Hunt Lake, Whiteshell Provincial Park, Manitoba

2024 Fisheries Assessment Report

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Introduction

Hunt Lake is a stocked trout waterbody located near West Hawk Lake in Whiteshell Provincial Park (Figure 1). It is approximately 950 m long with a surface area of 0.18 km^2, an average depth of 7.2 m, and a maximum depth of 13.1 m. Hunt Lake is moderately developed and is road accessible, with a public dock and a boat launch for electric or self-propelled watercraft. The lake serves as a trailhead for one of the Whiteshell's most popular hiking trails, the Hunt Lake trail.

Hunt Lake is a mesotrophic waterbody with well-oxygenated water and has been one of the Whiteshell's most reliable stocked trout fisheries. Hunt Lake has been regularly stocked with trout since the 1950s, with Brook Trout (*Salvelinus fontinalis*) being the most stocked species in recent decades (see Appendices for a complete stocking history). Hunt Lake does not consistently produce trophy-class fish, but periodic stocking of adult Brook Trout and Brown Trout (*Salmo trutta*) adds a pulse of trophy potential to an otherwise excellent numbers fishery (Figure 2).

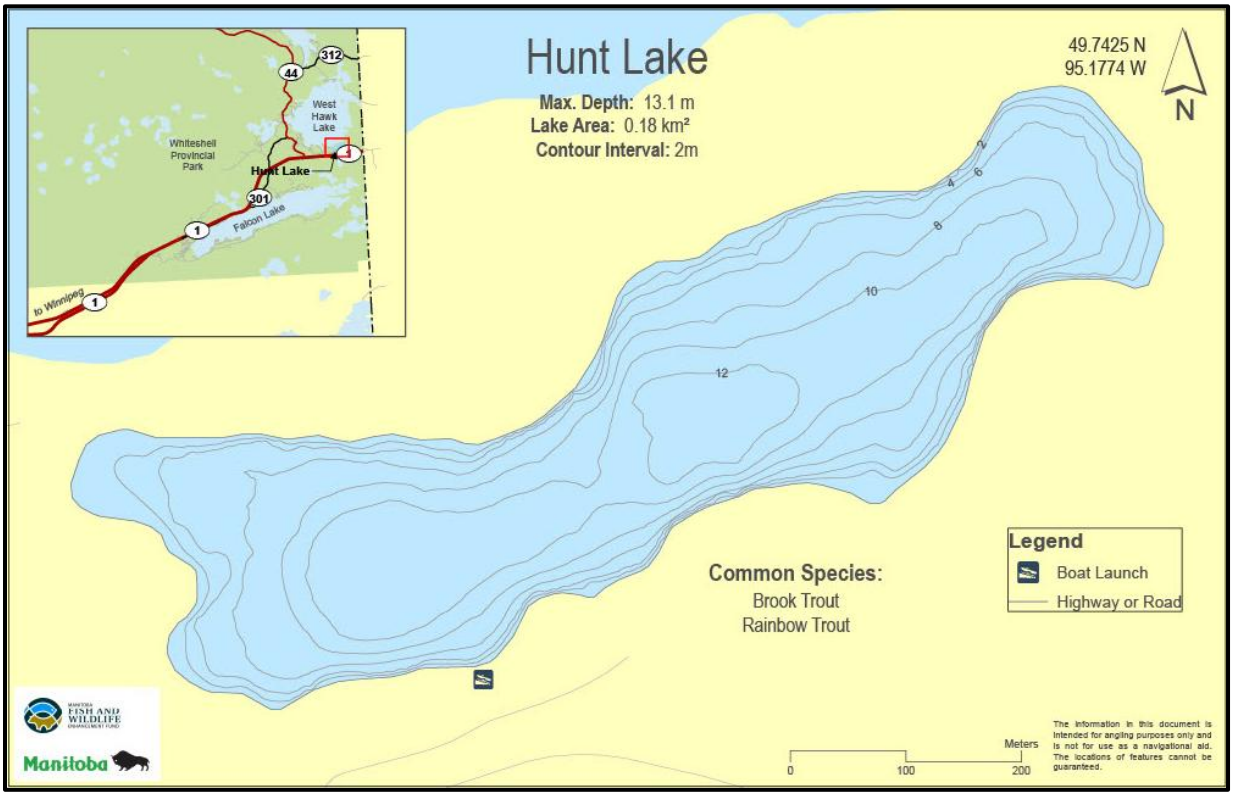

Figure 1. Bathymetry and location of Hunt Lake.

