



In part of reporting for FES Project 22-010  
SVSFE Initiatives and Monitoring of  
Recreational Fisheries in the Swan Valle Area

# Project Summary

Submitted to: Fish and Wildlife Enhancement Fund

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## **SVSFE Initiatives and Monitoring of Recreational Fisheries in the Swan Valley Area**

**FWEF-22-010**

Swan Valley Sport Fishing Enhancement (SVSFE) is a recreational sport fishing group actively involved in fisheries management and education since the 1980s. Over the years, SVSFE has secured funding through The Fisheries Enhancement Initiative (FEI), The Fisheries Enhancement Fund (FEF), and most recently the Fish and Wildlife Enhancement Fund (FWEF). Through funded projects, SVSFE has worked closely with Fisheries Branch, neighbouring sport fish groups, natural resource-based associations, and numerous other entities to enhance recreational fisheries and coordinate educational programs in the Swan Valley area. In 2022, a funding application to FWEF entitled "SVSFE Initiatives and Monitoring of Recreation Fisheries in the Swan Valley Area" was submitted to FWEF and ultimately approved. The following is a summary and evaluation of the project components completed in 2022.

- 1. SVSFE Partnership Programs:** Since 2016, SVSFE has been assisting Manitoba Fisheries in the early detection of Zebra Mussels through a partnership coined "The Early Zebra Mussel Detection Program". In 2022, SVSFE deployed 15 samplers in the Ducks & Porcupine Mountains which have been retrieved and analysed. Zebra mussels were absent from all 2022 samplers. In addition, SVSFE conducted veliger sampling in 9 high traffic waterbodies in the Duck and Porcupine Mountains. SVSFE has also been actively involved with the provincial stocking program since the 1980's. In 2022, SVSFE collaborated help and volunteers for many stocking events, along with assisted local Fisheries personnel in developing walleye and trout stocking objectives for 2022 and 2023.
- 2. Glad Lake Maintenance & Trout Assessment:** Since 2015, SVSFE has been removing pike from Glad Lake to benefit the trout stocking program. In 2022, SVSFE removed 56 northern pike from Glad Lake for an accumulative total of 1,482 pike removed since 2015. In addition, a char stock response electrofishing survey was conducted. The survey was unsuccessful at locating char; however some valuable data was collected on lake trout and 25 additional pike were removed from the waterbody. As part of the long-term management of Glad Lake SVSFE and Fisheries branch also constructed 25 fish habitats in 7 sites which will sink in spring of 2023. The objective here is to improve fish habitat in Glad Lake. SVSFE is happy to report these results which will assist with the future management and development of The Glad Lake Arctic Char Fishery.

- 3. Wellman Lake Recruitment Survey:** Wellman Lake has a rich history and has been of special interest since the walleye fishery collapsed in the late 1980's. Over the past 3+ decades, SVSFE and Manitoba Fisheries have initiated many different management techniques and have been closely monitoring walleye populations, harvest, and natural recruitment success. In 2022, research included a post-spawn survey by egg-guzzling the enhanced spawning reef. Guzzling results found a CPUE of 89.7 eggs/minute, which is the highest abundance of eggs found in the history of egg guzzling the Wellman Lake Reef. This data will assist Manitoba Fisheries with development of a long-term walleye strategy to help manage and monitor Wellman Lake for future generations.
- 4. Whitefish Lake Recruitment Survey:** Whitefish Lake is arguably the most popular walleye fishery in the Swan Valley area. This lake is reliant on natural reproduction and does not receive supplemental stocking. In 2009, AAE Tech Services documented spawning habitat in Whitefish Lake's two primary inflowing tributaries - North Creek and Lagoon Creek. AAE's results found that much of the best walleye spawning habitat was inaccessible due to natural barriers (beaver dams) and recommended regular dam removal. Since 2010, SVSFE has been actively removing beaver dams prior to spring migrations and monitoring success. After each removal, technicians monitor the effectiveness of the program by documenting walleye movements and areas of utilization in both spawning tributaries. In 2022, SVSFE staff monitored walleye movement and utilization, adding to the database which aids in the effectiveness of the program for years to come.
- 5. Cross Lake Recruitment Survey:** Cross Lake is a popular back-country walleye/pike fishery with variable walleye recruitment success. The waterbody is difficult to stock due to its remote nature and difficulty to access in the spring. As a result, SVSFE began investigating LeClair Creek to further understand walleye usage and recruitment success. In addition, a historical review of past data was completed to help develop a stocking/management strategy for Cross Lake. Unfortunately, a high-water event on May 13<sup>th</sup> complicated access to assess LeClair Creek and therefore creek assessments were not completed. Subsequently, a historical review of past data was completed in fall of 2022. SVSFE has reported results to Manitoba Fisheries and are happy to have developed a long-term management plan for the Cross Lake walleye fishery.

