

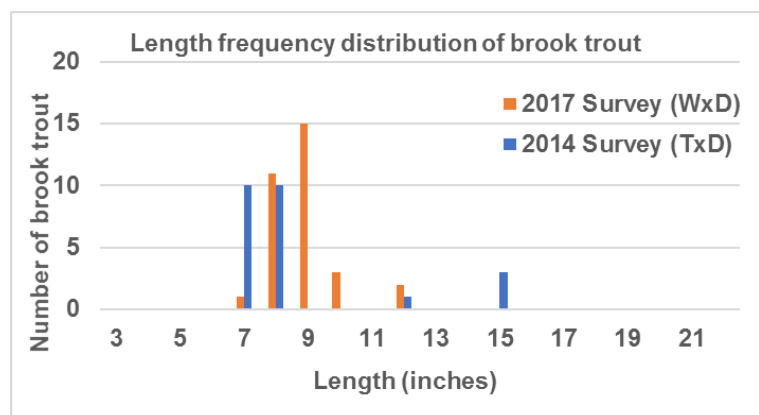
**Bear Pond Brook Trout Survey (Survey #: 517029)**  
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Bear Pond (SLC-P271) is a 55-acre Franklin County water that is typically accessed from Upper Saint Regis Lake through Bog Pond. Roughly half of the shoreline is in private ownership with the rest bordering the Saint Regis Canoe Area. It is 60 feet deep and there is abundant dissolved oxygen well below the thermocline. Bear Pond was reclaimed in 1958. It was first stocked in 1929 and from 2003 to 2012 it received 2,000 Temiscamie x Domestic (TxD) hybrid brook trout yearly. In 2013 an experimental stocking policy with Windfall x Domestic (WxD) brook trout fingerlings was initiated, and the stocking rate reduced to 1,400 fingerlings per year. This study was conducted to assess the performance of this new strain and stocking rate.

In November 2012, Bureau of Fisheries personnel (fish culture and regional) collected milt from feral male Windfall strain brook trout to fertilize eggs from captive domestic females to create WxD hybrids. Several waters in Region 5 were chosen to receive the WxD hybrids and it was determined that the status of the brook trout populations in some of these waters should be evaluated to compare the strain performance. Six such waters were surveyed from 2012 to 2014, either before or just after the newly stocked WxD brook trout would be recruited to our experimental gill nets. The plan was to then resample these waters after multiple years of WxD stocking. Waters with varying physical and chemical characteristics and fish communities were chosen, and one of these waters was Bear Pond. Bear Pond was chosen as a relatively large and deep water with some, but limited, competition from non-trout species including brown bullhead and pumpkinseed. Bear Pond was sampled in 2014 (#514025) to assess TxD performance, and again in 2017 to sample the WxD strain. By using this “snapshot in time” type of comparison there are obviously many factors that could affect the trout populations which are not controlled for. A few of these factors include potential differences in weather, angling pressure, reproductive success (recruits from the TxD, or even TxD x WxD crosses, could be present in the evaluation surveys), size of the fingerlings at stocking, number of fingerlings stocked, and vulnerability to angling. The sample size in such an evaluation is also small, particularly regarding the older brook trout. Thus, there would have to be large differences in strain performance for them to be detected.

In both surveys, three 150-foot Swedish experimental gill nets, a 30-foot minnow net, and a minnow trap were set overnight. In 2017, 32 brook trout with an average length of 9.4 inches were captured, while in 2014, 24 brook trout were caught averaging 9.3 inches. Both surveys were performed in early June. After 4 years of stocking the WxD strain, the brook trout population of Bear Pond continues to do relatively well, although



no individuals were collected in the 15-inch range in 2017. The mean size at age (Table 1) indicates growth rates are somewhat slow relative to other waters. The age 1 fish WxD brook trout averaged 0.6 inches longer than TxD but the age 2 and 3 fish were significantly shorter.

Table 1. Average size at age of brook trout by strain from Bear Pond in 2014 (Temiscamie hybrid) and 2017 (Windfall hybrid).

Age	Strain	Average length (inches)	Average weight (pounds)	Sample size
1	Windfall hybrid	8.9	0.28	22
	Temiscamie hybrid	8.3	0.50	10
2	Windfall hybrid	9.9	0.37	8
	Temiscamie hybrid	12.7	1.08	1
3	Windfall hybrid	12.6	0.85	2
	Temiscamie hybrid	15.7	2.01	3

Seven brown bullhead were also collected in 2017, with 47 pumpkinseed captured in 2014 and 592 in 2017. The pH in 2017 was 6.43 pH units with an Acid Neutralizing Capacity of 21  $\mu\text{eqL}^{-1}$ , which is much improved from the pH of 5.0 and the negative Acid Neutralizing Capacity measured by ALSC in 1985.

Based on the results from Bear Pond and the other waters stocked with Windfall x Domestic brook trout, there is neither a clear advantage or disadvantage to stocking this strain relative to the Temiscamie x Domestic strain. Production of the Windfall x Domestic strain has ended but the recently reduced stocking policy (1,400 brook trout fingerlings per year) is maintaining the fishery, should improve growth rates, and will continue; the policy will simply revert to the Temiscamie x Domestic strain.