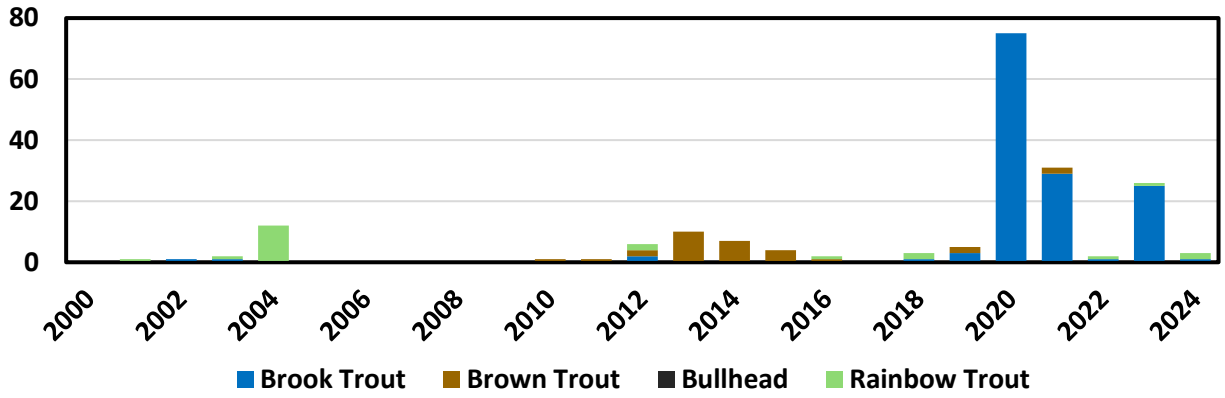

Figure 2. Master Angler submissions for Hunt Lake entered between 2000 and 2024. Data are publicly available on Travel Manitoba's Master Angler webpage. Visit: anglers.travelmanitoba.com/master_angler_search.asp

Largemouth Bass (*Micropterus salmoides*) were first documented in Hunt Lake in the summer of 2023 and are believed to have been introduced through illegal stocking efforts. Largemouth bass are known to selectively feed on stocked trout fingerlings (Christensen & Moore 2010) and compete with adult trout for food (Jackson 2002), as is likely occurring Reynolds Ponds. As such, the presence of Largemouth Bass in Hunt Lake could compromise future stocking efforts and put Hunt Lake's status as a quality trout fishery in jeopardy.

In 2024, fisheries staff carried out two monitoring surveys on Hunt Lake. The first survey was part of a routine trout monitoring program, while the second focused on evaluating the extent of Largemouth Bass introduction. The data collected will inform whether Largemouth Bass removal efforts are feasible and will establish a baseline for assessing the future health and status of Hunt Lake if Largemouth Bass cannot be eradicated.

Methods

Trout Monitoring Program

Hunt Lake was surveyed on May 10 as part of a regular trout monitoring rotation. Large-bodied fishes were captured using double-ganged North American Standard (NAS) gillnets, which consist of two connected 24.8 m long by 1.8 m deep monofilament panels containing equal lengths of 76 mm, 114 mm, 51 mm, 89 mm, 38 mm, 127 mm, 64 mm, and 102 m mesh (total length 49.6 m). Twelve NAS gillnets were set perpendicular to shore at depths of 0.5 m to 10.5 m and were pulled after one hour to minimize mortality. All fish were sampled for fork length, total length, and weight. Sex was determined for spawning fish by applying gentle pressure on the abdomen to discharge milt or eggs.

Small-bodied fishes were sampled in shallow water (> 2 m) using six funnel-style minnow traps baited with dog food; traps were set in the morning and pulled at the end of the sampling day. The pelagic forage base was sampled with a 30 m long by 1.8 m deep monofilament gillnet comprised of equal lengths of 16 mm, 19 mm, and 25 mm mesh. The small mesh gillnet was set in the morning at a mean depth of 5.0 m and was pulled at the end of the day. Catches were counted by species and released.