- 6. Beaver Lake Recruitment Survey:** Beaver Lake is a smaller stocked walleye fishery and recipient of the Beautiful Lake walleye transfer. An egg-guzzling survey was completed on May 20<sup>th</sup>, 2022 to quantify natural recruitment success on the artificial spawning shoal (enhancement completed in 2019). Unfortunately, no walleye eggs were found on the reef. An extreme high-water event in May raised water levels in Beaver Lake by an estimated 2.2m which likely influenced results. In addition, equipment issues on May 20<sup>th</sup> also likely affected results. SVSFE is eager to continue monitoring the success of the Beaver Lake Shoal Enhancement Project and assisting Manitoba Fisheries with continued management of the Beaver Lake Walleye Fishery.
- 7. Honoway Fishway Monitoring:** In 2010, the Swan Lake Watershed District (SLWD) acquired funding through FEF to construct a fishway at the Honoway Ford Crossing along the Swan River, as it was determined to be a barrier to migrating fish during critical periods. Over the years multiple upgrades have occurred as an effort to make the fishway operate efficiently on an annual basis. One upgrade was the installation of a water control structure in the upstream section of the fishway in 2017. In 2022, SVSFE closely monitored weather parameters, water parameters, mechanical parameters, and hydraulic parameters within the fishway to document conditions fish were faced with while passing through the fishway. Fish utilization was excellent in 2022 as result of above average water levels and flows. SVSFE is happy to report the results from 2022 fishway Monitoring. We now have collected enough information on the system itself to the point where we believe annual monitoring is no longer necessary. A maintenance and monitoring protocol has been created and has been reported to Manitoba Fisheries and the Swan Lake Watershed District.
- 8. Perch Lake Stock Assessment:** Perch Lake is a small, stocked trout waterbody in the Duck Mountains. The waterbody is unique as it has catch-and-release regulation, is easily accessible, and lacks any large-bodied native species that would complicate trout stocking success. The waterbody has been managed as a smallmouth bass and brown trout fishery since the early 1990s. In recent years, the fishery has been struggling as a high-quality angling destination. In 2022, SVSFE set out to conduct a fish assessment and literature review of Perch Lake. The primary objective was to determine management options to turn the lake around. SVSFE was happy to report findings to Manitoba Fisheries, and we feel confident that we have developed a new management strategy that will put Perch Lake back on the Map as a high-quality angling destination.

9. **Deep Lake Stock Assessment:** Deep Lake is a pike, walleye, and whitefish fishery in the Porcupine Provincial Forest. Over the years, SVSFE and Manitoba Fisheries have been monitoring walleye natural recruitment success through young-of-year assessments. In 2018, SVSFE and Manitoba Fisheries decided to remove Deep Lake from the walleye stocking list and assess Deep Lakes walleye population dynamics in the spring of 2022. In early June, SVSFE conducted a one-week, 9 live-release trap netting survey on Deep Lake. Results found evidence the walleye fishery benefits from supplemental stocking and natural recruitment success is minimal. SVSFE is happy to report the results from the Deep Lake walleye assessment and have determined the Deep Lake should receive a replicable trap netting survey in 2024 for additional information before confidently adding Deep Lake to the walleye stocking list.
10. **Big Bobs Lake Stock Assessment:** In 2022 SVSFE set out to investigate walleye stock on Big Bobs Lake, a secluded backcountry lake in the Duck Mountain Provincial Park. The waterbody experiences irregular winterkill (20-year cycle) and was stocked with walleye fry one time (200,000) in 2011. 2022 objectives were to collect bathymetric data for the provincial database and conduct a fisheries assessment to monitor walleye populations. Fall trap netting found a very abundant and healthy walleye population with multiple ages classes. Yellow perch populations were found to be exceptional as well with trophy size fish lacking parasitic infestations. Since the assessment, Big Bobs Lake has become a hot winter fishery experiencing angling pressure it has never seen before. SVSFE is happy to report results from the Bobs Lake assessment and are currently working with Manitoba Fisheries on an updated management strategy, which may result in the creation of new lake specific regulations for this unique fishery.
11. **West Watjask Lake Stock Assessment:** The West Watjask Muskie Introduction project has been in the works since 2015. The first experimental stocking occurred in 2017 (n=35) and the second occurring in 2019 (n=450). The muskie stock was acquired from Minnesota Muskie Farms in Alexandria Minnesota and the fish were ~10" spotted muskellunge of the Leech Lake strain. In 2022, SVSFE set out to assess stock response, growth, condition, and abundance of muskie stock through a spring trap netting program. Results were very encouraging, with 7 muskie sampled, another 5 observed and evidence of successful natural recruitment confirmed. By fall of 2022, the fishery took off and 48 Master Angler muskies were registered by October 2023. SVSFE is extremely pleased with how this fishery is progressing and is currently working with Manitoba Fisheries in developing a long-term management and monitoring strategies for West Watjask Lake muskellunge.

