

Swan Lake Bull Trout Ranger Report

Summer 2005



Mark Ruby
Wildlife Biology
College of Forestry and Conservation
University of Montana

And
Beth Gardner
Fisheries Biologist
Flathead National Forest

Abstract

Although bull trout have declined throughout most of their native range, the adfluvial population of Swan Lake and Swan Valley has remained stable and is one of the few recreational bull trout fisheries in the state of Montana. The recent discovery of non-native lake trout in Swan Lake may have dire consequences for bull trout. Empirical data from other sympatric bull trout and lake trout systems has found that ultimately lake trout will dominate the resource while bull trout are greatly diminished or extirpated. In order to educate the public about this issue and conduct an informal creel survey, as well as to protect common loon nesting pairs, a unique “bull trout ranger/ loon ranger” position was created in 2005. The ranger distributed information and provided answers to commonly asked questions by the public. Anglers were also interviewed to learn what species were sought after, whether they were aware of lake trout and what their opinion was of lake trout management. Very few lake trout were reported caught since most anglers were not targeted either lake trout or bull trout. Anglers generally desired to maintain the current fishery and would support suppression efforts towards lake trout. Most anglers felt they knew how to correctly identify lake trout, although separate studies have found the accuracy rate to be, in fact, very low.

Introduction

A history of sympatric bull trout and introduced lake trout populations throughout the Pacific Northwest has found a strong trend towards lake trout out-competing bull trout populations. Adult lake trout were discovered in Swan Lake in 1998 and reproduction was first documented in 2002. Lake trout proliferation could potentially endanger bull trout populations not just in Swan Lake, but perhaps the entire Swan Valley, including small disjunct bull trout populations in Holland Lake and Lindbergh Lake.

In order to educate the public and determine public opinion, a unique “bull trout ranger/ loon ranger” position was funded by a partnership between Montana Fish, Wildlife and Parks (MFWP), the Flathead National Forest, the Montana Loon Society, and the Montana Council of Trout Unlimited. Approximately half of the position was dedicated to monitoring and protecting loon nesting sites. The other half, nicknamed “bull trout ranger” position, focused on public education of the lake trout presence in the Swan and attempted to uncover angler catch rate and angler opinion of lake trout in Swan Lake.

Methods

The ranger worked from May 19th to August 11th of 2005. Exactly half of this position (240 hours) was spent on “loon ranger” duties and this occupied most of the May and June period. During the later half of the season, the ranger reported 210 hours on “bull trout ranger” duties and about 30 hours of miscellaneous tasks such as equipment maintenance and water quality monitoring. The ranger also worked with a US Fish and

Wildlife Service (USFWS) intern who collected data on angler ability to correctly identify fish species but these results are not included in this report.

Creel surveys were conducted on Swan Lake by interviewing anglers from a 16' johnboat as they fished. Data were collected on angler origin, fishing time, fishing location, species preference, fishing method, and species caught. Additional biological data was sought for any harvested bull trout or lake trout. The individual fish were to be measured, weighed, aged with otolith readings (if the angler was agreeable) and GPS of the exact capture location was attempted.

In order to judge public opinion, four standard questions were asked to invite open-ended responses. The ranger then briefly characterized the anglers answer and codified into a spreadsheet. These questions were:

1. Do you fish for bull trout in Swan Lake?
2. Did you know that lake trout have been found in Swan Lake?
3. What do you think about potential suppression of lake trout in Swan Lake?
4. Do you think you can tell the difference between a bull trout and a lake trout?

When anglers answered the first question they answered if they had ever fish for bull trout on Swan Lake, not necessarily that they currently actively fish for bull trout. The third question was usually preceded with a small disclaimer as to not give the public any false impressions about suppression. Before this question was asked the angler was told;

“In the past lake trout have out-competed bull trout populations when the two species occupy the same waters. If the lake trout became more prolific here in Swan Lake and if the bull trout populations responded negatively MFWP has considered suppressing lake trout populations. If this were to happen, what do you think about potential suppression of lake trout in Swan Lake?”

The ranger also helped educate the public about the threat of lake trout. The ranger posted fliers throughout the Swan Valley and handed out brochures to interested individuals. A column was printed in a local weekly newspaper. The ranger participated with a display booth at a “Swan Lake Celebration Day” and “Fish Day” camp and gave prizes to children. Anglers were also asked if they would like join a mailing list to stay informed on bull trout issues.

Results

A total of 269 anglers or 132 boats were surveyed throughout the duration of the ranger position. Six anglers/boats declined to comment and 19 anglers were surveyed twice. Anglers that were interviewed more than once still had creel survey data collected (fishing method, species caught, etc), but these anglers did not receive duplicate opinion interviews.

