

Vermillion Reservoir Walleye Assessment

(15-002)

#1881 May 5/17 Foot

#1901 May 5/17 Foot

Intermountain Sport Fish Enhancement (I.S.F.E.)

Report Prepared by:

Sustainable Development – Wildlife and Fisheries Branch



Introduction

The Vermillion Reservoir is located south of Dauphin and is a water retention flood control structure and is at the upper river limits of the Vermillion River outside of Riding Mountain National Park. The reservoir has been stocked over the years with several species of fish; brook trout, brown trout and rainbow trout, black crappie and small mouth bass. Of the introduced species only the small mouth bass has established and are a self sustaining population that provides recreational angling opportunities. In 2010 a plan was developed by Manitoba Sustainable Development to introduce walleye into the reservoir to further enhance the angling opportunities and to also study the impacts of walleye within the reservoir. Since 2011 walleye have been introduced as fry, sub adults and adults since 2011 and this study was designed to assess the reservoir for walleye survival and also to assess the fish populations as a whole. Several adult walleye were fitted with radio telemetry tags during this study and efforts were made to track their movement and also the preferred habitat within the reservoir and the river itself.

Fish Stocking Records

Fish Species	Size	Number	Year Stocked
Small mouth bass	Fry	25000	1983

Fish Species	Size	Number	Year Stocked
Walleye	Adult	300	2011
Walleye	Fry	300000	2012
Walleye	Fry	300000	2013
Walleye	Fingerlings	324	2013
Walleye	Fry	400000	2014
Walleye	Sub adult	200	2014

Other fish introductions

Black crappie were introduced in 1983 and 1984 with little to no returns and were not stocked again. Brook trout were first introduced in 1981 and failed to produce returns, brown trout were first introduced in 1983 and were stocked annually up until 2008, again with little to no fishing success. Rainbow trout were also introduced in 1989 and were stocked annually until 2007, but again failed to produce much angler success. There are occasionally reports of trout caught in the upper reaches of the Vermillion river upstream of the reservoir, and it is assumed that the riverine system has better trout habitat and there were several fishermen in the 1990's that fished the riverine system for trout, it could also be assumed that trout have established and are reproducing to a limited degree in the river system.

Methods

For this project there were several different methods of fish capture used; angling, hoop nets and short set gill nets. The amount of unsettled sediment makes hoop netting and gill netting a challenge as anchors for both end up sinking deeply into the bottom, however netting activities yielded both forage fish, white sucker and small mouth bass. Hoop nets were set on May 19th, June 2 and 3 with the following results:

Results

May 20

Net 1 West Side 21 WHSC, 12 creek chub

Net 2 East Side 18 WHSC, 1 creek chub

June 3

Net 3 West Side 4 WHSC

June 4

North end 27 WHSC, 1 SMBS



Locations of Hoop nets in 2015

Adult walleye Transfer 2015

In an effort to supplement and “boost” the walleye population in the reservoir, a decision was made during the Beautiful Lake walleye transfer project to introduce 195 sub adult walleye in the fall of 2015. Although it was not known what sex the walleye were, it was hoped that these walleye would establish in the reservoir and become the base of future spawning fish and help to establish a self sustaining walleye population. Below is photograph of an example of the walleye stocked and a size of the walleye introduced.



Transferred walleye from Beautiful Lake 2015.

Radio Telemetry

Radio telemetry was conducted both by fixed wing aircraft and by boat in 2015, some of the tagged fish locations are on the map below. All fish were tagged at the boat launch on the far east shore (white spot on map north east of location of #1821), the dispersal indicates that walleye are moving within the reservoir and utilizing available habitat. As the tags on the walleye have an expected three year battery life, more data can be gained with regards to walleye movements and preferred locations.



May 1 2015

Letter of Support for ISFE project

Emailed to the group

Hey Don.

Thank You for your dedication and hard work towards the development of the Walleye Fishery in the Vermillion Reservoir.

We really appreciate having such a great fishery so close to the Town of Dauphin.

Gisele and I fished the spillway in the afternoon of July1, 2016.

We did not catch any tagged fish.

Largest Bass was 16" out of about 9 total.

Caught about 10 healthy Walleye in the last couple of hours when I switched to the Lindy rig and hook with a leech.

The Walleye size was a range 12-14" / 16-17" and one grand daddy of about 20"

Kept three under 17" to eat.

Fish is firm and the meat is pure bright white. Unreal. Some of the best Walleye I have ever eaten.

Well done.

Grant

Discussion

One of the goals was to determine if walleye would eventually establish a self sustaining population in the reservoir and there is evidence that walleye are living at least part of their lives in the upper reaches upstream of the reservoir and there is suitable habitat to facilitate spawning and rearing in sections of the upper river. It is too early to tell as most walleye introduced were under spawning age and the numbers of introduced walleye are low. Perhaps future projects could assess the upper reaches to determine if walleye are reproducing. It would also be best to stock sub adult and adults as both could be tagged and any then any future assessment and walleye captured without a tag could then be assumed as recruited fish through natural reproduction. Another point of interest in this assessment was to determine if walleye from previous stockings were providing angling experiences, and from reports and a letter of support that would prove true, there are several reports of walleye catches both in the reservoir and directly downstream of the spill way. A concern raised during this assessment was the fact that the reservoir is occasionally prone to flooding in the spring, the possibility of fish migration downstream after a flood event is minimal and at worst the walleye will end up in Dauphin Lake, which is a walleye lake so effects are marginal.

Conclusion

The introduction of walleye has been successful and there should be continued efforts to assess and monitor this reservoir as both a small mouth bass and walleye fishery. With angler success, that is the most important part of fish introductions and the demand for smaller and easily accessible water bodies is ever increasing, Vermillion Reservoir allows for no gas powered motors and provides both shore fishing and small boat access for youth as well as family fishing.

Acknowledgements

Intermountain Sport Fishing Enhancement would like to thank everyone who participated in the Vermillion River Walleye Assessment Project:

Don Stokotelny, Fisheries Technician, ISFE

Chance Hulley, Technician Assistant, ISFE (2015)

Conservation and Water Stewardship:

Lloyd Rowe, Fisheries Technician

Jonathan Stephens, Fisheries Biologist

Steven Gray, Resource Management Technician

ISFE Member Volunteers

Barb Miller- ISFE Administrator

Vermillion Reservoir Anglers

Project Partners:

Fish and Wildlife Enhancement Fund

Intermountain Sport Fishing Enhancement

Manitoba Sustainable Development

