

Summary of Activities

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To: Ian Kitch
Conservation & Water Stewardship

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Subject: Whitefish Lake Walleye Recruitment Surveys 2016

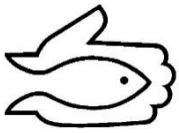
Location: Whitefish Lake, Porcupine Provincial Forest, 14U 322253 5801418

Whitefish Lake is one of "our" most popular recreational fishing destinations, and one that SVSFE has invested in since initiation. As the number of recreational users grow and angling pressure increases it becomes imperative that walleye fish stock and natural recruitment success continue to be monitored.

Research History: In 2005, a walleye telemetry study was conducted on Whitefish Lake to determine preferred spawning locations. Eight walleye were captured, tagged and released. The subsequent spring walleye were located at two of Whitefish Lakes tributaries (Four near Lagoon Creek, and four near North Creek). In 2009, AAE Tech Services (Mark Lowden) was hired by SVSFE to conduct tributary assessments on both North, and Lagoon Creek(s). AAE with assistance from SVSFE technical staff (Melissa Johnson) set out to 1)conduct habitat assessments; 2)conduct fish abundance 3)identify barriers impeding fish movement; and 4)provide recommendations on how to improve and restore the habitat within both tributaries. Recommendations following this technical survey suggested 1)removal of barriers (beaver dams) to provide walleye with additional spawning habitat 2)conduct spring assessments to monitor success 3)conduct telemetry surveys to monitor walleye movement during critical periods 4)conduct annual aerial surveys to document habitat changes 5)conduct index netting to monitor success, and 5) conduct creel surveys to monitor success.



AAE North Creek Photographs (2009)



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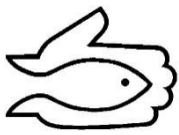
Following beaver dam blasting/removal for the first time in March 2010, natural recruitment success was assessed through North and Lagoon Creek spawn assessments and late-summer beach seining. Spawn assessments suggested that North Creek blasting was successful; as many mature walleye were observed, and successful drift netting results proved that walleye were utilizing habitats previously impeded by beaver dams. As for Lagoon creek, no positive results were determined, as barriers were still an issue (Urban, Johnson 2010). In the late summer of 2010, Urban and Johnson stated that blasting was a "huge success" and seines were "absolutely full of walleye young-of-year".



Since these initial assessments (2009, 2010, 2011) SVSFE has continued to blast beaver dams on a need-to-be basis (2010, 2013, 2015, 2016). Between 2011-2014, follow-up recruitment surveys were not completed. This was due in part to other scheduling commitments, but mostly due to high recorded angling quality, as local anglers have been catching "walleye in all age classes" year after year. In 2015 because of multiple years without recruitment data, one evening of night seining was spent at the Whitefish Lake's main beach.

A total of three seine hauls were conducted between 9:05-10:00pm on August 27th 2015. All samples were taken over different 50 meter sections of the beach. Total catchment was 5 walleye: 137mm, 198mm, 165mm, 122mm, & 241mm. The seines were not "absolutely full of walleye young-of-year", by any means. Through 2015 assessments it was concluded that not too many conclusions be drawn, as effort was minimal. Suggestion was to complete recruitment surveys while utilizing the electro-fishing boat in 2016.

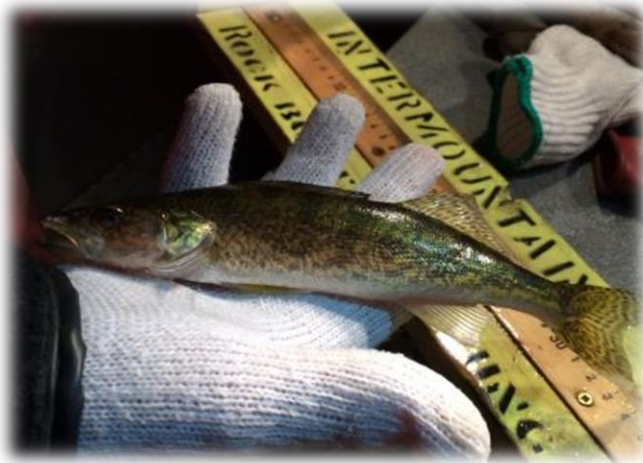




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Results: On the evening of September 27th, 2016 SVSFE set out to conduct a walleye recruitment survey on Whitefish Lake. Unlike previous recruitment surveys on Whitefish, we were capable of utilizing the Smith-Root Electrofishing unit we've used in the past as part of walleye OTC studies on both North Steeprock and Bell Lake(s). This particular tool, when used properly is an extremely effective method for locating and capturing young-of-year walleye hence why it was decided to use for this particular assessment in 2016. After dusk, we shocked all of the best beach locations on Whitefish Lake beginning our first transect at "Syl's" Beach, working north-west in a counter-clockwise direction, finishing our last transect at the main beach. In the eight transects we shocked a total of 3,741 seconds and captured a total of two YOY walleye (113mm, 143mm). This is not a very positive result for Whitefish Lake, especially targeting prime locations at key times. From this result, it has been hypothesised that either Whitefish Lake exhibited a very poor spawn in 2016, or else, were simply unable to locate them. It is important to state recruitment in all lakes across the board displayed lower than usual spawn success or recruitment in 2016. In addition, an ideal location was identified during sampling but was not sampled due to proximity to cottages.



Suggestions: For the past two years, walleye recruitment surveys on Whitefish Lake have been far from ideal, especially when comparing to historical results. Reasoning for this is highly unknown. For this reason it is suggested that spring monitoring be completed on Whitefish Lakes spawning tributaries in the spring of 2017; regardless of if blasting occurs or not. This should be completed for three reasons. (1) to further assess the effectiveness of blasting (or lack thereof in non-blasting years). (2) to geo-reference prime spawning habitat during spring flows and (3) and to ensure that fish are not being trapped behind newly erected dams. Lowden (2009) stated that blasted beaver dams may be erected after fish have spawned and trap walleye fry in upstream pools. Also, follow-up late summer assessments (seining or e-fishing) should be completed to assess survival. This is the only 100% natural self-sustaining walleye fisheries in our area and continued monitoring is essential towards maintaining this status.