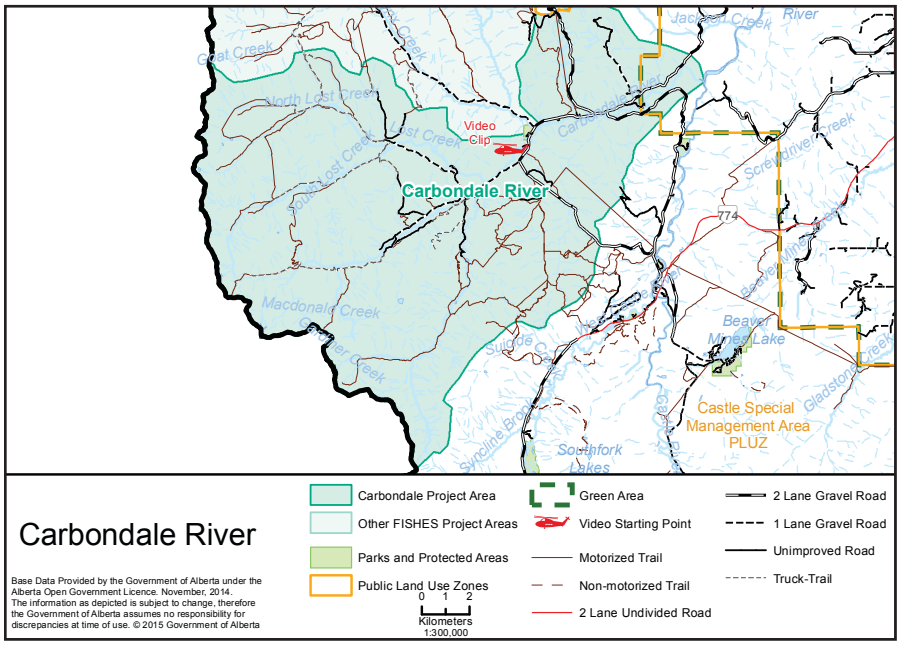
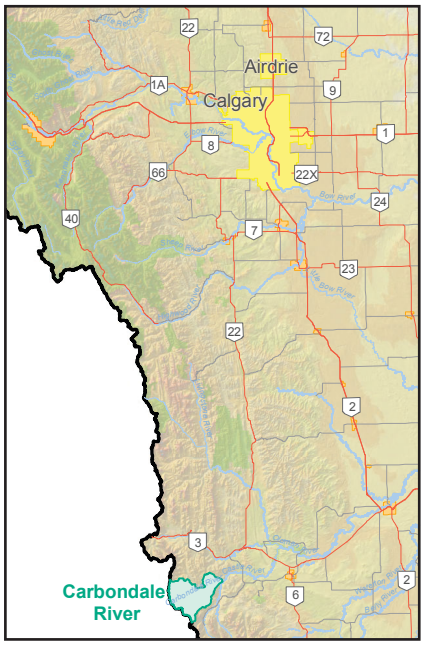
Southern Alberta Fisheries Habitat Enhancement and Sustainability Program

CARBONDALE RIVER SUMMARY REPORT



Carbondale River



CARBONDALE RIVER RESTORATION PROJECT

Carbondale River, a tributary to the Castle River, originates in the newly designated Castle Provincial Park and flows into the Municipal District of Pincher Creek No. 9. The entire Carbondale River sub-basin was identified as a potential candidate for the Fisheries Habitat Enhancement and Sustainability (FISHES) Program by Regional Fisheries Management staff. Widespread habitat degradation, loss of riparian function and increased sediment inputs, exacerbated by the 2014 flood, are significant issues for fish in this creek.

A preliminary aerial assessment of the Carbondale River sub basin, including Lost Creek, Gardiner Creek, O'Haggen Creek, Webb Creek and Iron Creek was completed by the FISHES program in 2015. Lynx Creek, another tributary to Carbondale River, was its own unique FISHES project and within Tier 1. Within these waterbodies, historical fisheries survey data indicates that the dominant sport fishing species in the sub-basin are Cutthroat Trout, Bull Trout, Rainbow Trout and Mountain Whitefish.