Electrofishing Program

Electrofishing was conducted on July 23 and 24 using a Smith-Root Model 20EH electrofishing boat propelled by a 200 HP jet-drive outboard. The crew consisted of a captain, who operated the boat and generator; two bow deck dip netters; and two main deck dip netters. Sampling on each day consisted of two full passes along the entire shoreline at a speed of 2-3 km/hour, followed by intensive efforts in areas that yielded high Largemouth Bass densities. Captured fish were held in a 280 L aerated livewell, and individuals from all species except Largemouth Bass were counted and released before the end of the day. Largemouth Bass were removed from the lake and processed for fork and total length, weight, sex and maturity, and age.

Results

In total 79 fish were captured during the trout monitoring survey and 596 fish were caught during the electrofishing survey. The spring survey yielded White Suckers (*Catostomus commersonii*), Yellow Perch (*Perca flavescens*), and a single Pearl Dace (*Margariscus nachtriebi*). Electrofishing catches consisted of Black Bullheads (*Ameiurus melas*) as well as Yellow Perch, Central Mudminnows (*Umbra limi*), and Largemouth Bass.

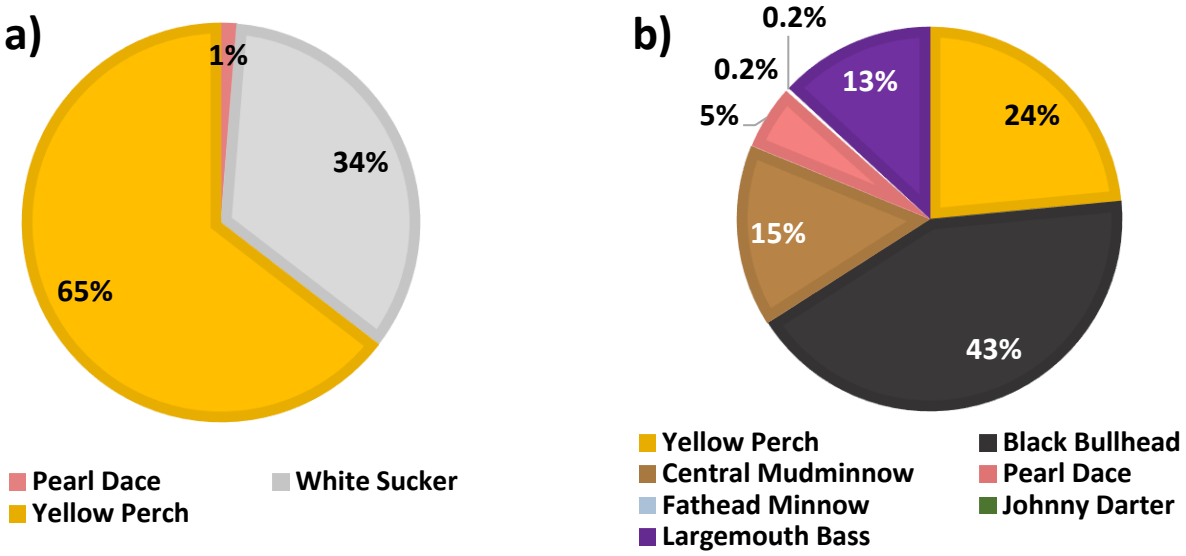

Figure 3. Composition of fish species caught in Hunt Lake during **a)** a spring gillnet survey and **b)** a summer electrofishing survey.

Yellow Perch

Hunt Lake has a prolific but stunted Yellow Perch population. Pre-spawn fish caught in the spring (n = 51) averaged 12.3 cm (total length; range 8.5 cm to 16.4 cm; Figure 4) and 22 g (range 9 g to 44 g). Body condition was average to below average despite most fish being in spawning condition (Figure 5). Yellow Perch were noticeably thinner during the electrofishing survey, though measurements for these fish were not taken. Over 50% of sampled Yellow Perch were sexually mature, and the small length of these spawning fish suggests stunting or selection for early sexual maturity over rapid growth.

