

Integrated Fisheries Assessments, Maintenance, and Monitoring

**FWEF PROJECT 16-034 IFAMM
2017 Summary of Activities**



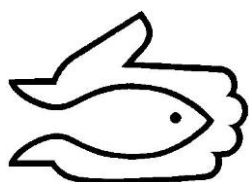
Swan Valley Sport Fishing Enhancement Inc.

Submitted on behalf of SVSFE Board of Directors

Written by SVSFE Technical Staff:

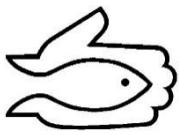
Holly Urban, Brock Koutecky & Megan Paterson

December 2017



**MANITOBA
FISH AND
WILDLIFE
ENHANCEMENT FUND**

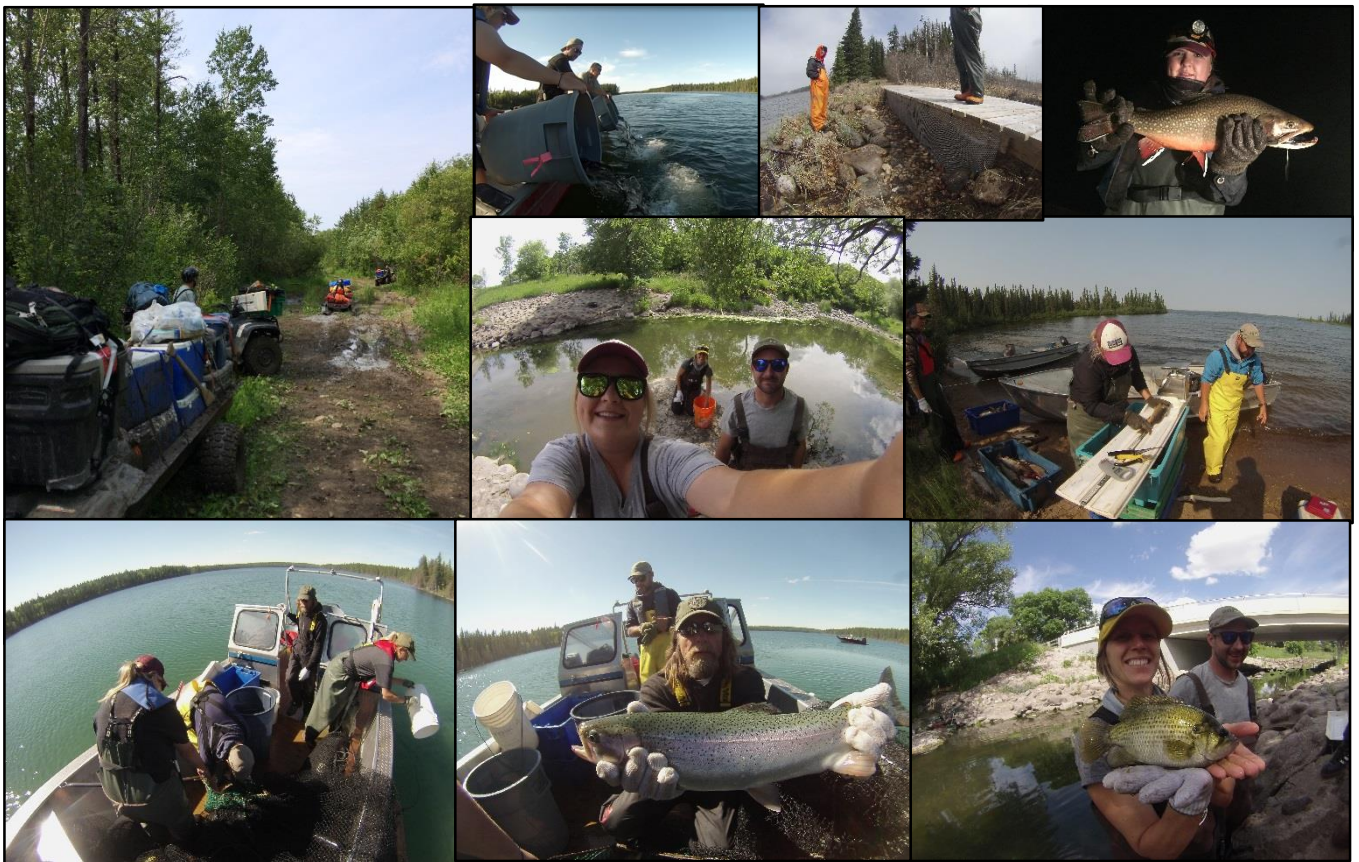
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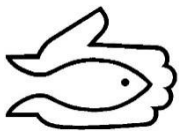