No lake trout or bull trout were captured by anglers at any time the ranger was present. Therefore, no individual measurements for bull trout or lake trout were collected. Several anglers indicated they caught and released bull trout prior to the ranger's arrival. Only two individuals were directly targeting lake trout. These two anglers were youths who had just heard of lake trout from relatives but were not successful in capturing the fish.

It is estimated that 400-500 residents and anglers were contacted by personal visits or printed information as part of the public education effort.

The following figures display the results of various creel data and opinion surveys.

Swan Lake Angler Species Preference

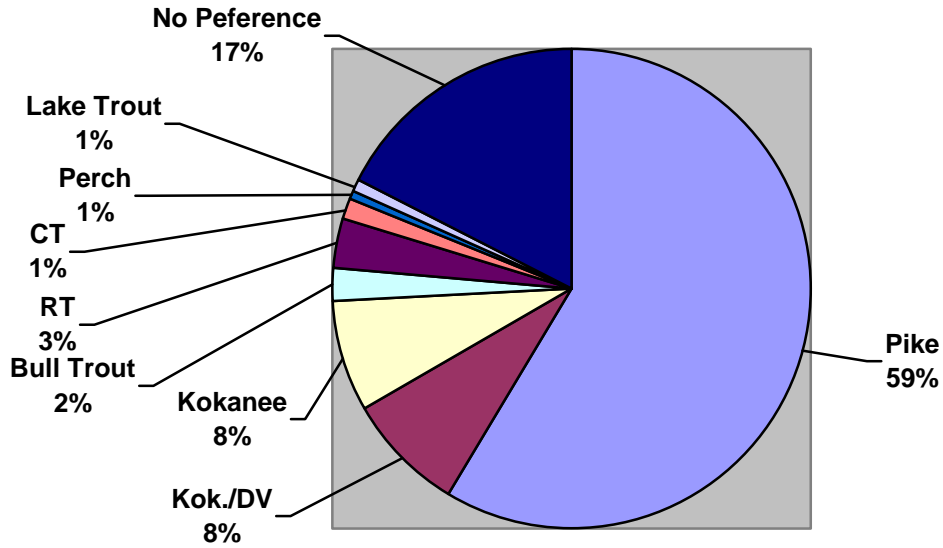


FIGURE 1. n=263. Angler preference on Swan Lake by species. RT = rainbow trout, CT = cutthroat trout DV= bull trout . Anglers surveyed reported to fish for just kokanee or kokanee and bull trout at the same time (Kok./DV). These statistics are split up to reflect any possible difference in method of fishing.

Angler Origin by County

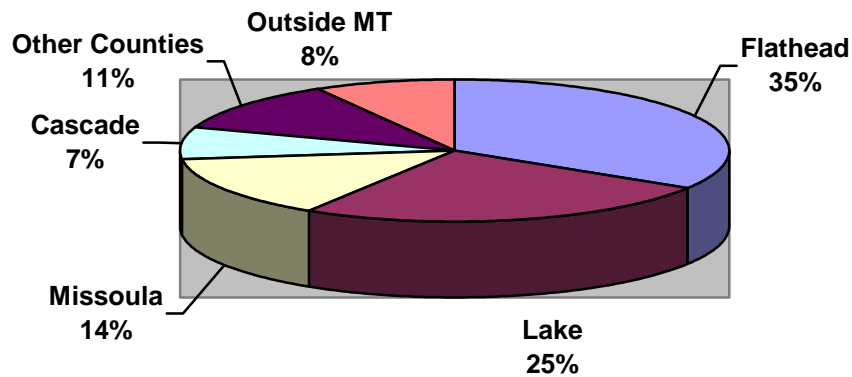


FIGURE 2. n=263. Angler origin by Montana county. The top 4 cities of origin for Swan Lake anglers were Kalispell, Bigfork, Missoula, and Great Falls in descending order.

