

Summary of Activities

Date: November 21st, 2017

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MB Sustainable Development -
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Subject: Piasta Lake - Investigation for Sport Fish Introductions

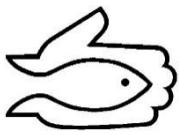
Location: Piasta Lake, Duck Mountain Provincial Park, MB, 14U 371943 5738085

On March 24th, 2017 SVSFE technicians visited Piasta Lake to conduct late winter dissolved oxygen testing and also gather some depth information. The primary reason for this survey was to determine if the waterbody possessed habitable oxygen levels and depth to support stocked trout introductions.

A total of 26 point depths were recorded and 16 dissolved oxygen profiles were conducted. From the data collected, the lake was found to exhibit an average depth of 2.53m with a maximum depth of 5.6m. Most holes consisted of brownish stained water with at least one hole with clean clear water. Multiple shallow holes drilled consisted of a soft mud bottom. See page two for spot locations and associated depths.

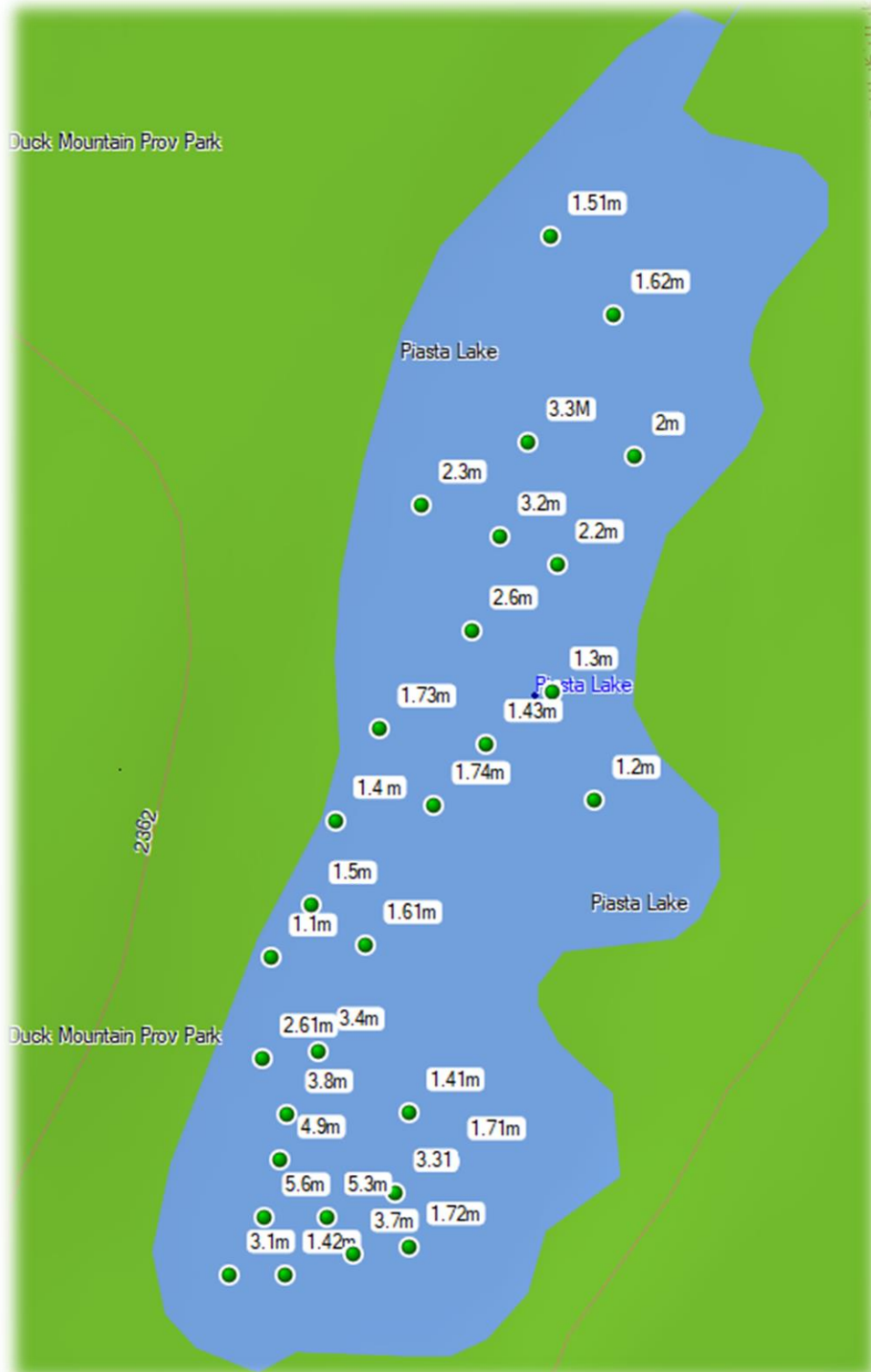
Dissolved oxygen profiles provided some interesting results. Five of the sixteen profiles showed low dissolved oxygen levels at surfaces with decreasing levels of oxygen with probe depth. These holes showed DO levels of <1.5mg/L. Four of the sixteen profiles possessed dissolved oxygen below rainbow trout habitable levels (<3mg/L). Interestingly, dissolved oxygen in these holes increased with probe depth (0.5mg/L at surface to 4.3mg/L on the lake bottom). Six of the sixteen profiles had dissolved oxygen levels within the habitable levels for rainbow trout (2.6-5.4 mg/L). Finally, one location had very high dissolved oxygen readings for late March (>7mg/L). A colour coordinated map of dissolved oxygen readings can be found on page three.

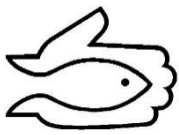
It becomes apparent, dissolved oxygen levels in Piasta Lake are consistent with others that support subsurface upwellings/freshwater springs. Arguably these late winter levels would overwinter a small stocked trout population. In most cases, a finding such as this would be interesting at most. Unfortunately, SVSFE was unable to return during the open water of 2017 for further investigations as the current scientific permit received from Parks Branch only allowed access by foot. However, the lake is only 3 km down the same trail of an already popular "back-country" stocked trout lake (Black Beaver Lake). The location of Piasta lake makes this particular finding something worth further examination, as findings make logistical sense for trout introductions. The Whiteshell Fish Hatchery and Conservation officers would not have to "go out of their way" for stocking and enforcement purposes. At this point in time, SVSFE suggests additional dissolved oxygen testing occur in March 2018. Time permitting, a fish community assessment should occur as well through the ice. If oxygen levels remain consistent with 2017 findings, further trout habitat suitability investigations should be conducted in the summer of 2018.



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2017 Spot Depths





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2017 Dissolved Oxygen Profiles

