

Alberta Conservation Association 2017/18 Project Summary Report

Project Name: Angler Survey on Upper Bow River Tributaries

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Partnerships

Alberta Environment and Parks

Key Findings

- Between June 16 and October 31, 2017, we interviewed 321 anglers on the Sheep River and Highwood rivers.
- We estimated that anglers made 6,284 trips to the Sheep River, fished for 19,829 hours, and released 14,236.
- Anglers made 9,474 trips to the Highwood River, fished for 39,581 hours, and released 20,886 fish.
- Both rivers are very popular among anglers and experience high fishing pressure; fishing pressure was almost twice as high on Highwood River as for the Sheep River.

Introduction

Attracting both resident and non-resident anglers, the Sheep and Highwood rivers are considered destination trout fishing streams in Alberta. One of the tools to effectively manage these sport fisheries is an angler survey. From these surveys, metrics such as angling effort and trip length, angler trip numbers, and fish harvest and release can be derived. The main objective of this angler survey was to provide current information on the sport fisheries in the Sheep and Highwood rivers to aid Alberta Environment and Parks in managing these important fisheries.

Methods

The Sheep and Highwood river study area is located immediately south, south-west of the City of Calgary. Surveys were conducted on an 82.9-km section of the Sheep River from Gorge Creek downstream to the confluence with the Highwood River, and on 161.5 km of the Highwood River from the confluence of Storm and Mist creeks to the Bow River. From June 16 to October 31, 2017, we conducted an aerial-access-type angler survey following Malvestuto (1983) and Pollock et al. (1994) on the Sheep and Highwood rivers. Angler-specific data (e.g., fish catch, trip length, and demographics) were collected by creel technicians who roved between access points interviewing anglers. Fishing effort was estimated from instantaneous angler counts obtained from aerial overflights of the rivers. We used bootstrap techniques to estimates angler

hours, angler trips, number of fish harvested, and number of fish released. We calculated catch rates as total ratio estimators following Malvestuto (1983).

Results

We conducted 28 instantaneous angler counts and interviewed 321 anglers on the Sheep and Highwood rivers. Most anglers (89 percent) were residents from Calgary and the surrounding area, indicating that these fisheries are locally important.

Between June 16 and October 31, 2017, our estimates indicate anglers made 6,284 trips (95% CI = 4,467 – 8,760) and fished for 19,829 hours (95% CI = 15,952 – 23,920) and on the Sheep River. Over the same period, anglers made 9,474 trips (95% CI = 7,221 – 12,240) and fished for 39,581 hours (95% CI = 31,328 – 49,227) on the Highwood River. Estimated total release of all fish was 14,234 (95% CI = 11,117 – 17,645) on the Sheep River and 20,886 (95% CI = 16,901 – 25,234) on the Highwood River. Rainbow trout were the most abundantly released fish species in both the Sheep and Highwood Rivers at 10,474 (95% CI = 8,066 – 13,164), and 10,269 (95% CI = 8,357 – 12,382) respectively. Anglers reported only one fish harvest, a mountain whitefish from the Sheep River at Sandy McNabb site on June 26, 2017. Angler use of access sites varied among the identified sites; however, on the Sheep River urban areas and developed recreational facilities (e.g., Okotoks and Sandy McNabb day use area) showed greater frequency of use, whereas on the Highwood River use of access sites by anglers did not show any clear patterns (Figure 1).