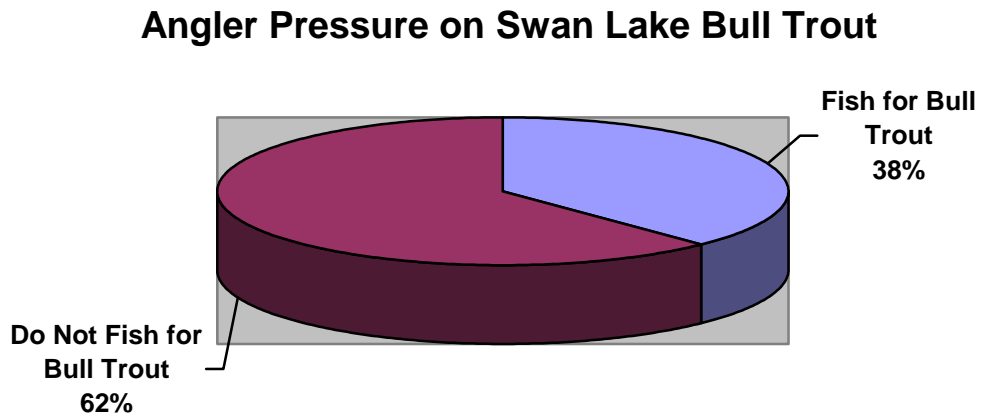


FIGURE 3. n= 244. Anglers that responded to fishing for bull trout on Swan Lake had at one time fished for bull trout or fished seasonally for bull trout. They may not presently fish for bull trout on Swan Lake.

Knowledge of Lake Trout Presence on Swan Lake

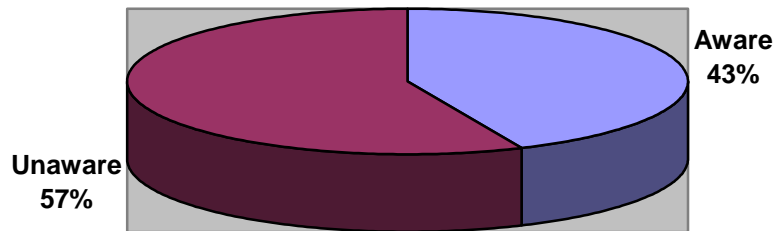


FIGURE 4. n=244. Percentage of Swan Lake anglers that were aware lake trout presence in Swan Lake.

Lake Trout Suppression on Swan Lake

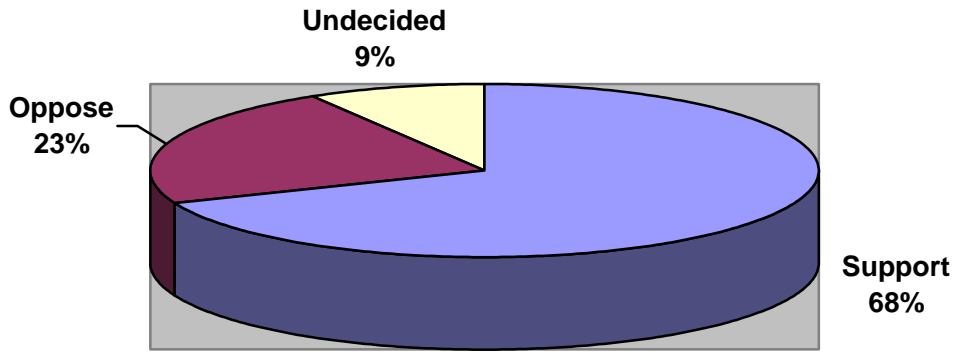


FIGURE 5. n=244. Anglers that support, oppose or are undecided about potential suppression of lake trout on Swan Lake.

Angler Self-Assessment

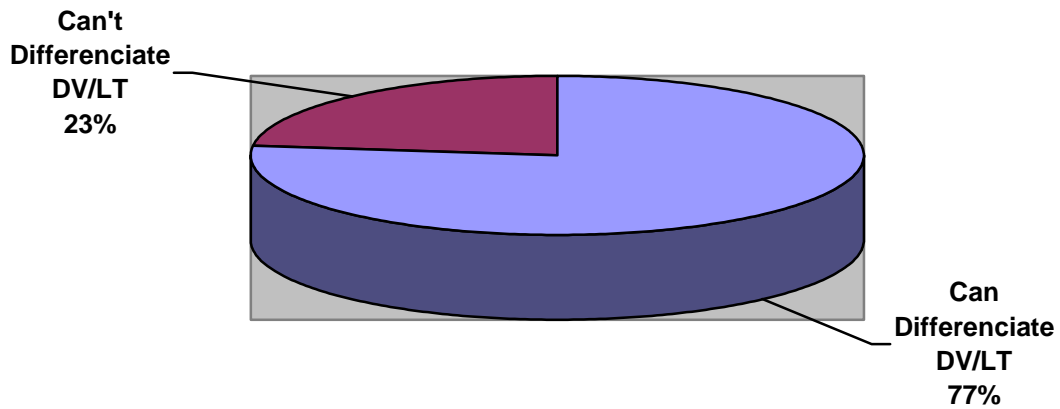


FIGURE 6. n=244. Anglers that thought they could differentiate between bull trout and lake trout.