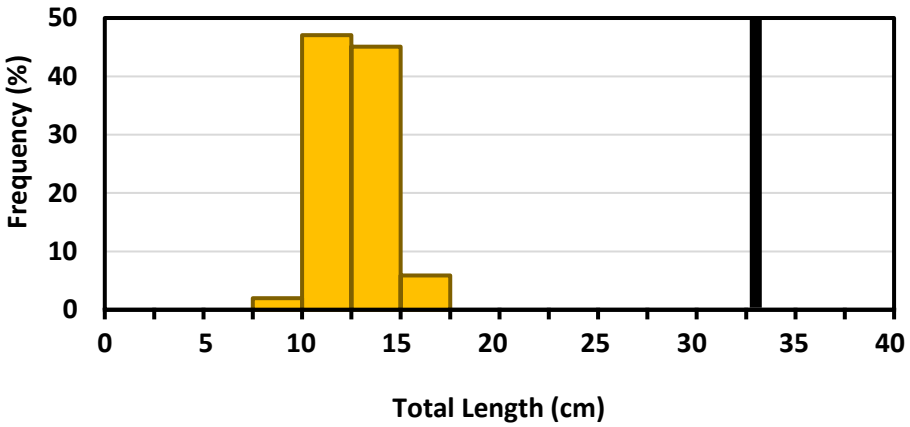

Figure 4. *Size class distributions of Yellow Perch caught in Hunt Lake. The vertical black bar denotes the benchmark for a trophy fish under Travel Manitoba's Master Angler program.*

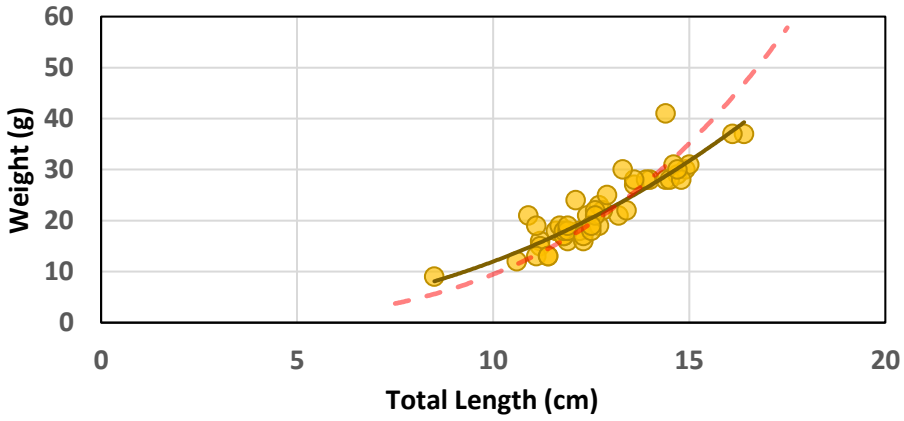

Figure 5. *Weight-at-length of Yellow Perch caught in Hunt Lake. The red dashed line represents the minimum expected weight of a healthy Yellow Perch using a standard weight (W_S) equation (Willis et al. 1991).*

White Sucker

Twenty-seven White Suckers were captured in the spring during routine trout monitoring. Fish averaged 41.8 cm in total length (range 29.4 cm to 48.2 cm; Figure 6) and 966 g (range 264 g to 1700 g); 14.8% of these fish would meet the Master Angler requirements for the species. Fish were healthy with a high body condition (Figure 7).