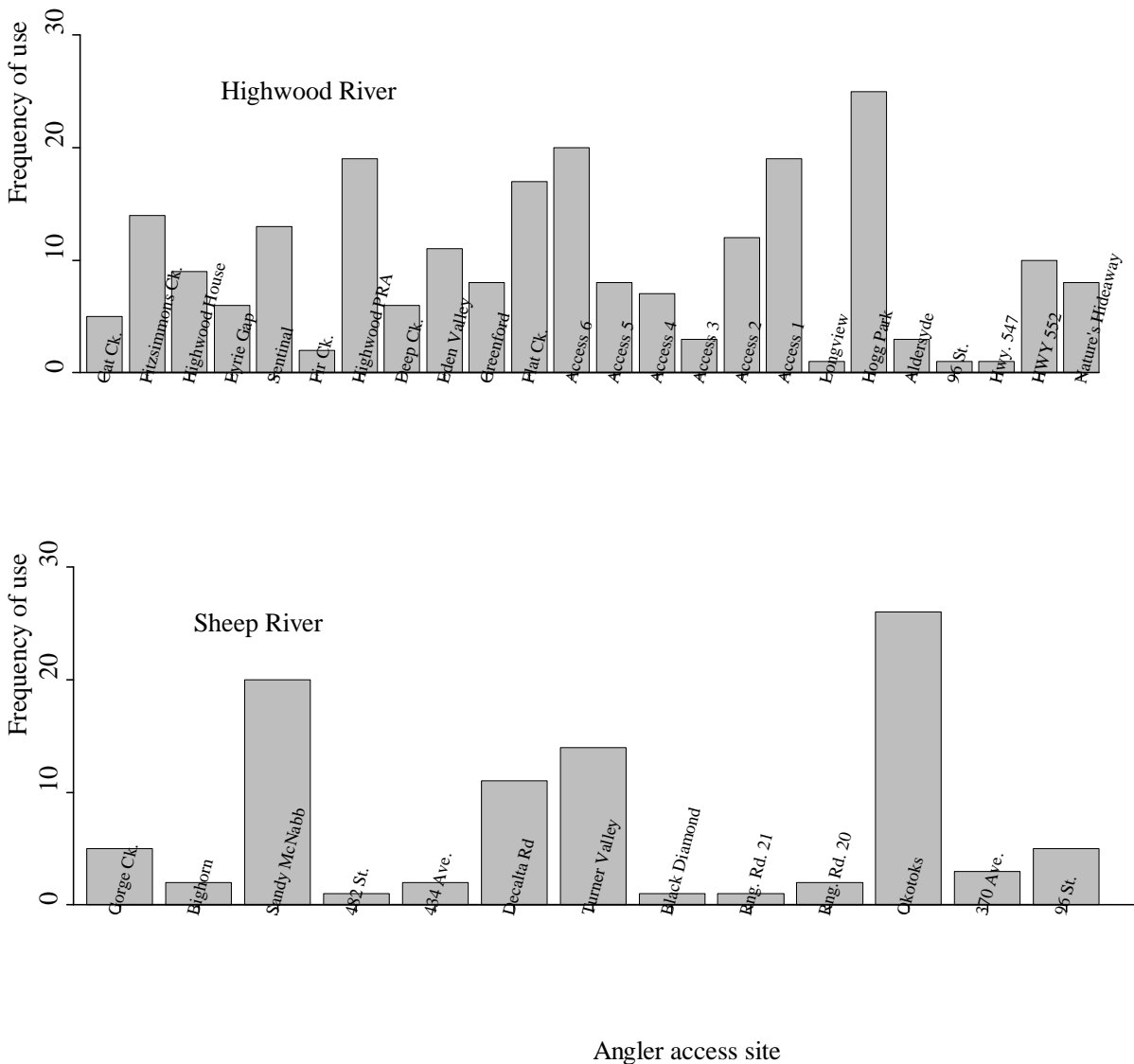


Figure 1. Access point use by anglers on the Sheep and Highwood rivers during the 2017 angler survey. Sites are arranged from upstream to downstream on the x-axis.

Conclusions

Our angler survey shows the Sheep and Highwood rivers are popular fishing destinations with, the Highwood River having nearly twice the effort than the Sheep River. Our estimates of creel metrics will aid fisheries management and provide a baseline for comparison over time and to other Eastern Slopes streams.

Communications

- A report that details the results of this project is published on our website (www.ab-conservation.com): A Creel-Based Assessment of the Sheep and Highwood rivers Sport Fisheries. 2018.

Literature Cited

- Malvestuto, S.P. 1983. Sampling the recreational creel. Chapter 20. *In*: B.R. Murphy and S.W. Willis (editors). Fisheries techniques. 2nd Edition. American Fisheries Society, Bethesda, Maryland, U.S.A.
- Pollock, K.H., C.M. Jones, and T.L. Brown. 1994. Angler survey methods and their applications in fisheries management. American Fisheries Society Special Publication 25. 371 pp.

Photos



Highwood River immediately downstream of the Kananakis County boundary (2017). Photo: Kevin Fitzsimmons



View of the Highwood River along Highway 40 near Cataract Creek during the 2017 angler count. Photo: Kevin Fitzsimmons



View of the Sheep River along Highway 546 near Gorge Creek during the 2017 angler count.
Photo: Kevin Fitzsimmons