Trends in Lake Trout Awareness

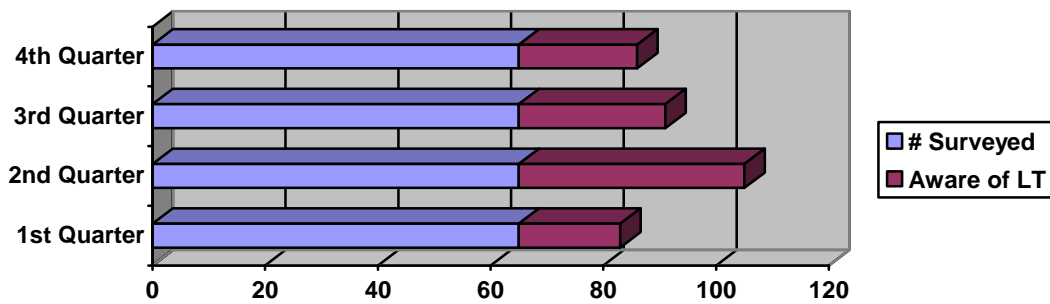


FIGURE 7. n= 263. Analysis of the number of anglers surveyed per quarter of summer that were aware of lake trout presence in Swan Lake.

Discussion

There were no lake trout reported captured in summer of 2005 on Swan Lake. This may be due to the angling focus on northern pike (figure 1) and also the perceived low numbers of harvestable sized lake trout at this time. Five different anglers reported to have caught lake trout on Swan Lake in the last year. The names and phone numbers of these anglers is enclosed as an appendix. In light of the low numbers of lake trout being caught or reported by anglers so far on Swan Lake, it is suggested that in the future the bull trout ranger should focus efforts on education rather than creel data.

The public opinion assessment of lake trout suppression was a key finding (figure 5). Approximately 68% of anglers said they would support any future lake trout suppression. These anglers exhibited great interest in the preservation of native fish such as the bull trout. Anglers supporting suppression also appeared more knowledgeable about the dominance of lake trout in other systems and also voiced their discontent with the proliferation of the species. Finally, anglers also approved of suppression because they didn't see a need for lake trout in Swan Lake because they could fish for them in Flathead Lake only a short distance away. The 23% opposed to potential lake trout suppression touched on several common reasons. Some anglers opposing any suppression of lake trout were afraid that efforts to suppress lake trout would damage existing fisheries, while others considered lake trout invasion and proliferation an act of evolution that should be left alone. Some anglers cited distrust for MTFWP and were discontent with several other management decisions in nearby bodies of water.

The angler self-assessment (figure 6) on their ability to identify bull trout and lake trout seemed over-confident in that 77% felt they could do it correctly. These percentages are perhaps askew because the anglers were not actually tested in this study. This implies the difficulty in educating anglers on fish identification and the poor success agencies have had to date. It is challenging to educate anglers who feel they already know how to identify fish.

The public education effort was judged to be moderately successful. Although the ranger contacted a substantial number of people, about 57% did not previously know about lake trout (figure 4) and there was no improving trend throughout the summer (figure 7). The ranger kept records of how anglers who correctly noted lake trout presence came about that information. The most commonly identified source of information was from other anglers in a social setting, or recognition of posters in the Swan Valley, or the angler already heard about it from the bull trout ranger or the USFWS intern. This commentary seemed to indicate that targeting social settings like bars etc. may be an effective means of distributing information about the presence of lake trout in Swan Lake.

Acknowledgements

We would like to thank Wade Fredenberg of the US Fish and Wildlife Service and Scott Rumsey of Montana Fish, Wildlife and Parks for all their support, guidance and encouragement for this project.

Appendix

Anglers Reported to Have Caught Lake Trout on Swan Lake

<u>Name</u>	<u>Phone #/ Angler #/ Date Reported</u>	<u>Comments</u>
Daryll Cuthbert	(406)755-2700/ #2 / 7/3/2005	Caught south of public boat ramp on hammered brass. 6 lbs. Spring 2005
Fred Runig	(406)886-2044/ #4/ 7/9/2005	Caught at Birch Glenn off of the dock on a Mepps. Spring 2004.
Wynn Hook	(801)973-0122/ #7/ 7/10/2005	Caught on a herring and Kokanee off of hwy. shoulder in about 50 feet of water
Scott	(406)754-0015/ #21/ 7/24/2005	Caught two up mouth of River 10" & 15" long in about 30 feet of water on a Rappala
Jerry	(406)752-0366/ #10/ 8/6/2005	Northern quarter of the lake near tamarack. About 20" long. 5 lbs. 45 feet of water