Summary of Activities

During SVSFE's 31 years of existence, the group has undertaken a variety of initiatives all with a primary focus on recreational angling. Travel Manitoba recently publicized the "Endless Options for Angling Excellence", stating Manitoba presents a variety of signature angling experiences within each regional boundary. SVSFE's area falls under the Parkland Region - world renowned "Fly-Fishing Paradise", but offers opportunities to angle a variety of species and fish diverse landscapes. SVSFE takes pride in our local resources. The group is continually working together with Fisheries Branch and partners as part of the progressive fisheries management trend in Manitoba.

As the years pass by, SVSFE has developed relationships with many other user groups, government/non-government organizations, fisheries staff (throughout North America), and anglers, to come up with proactive approaches to increase fishing quality specific for the North Parkland Area (Porcupine and Duck Mountains). Through research, enhancement projects, educational programs, stocking and more, SVSFE has contributed towards comprehensive management plans and made a positive impact on local fisheries. As the field season of 2017 comes to an end and all of our reporting is nearing completion, we feel providing FWEF with a "summary of activities and ambitions" is absolutely necessary. The following is a short summary of our work from the 2017 season, focusing on some of the highlights. For additional information on work completed, please refer to lake/project specific summaries.





Summary of Activities

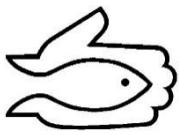
1. **SVSFE Zebra Mussel Early Detection Program:** Aquatic invasive species (AIS), particularly zebra mussels are becoming a huge concern in the Province of Manitoba. For this reason, SVSFE in partnership with Sustainable Development have initiated an early detection program through deploying *zebra mussel substrate samplers* in local angling waterbodies. This program is intended to be proactive, monitor potential spread, and limit further contamination. 2017 marked the second year of this program. No mussels were observed by the naked eye on samplers and they have been sent away for lab analysis. Singush Lake still remains under a "containment plan" after the suspect mussel detected on the 2016 samplers. The AIS program continues to conduct comprehensive tests on the lake. Until results are conclusive, all visitors to Singush Lake are prohibited from launching any watercraft. Please remember to clean, drain, dry and dispose every time you leave a lake.

Spot the stripes.
Stop the spread.



2. **Trout Maintenance Programs - Glad Lake Pike Removal/Char Stocking:** In 2015, SVSFE initiated a pike removal program on Glad Lake as an effort to re-establish this once exceptional, arctic char fishery. Each spring, SVSFE technical staff use different fish capture methods, predominately trap-netting to capture and live transfer pike to other recipient lakes within the Duck Mountains. Since 2015 SVSFE has removed over 1000 northern pike from the Glad Lake to assist arctic char growth and survival. The pike removal program is intended to continue in the years to come. 2017 Highlight: 22,250 arctic char stocked in Glad Lake on June 7th following the Whiteshell Fish Hatchery raising them for over a year and a half.





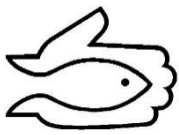
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- 3. Trout Maintenance Programs - East Blue Lake White Sucker Removal:** With the dramatic increase in water levels in 2009, lake users began noticing a white sucker presence that was unprecedented. Following a trend of decreasing angling quality, through assessments and further investigations by SVSFE, it was found white suckers populations were negatively affecting trout stocking success in East Blue Lake. As a results, the white-sucker removal program was initiated in the spring of 2016 and replicated in 2017. Over the past two years, we have removed and repurposed 6,043 suckers (approximately 6 tonnes). Additionally, this program helps monitor trout conditions and other species within the fish community. 2017 Highlight: Anglers reporting an increase in angling quality and in master angler submissions



- 4. Trout Maintenance Programs - Two Mile and Gull Lake:** In many trout lakes throughout the province, the increase of non-trout species populations have become a growing concern. These species, including yellow perch, northern pike, white-sucker, and walleye etc. are strong competitors with trout and have resulted in decreased trout growth/survival and ultimately fishing quality. For this reason, SVSFE conducted fish inventory surveys (via trap netting and electrofishing) on both lakes in the spring and fall of 2017. During assessments non-trout species were removed and repurposed. The premise of these surveys are to gain a greater understanding of non-trout encroachment, and also to correlate findings with stocking records in order to determine a more effective trout stocking strategy. Highlight: SVSFE is working with MSD on new stocking initiatives for these two trout fisheries.





