Alberta Conservation Association
2009/10 Project Summary Report

Project Name: *Pinto Creek Bull Trout Study*

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Primary ACA staff on project:

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Partnerships

Alberta Sustainable Resource Development
Shell Canada Energy/Suncor Energy Inc. Panther River Environmental Enhancement Legacy Fund

Key Findings

- Captured a total of 86 (juvenile and adult) Bull Trout at five sites on Pinto Creek during backpack electrofishing surveys completed July 28 – 30, 2009.
- Captured Bull Trout ranged in size from 74 to 415 mm fork length.
- Counted a total of 61 redds from 53 locations during a redd survey conducted on September 22, 2009.

Introduction

Closed to angling in 1995, Pinto Creek was believed to be an important spawning location for fluvial Bull Trout (i.e., populations that migrate from larger downstream waterbodies into headwater streams to spawn, then migrate back downstream, contrasted with resident populations that remain in headwater streams for all portions of their life cycle). However, this designation as a fluvial population has never been investigated or confirmed. With increased land use and development in the upper Red Deer River drainage, the identification of life history forms and important spawning habitats in the drainage is important for the management and conservation of the species. The objectives of the current study were to inventory and estimate the abundance and spatial distribution of Bull Trout in Pinto Creek, and to evaluate the spawning use of Pinto Creek by adult Bull Trout.

Methods

We used backpack electrofishing gear to capture fish at five locations along Pinto Creek from July 28 – 30, 2009 (Figure 1). All captured fish were enumerated by species, measured in length (fork length (FL); mm), and returned to the creek. Electrofishing capture data was input into spatial models following procedures in Fitzsimmons and Blackburn (2008) to estimate the abundance of Bull Trout in Pinto Creek. On September 22, 2009, we conducted a redd survey to enumerate the number of redds (the gravel nest of trout) and quantify the spawning use of Pinto Creek by Bull Trout.

Results

We captured a total of 86 Bull Trout during electrofishing surveys ranging in size from 74 to 415 mm FL (Figure 1). In addition to Bull Trout, we captured Mountain Whitefish (*Prosopium wiliamsonii*; n = 4) at the three sites furthest downstream on Pinto Creek. We estimated the abundance of Bull Trout in Pinto Creek to be 8,395 (95% CI = 2,521 – 28,642).

From the uppermost electrofishing site to the confluence of Pinto Creek with the North Burnt Timber River (13 km of stream), we documented 56 Bull Trout redds from 39 locations (some locations had multiple redds in the immediate area). We also counted five Bull Trout redds in the lower kilometre of an unnamed tributary to Pinto Creek (Figure 1). During our redd survey, we observed 16 Bull Trout that ranged from an estimated 200 to 300 mm FL. Potential barriers to Bull Trout migration (two beaver dams in succession) were observed in the upper-half of Pinto Creek.

Figure 1. Location of backpack electrofishing sites and Bull Trout redds on Pinto and unnamed creeks 2009.

Conclusion

The size range (74 to 415 mm FL) of Bull Trout observed during our preliminary survey in 2009 suggests the adult population consists primarily of resident fish. No redd excavation or active Bull Trout spawning was observed at the time of our survey, suggesting that Bull Trout spawning activity was largely complete by September 22 in 2009.

Communications

- Progress report detailing key results in 2009 prepared for partners.

Literature Cited

Fitzsimmons, K. and M. Blackburn. 2008. Abundance and distribution of Arctic Grayling in the Upper Little Smoky River, Alberta (2007). Data Report, D-2009-004, produced by the Alberta Conservation Association, Cochrane, Alberta, Canada. 16 pp + App.