SE 783

Survey of Watson Lake and its Outlet Stream

by

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Summary

Watson Lake is a small lake at an elevation of approximately 810 meters. There is one outlet stream and no permanent inlet streams. No fish were captured by minnow traps in the lake or outlet stream, but a gill net was not set due to the inability to launch the boat at this location. The absence of fish in the minnow traps indicates a low abundance of small fish in the lake and creek, but should not be interpreted as a complete lack of fish in the lake. However, the outlet creek is dammed by a presently impassable beaver dam about 60 m downstream from the lake and no adequate spawning habitat for rainbow trout was found in the Creek. It is unlikely that this lake could contain a self-sustaining stock of rainbow trout and enhancement of the aquatic habitat is presently not essential.

1.0 Introduction

Watson Lake was surveyed as a part of the Burns Lake-Houston small lakes project in which a total of 10 lakes were examined: Sunset, Gilmore, Swans, Lars, Old Man, McBrierie, Elwin, Watson, Day, and Bulkley lakes. Recent reports of serious declines of the rainbow trout sport fishery in this region have created a need for information on the annual recruitment and relative species composition at these lakes. The intent of this project was to survey fish communities, and to report existing conditions at the inlet and outlet streams at each of these 10 lakes. The most recent concern has been an outburst of beaver activities which appear to have affected annual recruitment of rainbows by blocking many or all of a lake's streams with impassable dams. The primary focus of this work was on description of inlet and outlet streams as assessments of available rainbow trout spawning sites and to give recommendations for possible habitat enhancements at these small lakes.

2.0 Materials and Methods

2.1 Study Site

Watson Lake (lat: 54° 52′ 30", long: 126° 15′ 30") is located approximately 25 km east of Houston at an elevation of 810 meters. Access to Watson Lake is on an old logging road that ends within 100 m of the lake, but there is no area where launching a boat is feasible (for directions see Appendix 1).

Watson Lake has one outlet stream and no permanent inlet streams (Figure 1). The outlet stream drains east (4 km) into the Bulkley River approximately 2 km northwest of Forestdale Canyon Road (Appendix 1).

2.2 Evaluation of Watson Lake

The general characteristics of Watson lake were recorded, and photographs were taken to illustrate these characteristics. Four minnow traps (baited with processed cheese) were set along the west shore of the lake to sample for any small (25 - 100 mm) fish (Figure 1).

2.3 Evaluation of outlet

The outlet was surveyed by hiking along the stream for as far as appeared necessary to assess available spawning and rearing habitat for rainbow trout (*Oncorhynchus mykiss*). Photographs were taken to represent the general characteristics of the stream and to illustrate any obstructions to fish migration. Four minnow traps (baited with processed cheese) were set in the outlet creek for a sample of small fish (25 - 100 mm) in this outlet stream.