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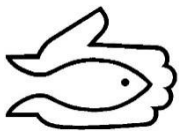
5. Lake Inventory, Exploration, and Mapping: SVSFE has been committed to lake investigations, exploration and creating new fisheries since initialization. Our group is continually reviewing lakes up for assessments or in need of baseline data to evaluate potential. Upon final review, SVSFE determined Armit Lake, Mossberry Lake and Stanton Lake to be top priority for 2017.

Armit Lake: Following the last index netting survey in 2000, Fisheries Branch was "convinced habitat and number of mature walleye should be able to sustain a naturally reproducing population". Furthermore, fry stocking was discontinued and it was recommended to repeat index netting in 2005. Unfortunately Fisheries was unable to complete the survey and following recent reports of a declining walleye population, SVSFE concluded a replicated assessment was long overdue. The evidence from 2017 suggests the lake provides the species with an abundance of quality habitat to support a self-sustaining population but walleye catches have declined. For that reason, SVSFE is recommending a reduced creel limit and protected slot limit for walleye. This is currently in the consultation phase. **Highlight:** walleye fry first introduced in 1986, have sustained a fair population of walleye for over 30 years with minimal stocking in this 2,541 hectare lake.



Mossberry Lake: A lake status inventory was completed in late August of 2017. Results determined that the lake had reverted to its natural state, and no evidence of walleye (last stocked in spring of 2000) were found. After findings were reviewed by Fisheries and Parks Branch, approval for walleye re-introduction was received in September. On Sept 9th the lake was stocked with 185 sub-adult walleye from Beautiful Lake. Mossberry will be a recipient for walleye fry stocking in the years to come. Mossberry was a very popular winter and summer walleye fishery from the 1990's to early 2000's. **Highlight:** SVSFE's anticipates anglers will enjoy walleye fishing at Mossberry in the near future.

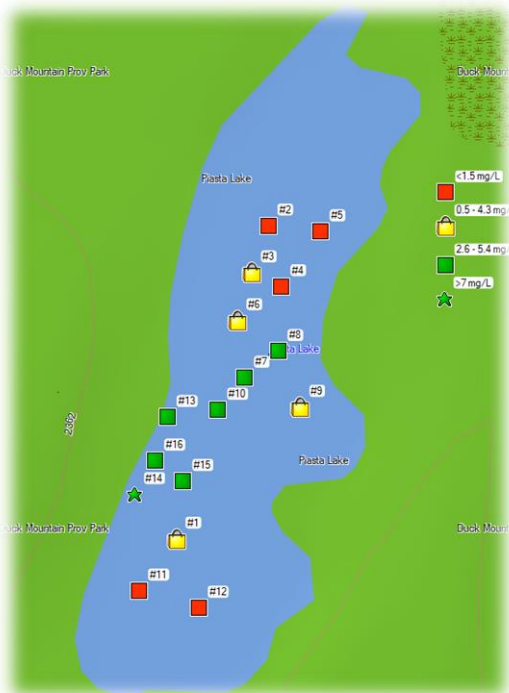




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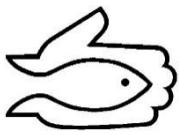
Stanton Lake: The objective was to determine some basic depth, habitat, and fish community data with the intention of determining if further investigations were required for potential sport fish introductions. Very little information was known about the lake prior to assessments but size (179 ha), location and reported depths indicated a measure of potential. Unfortunately, the lake was primary 2m deep, highly vegetated and exhibited habitable but low dissolved oxygen levels. The lake does not provide habitat required for sport fish introductions.