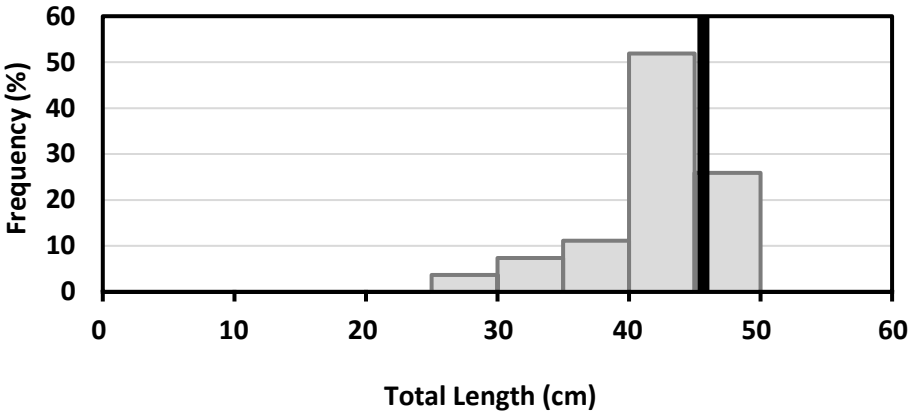

Figure 6. *Size class distributions of White Suckers caught in Hunt Lake. The vertical black bar denotes the benchmark for a trophy fish under Travel Manitoba's Master Angler program.*

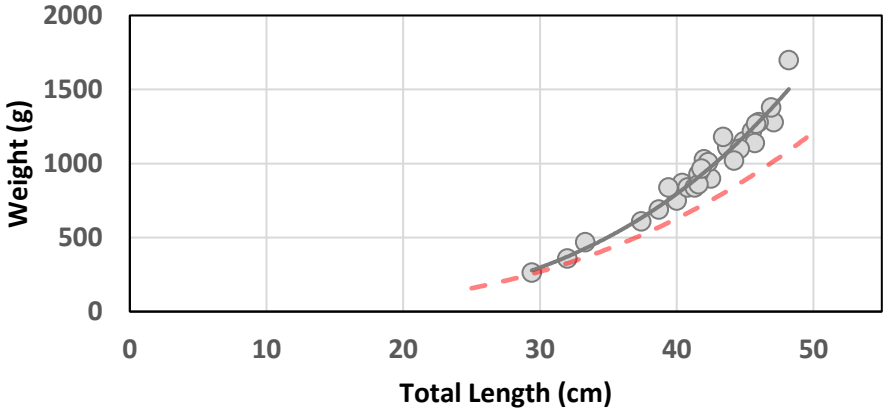

Figure 7. *Weight-at-length of White Suckers caught in Hunt Lake. The red dashed line represents the minimum expected weight of a healthy White Sucker using a standard weight (W_S) equation (Bister et al. 2000).*

Largemouth Bass

Largemouth Bass were not captured during spring monitoring, but 78 fish were caught during summer electrofishing efforts. Largemouth Bass averaged 13.4 cm in total length (range 10.1 cm to 18.9 cm) and 38 g (range 13 g to 109 g). Growth was [average/above average?] compared to other North America populations.

-Discuss length-at-age when data are available.

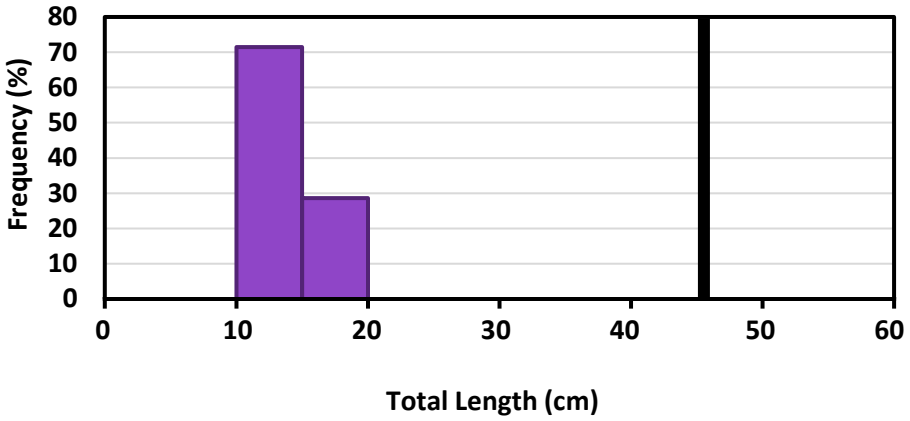

Figure 8. *Size class distributions of Largemouth Bass caught in Hunt Lake. The vertical black bar denotes the benchmark for a trophy fish under Travel Manitoba's Master Angler program.*

Body condition was well above the 75th percentile when compared to other North America populations (Henson 1991; Figure 10). Diets ranged from benthic invertebrates to baitfish, with most Largemouth Bass adopting a piscivorous upon reaching 15 cm in length. The largest fish displayed aggressive foraging behaviour, with six fish (mean length 17.6 cm) observed with Pearl Dace over half their length (mean length 9.3 cm) protruding from their gullet.