3.0 Results

3.1 Watson Lake

Watson Lake is a small narrow lake, approximately 2 km long

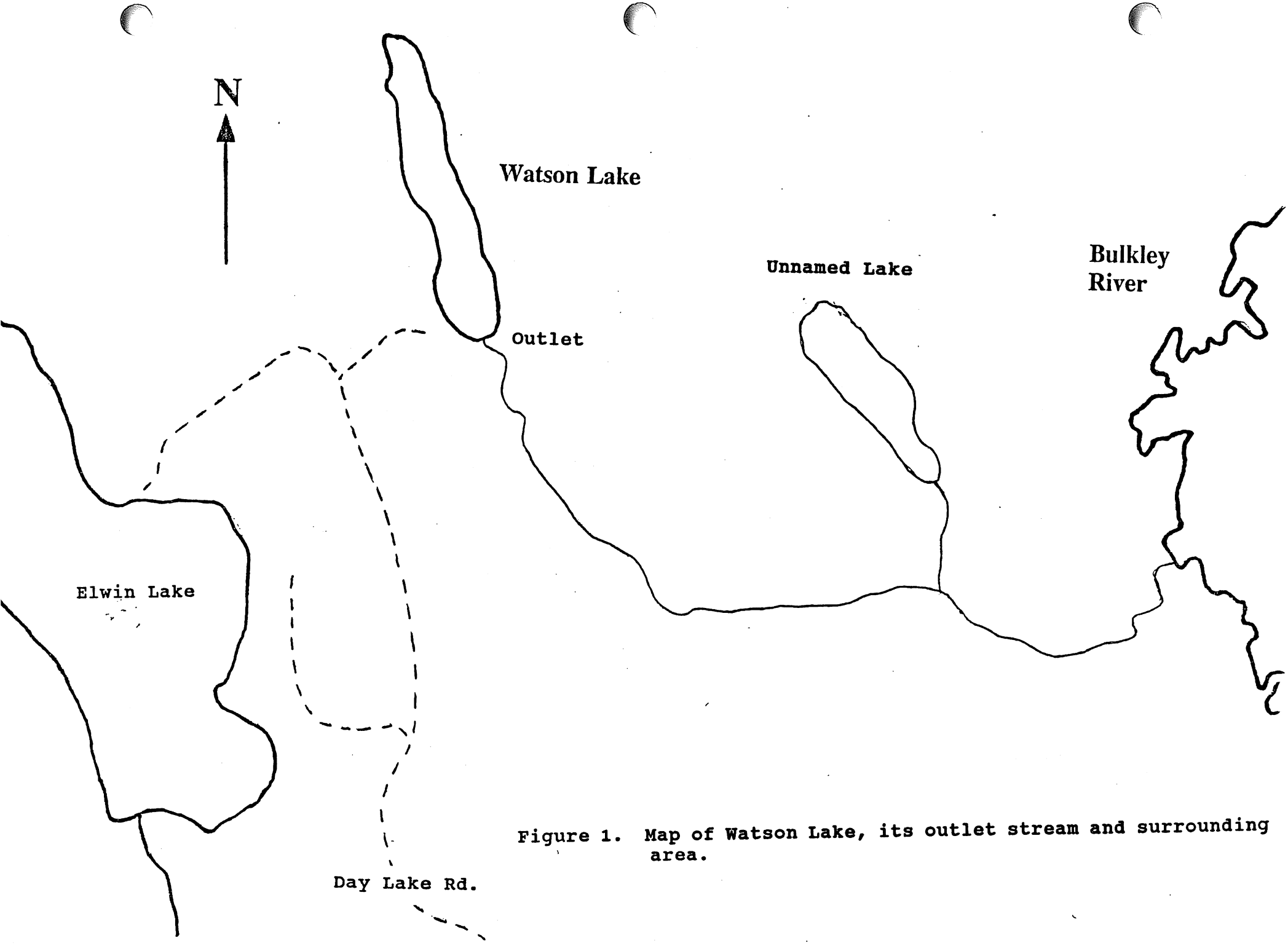

Figure 1. Map of Watson Lake, its outlet stream and surrounding area.

and 150 m wide. The southwest shore of the lake has been clear cut in an area that includes the steepest banks at Watson Lake. No fringe of vegetation was left to prevent runoff and erosion. Figure 2 illustrates that large proportions of this logged area that have not been sufficiently replanted. The actual shore of the lake was shallow and muddy and vegetation consisted of water lilies and *Equisetum*.

No fish were captured in the four traps that were set for 24 hours in the lake, however several water beetles were caught; water beetles and *Gammarus* were abundant along the shallow shoreline.

3.2 Outlet

The outlet of Watson Lake is located at the south end of the lake (Figure 3). The depth at the outlet is shallow, with lilies reaching 20 - 30 m into the lake. The outlet stream is 4 m wide, approximately 50 cm deep, and has a mud substrate. This initial stretch of stream has good cover from fallen debris (Figure 4). A beaver dam 60 m below the lake is presently impassable to fish. The creek has no identifiable flow for the stretch upstream of the dam. The dam is approximately 20 m long and 0.75 m high and has been well maintained for several years (Figure 5). There was very little water seeping through the dam. The habitat of the outlet stream was observed for an additional 100 m below the dam and no suitable spawning or rearing locations for rainbow trout were evident.

The four minnow traps were set for 24 hours in the 60 m

Figure 2. View of Watson Lake, looking northeast.

Figure 3. View of the outlet at the south end of Watson Lake.

Figure 4. Looking up the oulet creek into Watson Lake.

Figure 5. Photograph of the beaver dam that blocks the Watson Lake outlet stream about 60 meters downstream from the lake.

stretch of stream above the beaver dam. Similar to the lake traps, there were several water beetles in these traps, but no fish.

4.0 Discussion

During the survey of Watson Lake and its outlet stream, there was no evidence of any fish species. However, it is not certain that Watson Lake has no fish because only minnow traps were used. These unsuccessful minnow traps were set from shore where the water was relatively shallow and the bottom very muddy; fish may have been more abundant in other areas of the lake. Other sampling methods such as electro-fishing or the use of a gill net, are necessary to acquire a more accurate assessment of this lake's fish community. Unfortunately, there is no boat launch at Watson Lake and it was therefore not possible to set a gill net.

The only stream at this lake is completely blocked by a beaver dam and no suitable spawning habitat for rainbow trout was observed. It is difficult to predict the advantages or benefits that would be achieved by removing the beaver dam from the outlet stream. With no permanent inlet streams at Watson Lake, it is likely that the outlet would be subject to temporary drying. Presently, this lake is not an ideal location for a self-sustaining stock of rainbow trout.

The lack of use of this lake by the general public makes organization of a volunteer project debatable. In addition, the lack of road access to the outlet stream makes an attempt on

spawning habitat enhancement impractical. Such efforts to assist the sport fishery of this region would be better directed elsewhere.

Appendix 1. Directions to Watson Lake.

0 km	Turn south from Highway 16 onto Forestdale Canyon Rd.
3 km	Turn right onto Crow Rd.
4.4 km	Stay left at fork, and cross the railroad and Bulkley River.
6.2 km	Turn right on Day Lake Rd.
10.5 km	Hodder Farm Gate
10.7 km	Stay right at fork.
12.4 km	Turn right and follow this road as far as possible.

No Boat Launch.