Bringing Muskellunge Back to the Duck Mountains: (2015 lake investigation)
On June 22, 35 spotted muskellunge were introduced to West Watjask Lake. The stocking was considerably lower than planned as our supplier experienced some unforeseen issues with his stock. SVSFE intends to stock the lake in the years to come and improve access for anglers. It will be a few years before these fish reach a targetable size and SVSFE asks anglers hold off on angling here for a few years. Highlight: This investigation resulted in a re-introduction of a unique species to Manitoba.



Piasta Lake - Investigation for Sport Fish

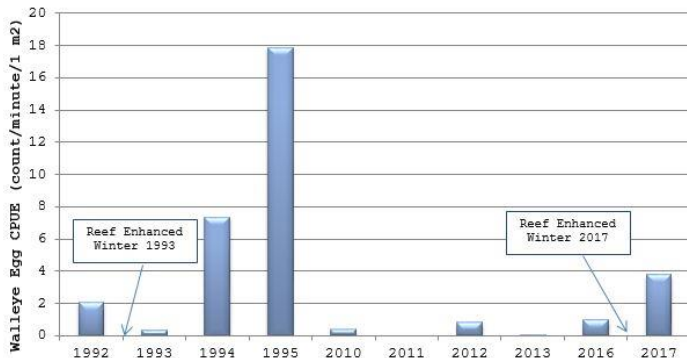
Introduction: On March 24th, 2017 SVSFE technicians visited Piasta Lake to conduct late winter dissolved oxygen testing and gather info on depths. The primary reason for this survey was to determine if the waterbody possessed habitable oxygen levels and depth to support stocked trout introductions. Dissolved oxygen levels were consistent with other lakes that support subsurface upwellings/freshwater springs. Arguably the late winter levels would overwinter a stocked trout population. SVSFE hoped to return to Piasta Lake during the open water season but access via ATV was not permitted. SVSFE hopes to revisit the lake during the winter of 2018 as initial investigations indicates the lake has some potential. Highlight: This investigation could result in an additional trout fishery in the Duck Mountains.



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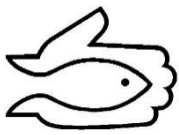
6. Walleye Recruitment Surveys - Wellman Lake: Natural recruitment of walleye in Wellman Lake has been an ongoing topic of conversation since the early 1990's. Throughout this time, SVSFE has been actively enhancing habitat (1993), and monitoring walleye recruitment success on Wellman Lake. In 2016, SVSFE pursued funding through the Recreational Fisheries Conservation Partnership Program (RFCPP) to enhance the Walleye Spawning Reef on Wellman Lake for the second time. In March, the reef was enhanced with 200 cubic yards of small diameter clean cobble/gravel. Unfortunately, the Whiteshell Fish Hatchery was unable to supply OTC marked fry in the spring of 2017 and year one of the OTC study had to be re-scheduled for 2018. Highlight: SVSFE continued with spawn and recruitment studies to evaluate natural walleye recruitment and results already indicate success from the reef enhancement.

**WELLMAN LAKE REEF
GUZZLING RESULT COMPARISON BY YEAR**



7. Walleye Recruitment Surveys - Whitefish Lake: Whitefish lake is a self-sustaining walleye fishery and SVSFE recognizes the need for continual monitoring of the fish community and walleye recruitment. North Creek has been identified as the main spawning tributary with successful movement and spawning in reaches 2.5km upstream thanks to continued management efforts. Walleye utilize two creeks during critical spawning periods and the continuation of habitat rehabilitation (beaver dam blasting and trapping) on the two tributaries, along with rotational monitoring of fish stocks will be an efficient method in maintaining quality habitat for all species. Highlight: 2017 indicated an increase in recruitment from 2016 and SVSFE plans to conduct ESTN survey in the near future.





Summary of Activities

8. Walleye Recruitment Surveys - Marge Lake:

Introduced walleye have done exceptionally well in Marge Lake alongside the prevalent northern pike population. The catch and release regulation has contributed to the success. The current objective is to continue monitoring Marge Lake with a focus on a sustainable long term management plan with the possibility to open the fishery to walleye harvests. To date, the walleye population has not displayed a high degree of natural recruitment. SVSFE and managers have agreed the lake remain closed to walleye harvests (not angling), until the trap netting program is completed and sustainable management strategies are in place. Highlight: The trap netting program is scheduled for 2018.



