

Summary of Activities

Date: September 2, 2015

To: Ian Kitch
Conservation & Water Stewardship

From: Holly Urban & Brock Koutecky
Swan Valley Sport Fishing Enhancement
Contact: svsfe@mymts.net

Subject: 2015 Marge Lake Walleye Recruitment

Location: Marge Lake, Duck Mountain Provincial Park, 14U 366860 5821867

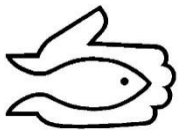
Summary of Activities: Marge Lake has been a project lake for SVSFE and Fisheries Branch since initial walleye introductions in 2010. Marge Lake has a long management history with limited success regarding different fish species introductions. In 2010, a new management plan was initialized when lake managers decided to stock adult walleye and closely monitor success. Since 2010, SVSFE and Fisheries Branch have stocked adult walleye on an annual basis via the Beautiful Walleye Transfer and initiated a "no-kill" regulation on the lake. We have also extensively been monitoring walleye populations, survival, growth rates, stock response, natural recruitment success, angling quality, and even conducted a very intensive spawning habitat assessment and monitoring in the spring of 2014 (See FEF Project 13-063).

In summary, 2014 results from SVSFE's Marge Lake assessments determined that populations closely resemble stocking rates suggesting low levels of mortality. Walleye growth is a little below average in comparison to other walleye lakes in the area, natural recruitment is successfully occurring, and walleye are utilizing Marge Creek annually for spawning. Angling quality was also determined to be high based on recapture submissions. Suggestions following 2014 assessments were to continue monitoring recruitment success as the adult walleye grew and matured, and also to continue monitoring angling quality.



Figure: Marge Lake Walleye 2015

One fine mesh trap net was set for a duration of 21 hours, with hopes of catching YOY walleye; results were negative. Over the years, SVSFE has dialed in prime seining locations for locating young-of-year (YOY) walleye in Marge Lake. Each year, five sites are sampled for replication purposes. In 2013, SVSFE located one YOY, two YOYs in 2014, and four this year (2015). It becomes apparent that not only are results increasing as Marge Lake walleye reach maturity, but results are increasing at an exponential rate.



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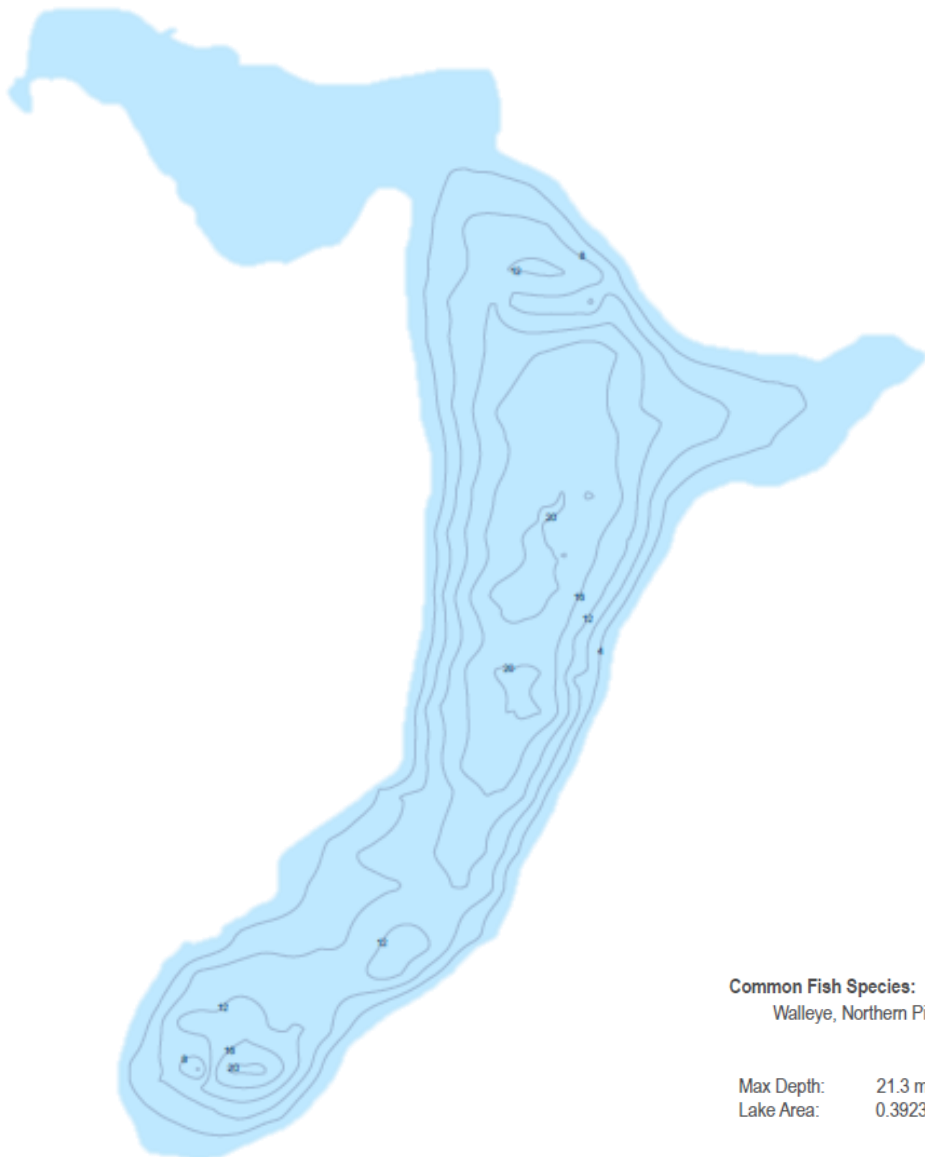
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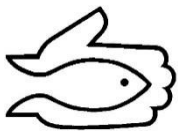
Recently produced Marge Lake Bathymetric Map - data collected in 2012



Common Fish Species:
Walleye, Northern Pike, Perch

Max Depth: 21.3 metres
Lake Area: 0.3923 km²

Contour Interval: 2m



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To date, this fishery offers a great opportunity for anglers to enjoy a catch and release walleye fishery. Presently, there are demands to open the lake for walleye harvests, but it is suggested to take into account the potential effect before considering this approach. At this time, SVSFE believes the walleye populations would not withstand any type of cropping. Although we are observing positive results in recruitment within a short timeframe, even a well established population could experience negative impacts, as this lake is small, is in a high use area and easily accessible during all times of the year.

SVSFE suggests to continue stocking Marge Lake with sub-adult & adult walleye from Beautiful Lake on an annual or semi-annual basis as opportunities are available. Introduced walleye have done exceptionally well in Marge Lake even with the presence of predator species (ie. northern pike). The current objective is to continue monitoring on Marge Lake with a focus on recruitment and establishment of a mature walleye population. This will help determine plans or need for future stocking practices. During this time, long term plans should be discussed with lake managers to outline goals and/or objectives.