Portions of the Carbondale River, Lost Creek Gardiner Creek and O'haggen Creek are designated as critical habitat and support isolated populations of Westslope Cutthroat Trout. Westslope Cutthroat Trout are listed as threatened under Alberta's *Wildlife Act* and the *Federal Species at Risk Act*, due to their small distribution, fragmented population and the continuing decline of habitat quality within their limited range. For more information about threats to this species please see the ***Alberta Westslope Cutthroat Trout Recovery Plan***.

Carbondale River also provides habitat for resident Bull Trout. Bull Trout, the Provincial Fish of Alberta, are listed as Threatened under Alberta's *Wildlife Act*, due to overexploitation, habitat degradation and competition with non-native species.

The FISHES program aims to mitigate the effects on fish and fish habitat as a result of the flood and re-establish a healthy aquatic environment.

PROJECT UPDATES

- Preliminary Assessment and aerial videography of the watershed was completed on July 21, 2015.
- Detailed Field Surveys were completed between July 25 and August 11, 2016.
- Design contract was awarded to Lotic Environmental Ltd.
- Project is currently at the final design phase.

NEXT STEPS

- Project construction is planned for 2018.

KEEPING FISH IN OUR FUTURE

Alberta Government

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Helicopter Flight Path

PROJECT RATIONALE

The Carbondale River Project was ranked number two among the FISHES Program's Tier 2 priority projects by a technical working group of fisheries habitat experts. This ranking is based on a number of biological, social, economic and project specific criteria. The Carbondale River drainage basin is heavily used by outdoor enthusiasts amongst others. Multiple land use activities occur within the area including recreational off-highway vehicle use, forestry, agriculture, and oil and gas activities. Some activities may be phased out or altered during the Castle Park Management Planning process.

Initial FISHES investigations identified a significant number of sediment sources and widespread habitat degradation resulting from the network of roads, trails, cutlines and industrial activities connected to the drainage basin. The effects of these activities on the landscape have been further compounded by the 2003 Lost Creek wildfire and flooding that occurred in 2014. Detailed Field Surveys and sophisticated computer modeling were used to confirm major factors which are potentially limiting the productivity of the Carbondale River sub-basin fishery. Habitat restoration projects are being developed and will be constructed to mitigate these threats.

PROJECT GOALS AND BENEFITS

Project goals for Carbondale River sub-basin include the following:

- reduction or elimination of sources contributing sediment to the waterbody;
- restoration/creation of spawning habitat for Westslope Cutthroat Trout, Bull Trout and other sportfish species;
- restoration/creation of overwintering habitat for Westslope Cutthroat Trout, Bull Trout and other sportfish species;
- support successional advancement through the use of soil bioengineering techniques to improve stream stability;
- rehabilitation of flood-eroded stream banks and re-establishment of healthy riparian zone; and
- creation of cover for various fish life stages including the introduction of large woody debris.

In the long term, it is hoped that these habitat improvements will help conserve and protect Westslope Cutthroat Trout, Bull Trout and other sportfish populations in Carbondale River sub-basin.

WEBSITE INFORMATION

Further information on the FISHES Program can be found by visiting our website at: ***www.fishes.alberta.ca***

For a more detailed assessment of the Carbondale River Project please see the FISHES Project Selection and Priority Ranking Tool on the FISHES website.

This website is updated regularly to reflect current activities.

For further inquiries regarding the FISHES program please email: ***aep.fishes@gov.ab.ca***

Project Status

1. Overview Fish Habitat Assessment
2. Preliminary Assessment
3. Detailed Field Survey
4. Conceptual Project Design
5. Detailed Project Design
6. Project Construction
7. Project Monitoring and Evaluation