Walleye stocked in Marge 2017

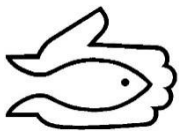
9. Walleye Recruitment Surveys - Beaver Lake: Over the last several years, great effort has gone into managing Beaver Lake as a remote walleye fishery. SVSFE re-introduced walleye in 2011, conducted several surveys, improved spawning habitat and continues to stock and monitor populations. Unfortunately, natural recruitment remains low in this small fishery. For now, management strategies will rely on a "put and take" practices. This will remain in effect until mature walleye numbers increase and sufficient recruitment is documented. Highlight: 2017 found the first signs of walleye recruitment since 2013



Walleye stocked in 2016 from Beautiful Lake transfer



2017 young of the year walleye



Summary of Activities

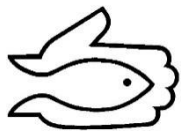
10. Walleye Recruitment Surveys - Deep & Virgin Lake: Both Deep and Virgin lake are well known walleye/pike fisheries to the local fisherman who visit the Porcupine Mountains. Although they are well known, in terms of fisheries research, little work has been completed in recent years.



Both lakes have received walleye fry/fingerlings through the stocking program. In 2017, SVSFE decided to add both Virgin and Deep Lake to the walleye recruitment assessment regime. Results indicated natural recruitment in both lakes was minimal to non-existent for the 2017 season. SVSFE believes it would be beneficial to introduce electro-fishing as a method to assess both fish community and recruitment at both; Virgin and Deep Lake(s) shoreline habitat limited seining sites. Both lakes can be accessed easily since SVSFE has improved road access. Highlight: This method would provide a two-fold objective 1) to evaluate current recruitment while also 2) assessing the current status of each fishery to correlate walleye stocking efforts.

11. Assisted Stocking: SVSFE understands the importance of efficient stocking practices. For this reason; during the field season of 2017 technicians and volunteers aided fisheries branch with stocking whenever possible. This includes "scatter stocking" fish to aid in survival and growth. Highlight: In the spring of 2017, six lakes in the Duck Mountains received albino rainbow trout; Beautiful, Black Beaver, East Blue, Gull, Shilliday and Two Mile Lake. NOTE: "The albino fish are not hybrids, they are pure rainbow trout. They have a genetic mutation which manifests as a lack of pigment (colour)." Derek Kroeker.





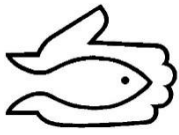
Summary of Activities

12.Rearing and Transfer Programs: Each year, SVSFE, ISFE and Sustainable Development partner on the very popular project commonly referred as the "Beautiful Lake Walleye Transfer". This particular project rears walleye in Beautiful Lake at an exceptional rate and each fall we spend approximately two-weeks trapping and transferring walleye to respective walleye lakes. This project is very popular, as it's commonly explained as "creating instant walleye fisheries". Below is the summary of the 2017 recipients. Highlight: In the fall of 2017 we captured and transferred 4,512 walleye, with a few fish at ages 2, 3 and 4+.

