

Alberta Conservation Association 2013/14 Project Summary Report

Project Name: Edson River Riparian Conservation

Land Management Program Manager: Darren Dorge

Project Leader: Juanna Thompson

Primary ACA staff on project:

Stefanie Fenson, Juanna Thompson and Erin VanderMarel

Partnerships

Fisheries and Oceans Canada

Key Findings

- Protected over 1 km of riparian habitat along the Edson River.
- Completed one five-year Riparian Habitat Agreement on six acres of riparian habitat on the Edson River.
- Installed one off-site watering system that prevented livestock from directly accessing the river.
- Conducted water monitoring and determined that no water quality variable exceeded federal guidelines for the protection of aquatic life.

Introduction

The ecological integrity of Alberta's rivers, streams and surrounding landscapes is threatened by ongoing human development. Degraded areas require considerable rehabilitation efforts to recover their health and function. In 2010, Alberta Conservation Association (ACA) identified the Edson River watershed in the northwestern foothills of Alberta as a priority for riparian conservation. Degradation of riparian habitats from land conversion, agricultural activities, resource extraction and urban development has contributed to reduced riparian health and ecological integrity of the watershed.

An aerial survey of riparian health conducted by ACA in 2010 showed that almost half (49%) of the riparian areas associated with the mainstem Edson River were degraded, with the majority of the impacted sites having poor riparian health and integrity. Through rehabilitation and enhancement of these impacted areas, the Edson River Riparian Conservation project aims to improve riparian conditions to benefit sport fish populations, wildlife, livestock and users of the waterbody. We will continue to focus on on-the-ground projects with landowners, including use of livestock exclusion fencing, off-site watering systems and Riparian Habitat Agreements to mitigate negative impacts on the riparian areas and instream fish habitat. Ultimately, we aim to

improve instream conditions such that they can support the recolonization of native Arctic grayling and Athabasca rainbow trout sport fish populations.

Methods

We used aerial videography information collected in 2010 for 43 km of riparian habitat along the Edson River mainstem to classify and prioritize land parcels with degraded riparian habitat.

Our focal area for this project is located within the White Zone, or privately held lands, which comprise the middle and lower reaches of the river (approximately 43 km). The headwaters of the drainage, which are located in the Green Zone (Crown lands), are not a focus of the project.

Data collected from 2010 to 2012 were used to determine the current state of the drainage, identify impacted areas, and assess the current fish community, water quality and riparian habitat health. In 2013, we approached local landowners to present them with information on riparian conservation and solicit their interest in participating in various enhancement projects.

As part of our long-term monitoring protocol, we conducted water quality analyses at five locations along the Edson River. Water quality “grab” samples were collected once in spring and once in fall, with the two grab samples from each site tested for nutrients, turbidity, chlorophyll-*a* and fecal coliforms. Samples were submitted to Maxxam Analytics in Edmonton for testing.

