

## **Alberta Conservation Association 2016/17 Project Summary Report**

**Project Name:** Upper Bow River Angler Survey

**Fisheries Program Manager:** Peter Aku

**Project Leader:** Kevin Fitzsimmons

**Primary ACA staff on project:**

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### **Partnerships**

Alberta Environment and Parks  
Government of Canada – Canada Summer Jobs

### **Key Findings**

- Between May 1 and October 31, 2016, we interviewed 369 anglers on the upper Bow River.
- We estimated that anglers fished for 20,904 hours, made 10,055 trips, and released 10,291 fish on the upper Bow River.
- Brown trout was the most abundantly released fish species on the upper Bow River at 5,343, followed by mountain whitefish at 3,900 and rainbow trout at 874.
- Anglers did not report any harvest of fish, indicating that the upper Bow River is being used by anglers as a catch-and-release fishery.
- Between June 16 and October 3, 2016, we estimated that anglers fished for 9,699 hours on the Elbow River.

### **Introduction**

Attracting both resident and non-resident anglers, the Bow River and its major tributaries are considered destination trout fishing streams in Alberta (Ripley and Council 2006). 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 study is to provide current angler survey information from the upper Bow and Elbow rivers to aid Alberta Environment and Parks in managing these important sport fisheries.

### **Methods**

The upper Bow River study area is a 94.6 km section of the Bow River (exclusive of Ghost Reservoir) extending from the eastern boundary of Banff National Park downstream to Bearspaw Reservoir. The Elbow River study area is a 66.4 km section of the Elbow River extending from Canyon Creek downstream to the Weaselhead pedestrian bridge. We conducted an

aerial-access-type angler survey following Malvestuto (1983) and Pollock et al. (1994). Angler-specific data (e.g., fish catch, trip length, demographics) were collected from the upper Bow River (but not the Elbow River) 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 calculate estimates and 95% confidence intervals (CI) for 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 38 and 31 instantaneous angler counts in the upper Bow River and Elbow River study areas, respectively, and interviewed 369 anglers on the upper Bow River. Most anglers (66%) were from Cochrane or Calgary, indicating that this fishery is locally important. Use of access sites by anglers varied substantially among the 11 identified sites; however, the most popular sites were in the urban areas of Canmore and Cochrane (Figure 1). Between May 1 and October 31, 2016, we estimated that anglers fished for a total of 20,904 hours (95% CI = 17,389 – 24,616) and made 10,055 trips (95% CI = 8,025 – 12,331) on the upper Bow River. Between June 16 and October 31, 2016, we estimated that anglers fished for 9,699 hours (95% CI = 7,031 – 12,503) on the Elbow River. We estimated that a total of 10,291 (95% CI = 8,201 – 12,536) fish were released in the upper Bow River. Brown trout was the most abundantly released fish species at 5,343 (95% CI = 4,023 – 6,950), followed by mountain whitefish at 3,900 (95% CI = 2,847 – 5,000) and rainbow trout at 874 (95% CI = 615 – 1,140). Releases of lake trout and cutthroat trout were estimated to be fairly small. Anglers did not report any harvest of fish during the survey.

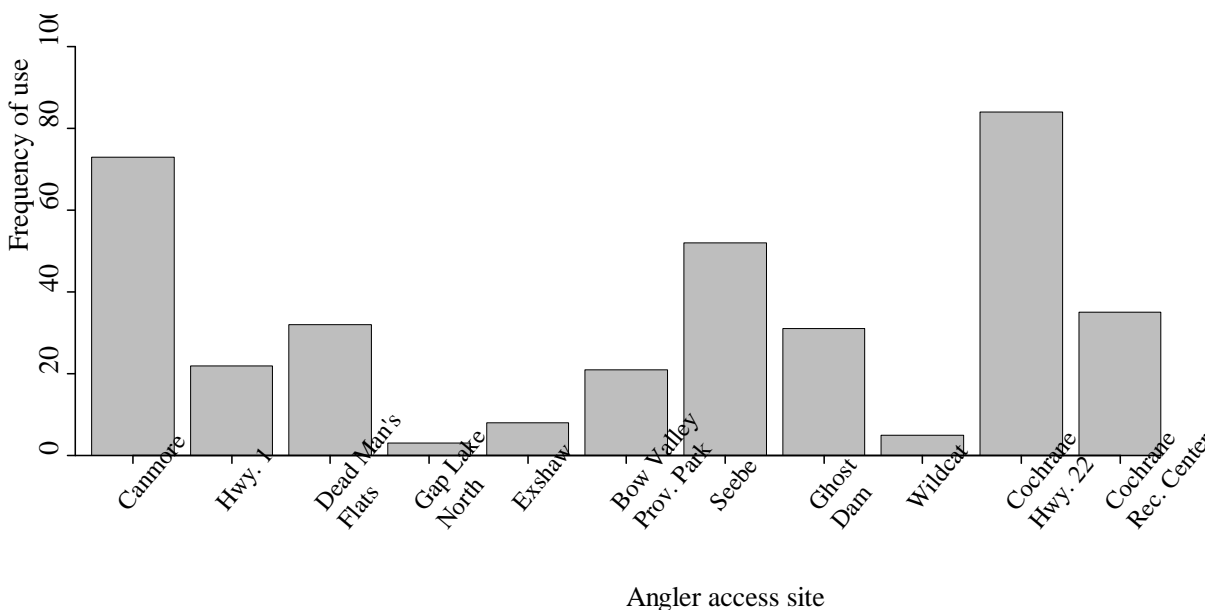


Figure 1. Access point use by anglers in the upper Bow River (2016). Sites are arranged from upstream to downstream on the x-axis.

## **Conclusions**

Anglers did not reports any harvest of fish during the survey, indicating that the upper Bow River is functioning as a catch-and-release fishery. Urban areas of Canmore and Cochrane accounted for the largest number of anglers in the survey.

## **Communications**

A report that details the results of this project is published on our website ([www.ab-conservation.com](http://www.ab-conservation.com)): *A Creel-Based Assessment of the Upper Bow and Elbow River Sport Fisheries*.

## **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.
- Ripley, T.D., and T. Council. 2006. Bow River sport fish angler survey, 2006. Data Report, D-2007-003, produced by the Alberta Conservation Association, Lethbridge, Alberta, Canada and Alberta Fish and Wildlife, Calgary, Alberta, Canada. 28 pp + App.

## Photos



View of the Bow River at Canmore from aerial overflights during the 2016 angler count. Photo: Kevin Fitzsimmons



View of the Bow River at Ghost Reservoir from aerial overflights during the 2016 angler count.  
Photo: Kevin Fitzsimmons





Angler releasing a fish after capture on the Bow River below Seebe in 2016. Photo: Kevin Fitzsimmons