Beautiful Lake Walleye Transfer

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | Total by Lake |
|----------------------|------------|--------------|--------------|------------|--------------|--------------|--------------|---------------|--------------|---------------|
| Wellman Lake | 48 | 522 | 222 | 153 | 144 | 360 | 1,005 | 2,680 | 1,402 | 6,536 |
| Spray Lake | 0 | 50 | 41 | 75 | 0 | 285 | 0 | 868 | 312 | 1,631 |
| Verrall Lake | 0 | 74 | 57 | 132 | 0 | 100 | 394 | 603 | 117 | 1,477 |
| Child's Lake | 230 | 0 | 0 | 0 | 0 | 368 | 1,000 | 3,086 | 1,103 | 5,787 |
| Singush Lake | 650 | 0 | 0 | 77 | 200 | 662 | 814 | 3,536 | 0 | 5,939 |
| Line Lake | 0 | 539 | 54 | 89 | 0 | 0 | 0 | 0 | 0 | 682 |
| Chain Lake | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| Marge Lake | 0 | 399 | 585 | 125 | 0 | 569 | 50 | 1,530 | 943 | 4,201 |
| Vermillion Reservoir | 0 | 20 | 300 | 200 | 324 | 200 | 195 | 363 | 0 | 1,602 |
| Swan River | 0 | 395 | 54 | 0 | 0 | 124 | 0 | 0 | 0 | 573 |
| Beaver Lake | 0 | 0 | 548 | 90 | 882 | 737 | 865 | 1,916 | 0 | 5,038 |
| Cache Lake | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 602 | 451 | 1,053 |
| West Blue Lake | 0 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | | 50 |
| Langan Lake | 0 | 0 | 0 | 50 | 0 | 0 | 0 | 0 | | 50 |
| Mossberry Lake | | | | | | | | | 184 | 184 |
| TOTALS: | 928 | 2,089 | 1,861 | 991 | 1,550 | 3,405 | 4,323 | 15,184 | 4,512 | 34,843 |
| Average size: | 29cm | 35cm | 34.5cm | 27.6cm | 17.5cm | 24.4 cm | 32.2cm | 17.0cm | 24.5cm | |
| TRAP METHOD | ES | TR | TR | TR | TR | TR & ES | TR & ES | TR & ES | TR & ES | |

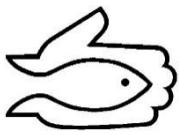




Summary of Activities

- 13. Promoting Angling Experience/Education:** Over the years SVSFE has installed "lake signs" at launch areas of the most popular angling lakes. These signs enhance anglers overall fishing experience by providing knowledge and awareness specific to each waterbody. Singush Lake was scheduled to receive a large sign in 2017, but unfortunately SVSFE is still waiting for permission from Parks Branch. Following this, a "containment plan" on Singush Lake was enforced due to a suspected zebra mussel, therefore the installation of the sign was postponed. SVSFE will review the list of potential lakes for signage and work with Parks Branch on requirements in hopes to continue with this initiative. Another venue of sharing our data is through social media and online. SVSFE has collected a mass of data on dozens of local waterbodies. This data is intended to be public domain, and for the use and enjoyment of the angling community. As each season comes to an end, and our project reports become complete, we upload them to our website. Our research can be viewed at: www.swanvalleysportfishing.com. SVSFE also invests in fishing infrastructure which includes the construction and installation of fishing docks along with access improvements. This year, we installed two more fishing docks at Deep Lake and Marge Lake. Future dock locations include Verrall Lake and Black Beaver Lake.
- 14. 2017 Fish Camp:** SVSFE's Fish Camp has become a popular entity for young anglers over the past few years. Our 7th Fish Camp was hosted August 14th - 20th at the Wellman Lake United Church Camp. SVSFE ran two camps within this timeframe to accommodate the high numbers of interested youth. Special guest and pro angler Don Lamont attended both camps with expert angling tips and advice. Topics included sustainable angling, catch and release tips, how-to's on tying knots and lure presentation for targeting species at different times of the year. Campers have the opportunity to explore nature right here in our "backyard" learn from some of the best, and take home some souvenirs to inspire them on their journey of recreational fishing. SVSFE is thankful to all are current/past sponsors and volunteers.





Summary of Activities

15. Angler Surveys: SVSFE understands the importance of incorporating qualitative data into management objectives including the angler's insight. 2017 will mark the third consecutive year of the "SVSFE Angler Survey". This survey has been designed to incorporate anglers' knowledge and opinions into fisheries management decisions. Online submissions were made available on the SVSFE website throughout the winter of 2016/17 continuing until the end of October 2017. Partnerships made with FLIPPR and Roblin Economic Development increased the study area into the Parkland region to provide extended insight and feedback from anglers.