Edson River Drainage Focus Area

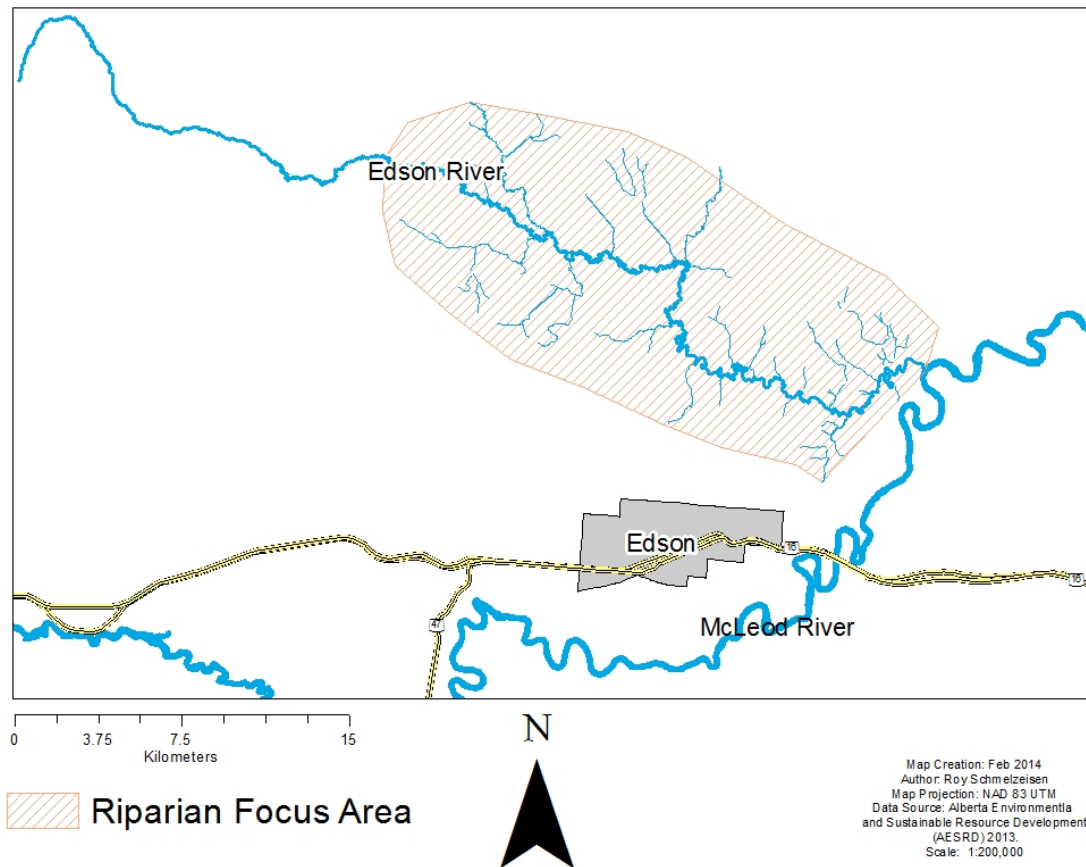


Figure 1. Overview map of the focus area on the Edson River.

Results

In 2013/14, we partnered with one landowner to install over 1 km of wildlife-friendly exclusion fencing along the Edson River. In addition, we provided the same landowner with an off-site livestock watering system to prevent further riparian habitat degradation, which was also installed in 2013. We signed one Riparian Habitat Agreement with a landowner to exclude approximately six acres of riparian habitat from cattle grazing.

We explored riparian partnership opportunities with Yellowhead County, and we contacted the West Central Forage Association regarding riparian conservation work in the Edson area. An advertisement was placed in the West Central Forage Association's fall newsletter promoting the opportunity for landowners to partner with ACA to enhance their riparian habitat.

No water quality variables from spring or fall samples exceeded provincial guidelines for the protection of aquatic life. Water quality variables have consistently met the guidelines over the last three years, with the exception of 2012/13 fall water quality monitoring, where total coliforms exceeded guideline limits at two of the five sample locations.

Conclusions

Baseline data collected since 2010 will allow us to evaluate impacts and benefits of our future enhancement activities on the Edson River. Wildlife-friendly exclusion fencing and off-site livestock watering systems to restrict livestock grazing from riparian habitats are useful restoration tools to prevent further aquatic habitat degradation. We will continue to conduct riparian health assessments in the summer at the five established sample sites and water quality monitoring in the spring and fall. A riparian health assessment will also be conducted at the site where exclusion fencing was installed to provide baseline information for future monitoring and management.

Based on our success in delivering riparian conservation projects in 2013/14, including the completion of one Riparian Habitat Agreement and the installation of exclusion fencing and an off-site watering system, we will continue to contact other landowners in the area to pursue future riparian habitat conservation initiatives along the Edson River.

Communications

- Advertised the riparian conservation project in West Central Forage Association newsletter.

Literature Cited

N/A

Photo Captions



A portion of new wildlife-friendly livestock exclusion fence installed on the Edson River. Photo: Juanna Thompson
[Photo1_Riparian Edson_2013-14_Juanna Thompson.jpg]



Water Sampling Station Number 1, looking downstream on the Edson River. Photo: Erin VanderMarel

[Photo2_Riparian Edson_2013-14_Erin VanderMarel.jpg]



Alberta Conservation Association biologist Juanna Thompson conducting water quality sampling on the Edson River. Photo: Erin VanderMarel
[Photo3_Riparian Edson_2013-14_Erin VanderMarel.jpg]