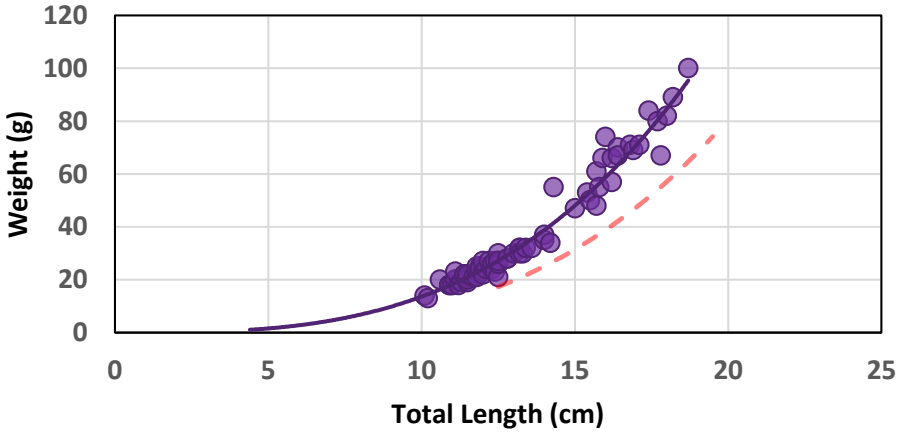

Figure 10. *Weight-at-length of Largemouth Bass caught in Hunt Lake. The red dashed line represents the minimum expected weight of a healthy Largemouth Bass using a standard weight (W_S) equation (Henson 1991).*

Despite their excellent physical condition, the Largemouth Bass in Hunt Lake are experiencing high parasitic loads. Every fish except one was infected with black spot disease, which is caused by flatworms invading the fish's skin and muscle. This infection is not typically known to cause major illness or injury to fish (Wanja *et al.* 2020).

Stocked Trout

No trout were captured during the spring gillnetting survey or the summer electrofishing survey, likely due to a combination of sampling timing, location, and gear limitations. In the spring, gill nets were deployed for only one hour to reduce the risk of mortality, which limited the likelihood of capturing trout. Summer electrofishing was conducted in shallow nearshore areas during daylight hours, when elevated water temperatures likely pushed trout into deeper, cooler habitats beyond the effective range of the equipment. Despite these survey results, anglers have reported catching stocked trout throughout the year, confirming their continued presence in Hunt Lake.

Conclusion

A juvenile Largemouth Bass population has established Hunt Lake, and individuals are exhibiting exceptional growth and body condition. Fish exceeding 15 cm in length appear to be feeding primarily on baitfish such as Pearl Dace, which is likely contributing to their accelerated growth. As these bass continue to mature, their diet will likely include stocked trout to the detriment of the fishery. To preserve Hunt Lake's status as a stocked trout fishery, the most effective strategy would be the removal of Largemouth Bass. If removal proves unfeasible, introducing more aggressive trout species, such as Brown Trout or Tiger Trout, may be a viable alternative. Nevertheless, the ongoing presence of Largemouth Bass poses a significant threat to the sustainability of trout stocking in the lake. Fisheries staff will continue to monitor the situation and remain committed to maintaining Hunt Lake as a viable stocked trout fishery.

References

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Appendices

Appendix A. Complete Provincial stocking history for Hunt Lake, Manitoba.