2017 Online Angler Survey Winners:

1st - Mike Hlady (Dauphin, MB)

Helix Sonar from Sticky's Bait & Tackle

2nd - Darren Chmeloski (Swan River, MB)

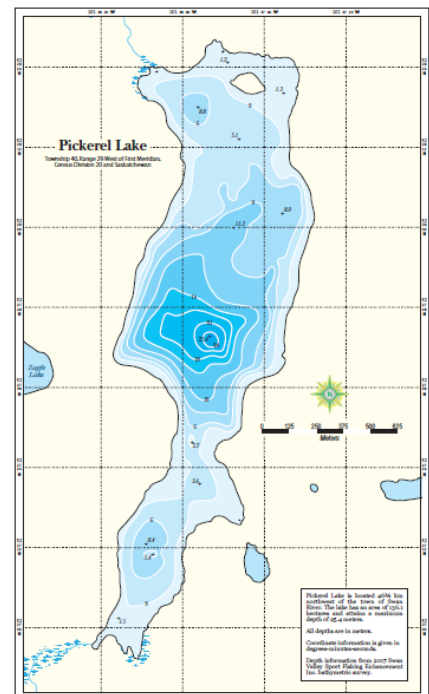
Custom rod from North Creek Baits

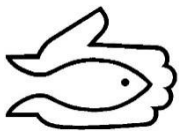
3rd - Ross Tressel (Yorkton, SK)

\$100 Gift Certificate to Canadian Tire (Yorkton)



16. Bathymetric Mapping: Depth sounding and having readily accessible bathymetric maps (or depth maps) for the angling community has become a priority of SVSFE. In recent years, we have sounded and made maps available online for almost all popular fisheries in the Duck and Porcupine Mountains. This year, Shilliday and Mossberry Lake were added to the Duck Mountain list and Fishing, Pickerel, Cross and Stanton Lake were included in the Porcupine Mountains. In 2018, we intend on completing a handful of remote lakes to offer through our website thereafter. Highlight: Find maps for most local lakes here: www.swanvalleysportfish.com These maps are printable and downloadable for both stationary and mobile devices.



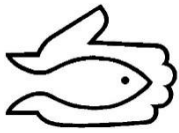


Summary of Activities

In summary, we are excited to report the findings and results of the 2017 open-water season. We would like to acknowledge the Fisheries and Wildlife Enhancement Fund (FWEF), for contributing funds to facilitate not only this particular project, but for the various other projects that SVSFE and partners have conducted over the years. The stamp is a constant reminder that a portion of angling licenses goes towards creating, protecting, and enhancing fisheries for future generations. This invaluable opportunity would not be possible without the initiatives of the fund.



We would also like to thank our directors for their infinite determination and drive to enhance and sustain our local fisheries. Without our group's conviction and support these projects would never have been possible. A huge thank you to Branch Staff, including our local mentor Ian Kitch for your endless support and knowledge. A big thanks to branch staff in corresponding regions, as our work would not be possible without your endless direction regarding fisheries management and research. And also, a huge thank you to our supporters, project partners, and volunteers (you know who you are), as our this work would no be possible without your support and assistance. Partnerships truly are the key in success. We, as SVSFE technicians are extremely grateful for the continued support and drive of each and every one of you, and we look forward to continuing this important work into 2018 and years to come.



Summary of Activities

SVSFE technical staff will be reviewing all reports in the early new year of 2018 with the SVSFE board of directors. Upon review approval, SVSFE will submit lake/project summaries to the FWEF Administrator and make the reports available online. Following is a list of 2017 Reporting:

- 1) Armit Lake Index Netting
- 2) Bathymetric Mapping
- 3) Beautiful Lake Walleye Transfer
- 4) Beaver Lake - Walleye stocking success & recruitment survey
- 5) East Blue Lake Trout Maintenance - White Sucker Removal
- 6) Deep and Virgin Lake Walleye Recruitment Surveys
- 7) Glad Lake - Pike Transfer
- 8) Gull Lake Stillwater Stocked Trout Littoral Sampling
- 9) Intermediate Report West Watjask Lake - Musky Introduction
- 10) Marge Lake Walleye Recruitment Surveys
- 11) Mossberry Lake - Lake Inventory
- 12) Piasta Lake - Investigation for Sport Fish Introductions
- 13) Online Angler Survey's 2017
- 14) Stanton Lake - Investigation for Sport Fish Introductions
- 15) SVSFE's 2017 Fish Camp
- 16) SVSFE Early Detection Zebra Mussel Program
- 17) Two Mile Lake Stillwater Stocked Trout Littoral Sampling
- 18) Wellman Lake Walleye Recruitment Surveys
- 19) Whitefish Lake Walleye Recruitment Surveys