- 12. Pelican Lake Stock Assessment & Fishing Package:** Pelican Lake is a large remote fishery located in the Swan-Pelican Provincial Forest. The lake experiences very little recreational angling pressure, and six active commercial fishing quotas. In 2021, discussion with Manitoba Fisheries determined that a lake investigation and further promotion of Pelican Lake may highlight the fishery as a recreational angling destination. In late June 2022, 6 standard gangs were set throughout the waterbody, which replicated a netting survey that had occurred in 1998, and 2003. In addition, interviews with long-term lake user - Orin Carlson, helped accumulate information for a Pelican Lake promotional fishing package. SVSFE is happy to report 2022 netting data and promotional package for Pelican Lake which we believe will spark further interest in Pelican Lake and draw more anglers to this unique fishery.
- 13. Armit and Pine River Fishing Packages:** The Parkland escarpments of Manitoba provide multiple cold-water stream habitats that are known to support stocked populations. Many of these systems have also shown evidence of naturalized salmonid populations. As an effort to expand trout stream opportunities in the Parkland Region, SVSFE set out to investigate two streams in 2022. The objective was to conduct presence/absence surveys, document up-to-date access information, and conduct interviews with folks who frequent the fisheries to create promotional Fishing Packages. The trout streams investigated included the Armit River and the Pine River. Fishing packages were created for both these unique angling destinations and SVSFE is proud of the informational packages created. We are eager to further promote these unique fisheries spring of 2023.
- 14. Red Deer River Fishing Package:** The Red Deer has long been recognized as one of the best shore fishing destinations in the Swan Valley Area. In 2021, SVSFE technicians mapped the lower reaches of the Red Deer River for angler utilization and promotion of the fishery. In 2022, SVSFE continued the mapping project, and sounded the entire system from Red Deer Lake to Lake Winnipegosis. The mapping discovered numerous unknown fishing spots, fishing opportunities, and public access points. SVSFE is eager to share the new fishing package and access information for angler utilization and promotion of the Red Deer River Fishery.

In summary, SVSFE is happy to report the work completed and the steps taken to ensure the success of each project component in 2022. Please refer to the individual reports written to learn more on results and recommendations. Our organization values the continued support from the Fish and Wildlife Enhancement Fund and ensures at every opportunity that anglers' dollars are being spent efficiently. SVSFE thanks all volunteers, project partners, and Fisheries Branch for their continued support and intends to continue working together in enhancing Manitoba's fisheries for now and into the future.

**Reports:**

2022 Perch Lake Stock Assessment  
2022 Deep Lake Stock Assessment  
2022 Bobs Lake Stock Assessment  
2022 Pelican Lake Index Netting Report  
2022 Watjask Lake Stock Assessment  
2022 Glad Lake Monitoring and Maintenance Program  
2022 Wellman Lake Walleye Recruitment Survey  
2022 Whitefish Lake Walleye Recruitment Survey  
2022 Cross Lake Walleye Recruitment Survey  
2022 Beaver Lake Walleye Recruitment Survey  
2022 Honoway Fishway Monitoring  
2022 Early Zebra Mussel Detection Program  
2022 Partnership Programs Summary  
2022 Pelican Lake Fishing Package  
2022 Armit River Fishing Package  
2022 Pine River Fishing Package  
2022 Red Deer River Fishing Package  
2022 Summary of Project Components