Year	*Species*	*Number*	*Size*
2024	Rainbow	1,000	18+ cm
2024	Tiger	1,000	18+ cm
2023	Brook	100	Adult
2023	Brook	2,000	18+ cm
2022	Brook	500	18+ cm
2022	Brook	750	18+ cm
2021	Brook	2,000	18+ cm
2020	Brook	4,000	18+ cm
2020	Brook	360	Adult
2020	Brook	240	Adult
2019	Brook	500	Adult
2019	Brook	2,000	18+ cm
2018	Brook	100	Adult
2018	Brook	2,000	18+ cm
2017	Brook	2,000	18+ cm
2016	Brook	2,000	18+ cm
2015	Brook	2,000	12-15 cm
2015	Brook	98	Adult
2015	Brown	47	Adult
2014	Brook	2,000	18+ cm
2013	Brook	2,000	18+ cm
2013	Brown	60	Adult
2012	Brook	2,000	18+ cm
2011	Brook	51	Adult
2011	Brook	2,000	18+ cm
2011	Brown	1,000	18+ cm
2010	Brook	2,000	18+ cm
2009	Brook	200	Adult
2009	Brook	2,000	18+ cm
2008	Brook	210	Adult
2008	Brook	2,000	18+ cm
2008	Brook	34	Adult
2008	Brown	1,000	12-15 cm
2007	Brown	1,000	12-15 cm
2006	Brook	4,000	18+ cm
2004	Brook	1,500	18+ cm
2004	Brook	3,000	18+ cm
2002	Brook	4,000	18+ cm
2002	Brook	600	18+ cm
2002	Rainbow	1,500	18+ cm
2001	Arctic Char	47	Adult
2001	Brook	5,000	12-15 cm
2001	Brook	4,000	18+ cm
2001	Brook	7,000	18+ cm
2001	Lake Trout	47	Adult
2000	Rainbow	5,000	18+ cm
1999	Rainbow	177	Adult
1998	Rainbow	15,000	Fingerling
1997	Rainbow	10,000	Fingerling
1996	Brook	10,000	12-15 cm
1994	Brook	10,000	18+ cm
1994	Rainbow	7,500	12-15 cm
1994	Rainbow	7,500	12-15 cm
1993	Rainbow	10,000	Fingerling
1993	Rainbow	201	Adult
1993	Rainbow	10,000	Fingerling
1992	Rainbow	3,000	>1 year
1991	Arctic Grayling	158	Adult
1991	Rainbow	1,350	>2 years
1990	Rainbow	4,180	>2 years
1990	Rainbow	850	>1 year
1988	Brook	373	Adult
1988	Brook	16,000	>1 year
1988	Brook	3,200	>1 year
1986	Rainbow	2,830	>1 year
1985	Rainbow	5,000	>1 year
1984	Rainbow	2,100	>1 year
1983	Brook	3,000	>1 year
1983	Rainbow	4,800	>1 year
1982	Rainbow	500	>2 years
1982	Rainbow	2,000	>1 year
1981	Brook	4,300	Fingerling
1981	Rainbow	10,000	>1 year
1981	Rainbow	1,000	>2 years
1980	Brown	2,000	>1 year
1980	Rainbow	1,000	>1 year
1979	Rainbow	1,000	>2 years
1978	Rainbow	1,550	>1 year
1976	Rainbow	2,000	>2 years
1975	Rainbow	261	>1 year
1975	Splake	1,000	>1 year
1974	Rainbow	2,000	>1 year
1970	Rainbow	1,000	>1 year
1969	Rainbow	1,000	>1 year
1968	Brook	1,000	>1 year
1968	Rainbow	1,000	>1 year
1967	Rainbow	1,000	>1 year
1966	Brook	78	>1 year
1966	Rainbow	512	>1 year
1965	Brook	1,100	>1 year
1965	Rainbow	1,200	>1 year
1964	Brook	1,000	>1 year
1964	Rainbow	1,400	>1 year
1963	Brook	2,500	>1 year
1963	Rainbow	2,000	>1 year
1962	Brook	4,900	Fingerling
1962	Brook	2,400	>1 year
1961	Brook	3,000	Fingerling
1961	Brook	15,000	Fingerling
1961	Rainbow	1,180	>1 year
1960	Brook	9,000	Fingerling
1960	Brook	12,500	Fry
1960	Lake Whitefish	5,000	Fry
1960	Rainbow	4,000	Fingerling
1960	Rainbow	12,500	Fry
1957	Splake	150	Fingerling
1955	Splake	7,457	Fingerling
1948	Smallmouth Bass	67	Adult