, signage, public presentations, distribution of information booklets, site tours, and social media.

As part of our long-term adaptive plan, we evaluate the long-term impacts of enhancement actions on upland game birds (e.g., pheasants, grey partridge, and, in some areas, sharp-tailed grouse) as well as other wildlife species that may also be affected. We monitor shrub growth and mortality to determine the shrub species and planting techniques that are most beneficial for developing habitat for these target species. We also use a photo-point protocol to document changes in habitat over time resulting from these habitat enhancements.

Results

We entered a Memorandum of Understanding (MOU) with SMRID in 2018, with the overarching goal of improving water quality and habitat important for wildlife within their system. The first phase includes the development of comprehensive habitat conservation strategies that assess the health of the vegetation communities around 18 reservoirs over the next three years. This will include range, riparian, and wildlife assessments on 10,000 acres of land that together spans more than 360 km of shoreline habitat. Baseline water quality sampling will be undertaken by SMRID. These assessments will be compiled into habitat conservation strategy reports for each year of field work, which will guide the implementation of enhancements and grazing practices to improve both water quality and wildlife habitat. The 2020 field season findings are listed below.

- Chin Reservoir: The average riparian health score is 50% among 17 lotic sites and 43 lentic sites. The average range health score is 58% among 43 range health, one tame health assessment, and two visual range assessments. Seventy-three unique wildlife species and seventeen species at risk were observed.
- Grassy Lake: The average riparian health score is 62% among 16 lotic sites and no lentic sites. The average range health score is 62% among three range health and 21 tame health assessments. Sixty-two unique wildlife species and 15 species at risk were observed.

- Eight Mile Reservoir: There was only one lentic assessment done at Eight Mile, scoring 95%. There was also only one tame health assessment completed, scoring 91%. Eleven unique wildlife species and three species at risk were observed.
- CPR Reservoir: The average riparian health score is 82% among one lotic site and three lentic sites. The average range health score is 87% among three tame pasture and one visual assessments. Twenty-nine unique wildlife species and three species at risk were observed.

Working with SMRID and Pheasants Forever we planted 9,000 shrubs to develop wildlife habitat on a 156-acre parcel of land on the south shore of Sauder Reservoir. We also assisted SMRID in planting 100 shrubs to close off an unauthorized boat launch at Golden Sheaf Park. Working with both Lethbridge Fish and Game Association and SMRID we fenced off a habitat area and constructed a public parking lot at CPR lake to allow full public access for recreationalists. We also helped SMRID plan and implement a four km exclusion fence along Murray Lake to reduce the impacts of cattle grazing on the shoreline and its corresponding vegetation. We partnered with Taber Irrigation District, Southern Alberta Bowhunters Association, and Rogers Sugar to purchase an offsite watering unit to help defer grazing from sensitive riparian areas around Horsefly Reservoir.

Conclusions

Habitat connectivity is crucial for ensuring the longevity of wildlife. Pathways that connect habitat across the landscape greatly reduce the risk of small populations winking out. Grey partridge and pheasants can thrive in southern Alberta's farmed landscape, but they are vulnerable to periodic weather events that can decimate local numbers. More robust vegetation provides security and thermal cover for gamebirds and other wildlife, while also benefitting water quality and carbon sequestration. We have made considerable headway developing partnerships with key members of the agricultural community and landholders over the past years. Our new partnerships with the irrigation districts provide a large step towards restoring connectivity. We will continue to develop partnerships in Southern Alberta.

Communications

- Communications with the public were difficult in 2020. We did manage to meet with some landowners on Murray Lake to continue to implement habitat enhancements and grazing management changes around that reservoir.
- Attended numerous meetings to discuss habitat enhancements and partnership opportunities.
- Received letters of support for the project from Lethbridge Fish & Game Association, Magrath Rod and Gun club, Calgary Pheasants Forever, Chinook Pheasants Forever, Backcountry Hunters and Anglers, Medicine Hat Fish & Game Association, and Southern Alberta Bowhunters Association.
- Had a booth at the 2020 Alberta Irrigation District Association Conference in Lethbridge to showcase the project rationale and methods as well as information on various ACA programs.

Literature Cited

- Adams, B.W., G. Ehlert, C. Stone, M. Alexander, D. Lawrence, M. Willoughby, D. Moisey, C. Hincz, and A. Burkinshaw. 2005. Range Health Assessment for Grassland, Forest, and Tame Pasture. Public Lands and Forest Division, Alberta Sustainable Resource Development. Pub. No. T/044.
- Ambrose, N., G. Ehlert, and K. Spicer-Rowe. 2009. Riparian Health Assessment for Lakes, Sloughs, and Wetlands - Field Workbook Second Edition. Modified from Fitch, L., B.W. Adams, and G. Hale, 2001. Riparian Health Assessment for Streams and Small Rivers – Field Workbook. Lethbridge, Alberta. Cows and Fish program. 96 pp.
- Fitch, L., B.W. Adams, and G. Hale, 2009. Riparian Health Assessment for Streams and Small Rivers - Field Workbook Second Edition. Lethbridge, Alberta. Cows and Fish program. 94 pp.

Photos



White Beards-Tongue near a riparian fencing project site on Chin Reservoir. Photo: Daniel Knop



A Long-Eared Owl seen at CPR Reservoir. Photo: Samuel Vriend



Small island with a heron rookery at Grassy Lake. Photo: Samuel Vriend.



Great plains toad found along the shore of Grassy Lake. Photo: Samuel Vriend.