

Panel on the Future
of the
Trent Severn Waterway

Presentation by

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The effect of fluctuating water levels on spawning
lake trout and nesting loons

August 14, 2007

I am speaking as president of the Mountain Lake Property Owners' Association, as well as our representative on the Coalition for Equitable Water Flow. Mountain Lake lies between Twelve Mile Lake and Horseshoe Lake. The lake covers 320 hectares, with a perimeter of almost 14 kilometers. It is classed as a flow through lake because there is not a dam at the narrow gap that runs into Horseshoe Lake. Boshkung, St. Nora's and Soyers are similar flow through lakes. I would like to address the critical ongoing problem of water fluctuations related to lake trout spawning and loon nesting.

Under the Fisheries Act, 1985, the Trent system has a mandate to ensure that there is adequate water over lake trout spawning beds after the fish have spawned and before eggs have hatched.

Similarly, there is a mandate to not raise water levels during the period that loons are nesting, since loon nests are only a few inches above the water level.

If I may use Mountain Lake as an example, I will illustrate how the fluctuations have resulted in disastrous effects for both loons and lake trout.

For the first time in several years, our lake steward reported in June that a loon was nesting on Mountain Lake. As you are aware, loons are very awkward on land, and therefore nests are built only a few inches above water level. Our excitement was short lived, as less than a week later the water level rose by a foot. Needless to say, we no longer had a loon nesting. Loons are highly valued by visitors and

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property owners in Haliburton. This was a preventable catastrophe. To add insult to injury, the water dropped 16 inches over the two weeks following - in fact, residents reported a 12-inch drop in the first 2 or 3 days!

These up and down cycles have a devastating effect on the ecology of inshore species. From spawning bass, minnows, crayfish and a multitude of other aquatic life, they simply cannot adapt that quickly to rapidly changing water levels. Unfortunately, this littoral zone of the lake is also one of the richest in terms of food supply and variety of aquatic life. Having been a seasonal resident for 70 years, I have witnessed many cycles. This year in particular, there are the least number of bass fingerlings that we have ever witnessed.

Mountain Lake, like many lakes in Haliburton, is a Lake Trout lake. When you consider that less than 1% of the lakes in Ontario support lake trout, you realize what a special resource we have. Mountain Lake has been designated by the Ministry of Natural Resources (MNR) as a self-sustaining lake trout lake. They will not stock lake trout as it has been found that stocking can have a negative affect on the native trout. Natural reproduction is therefore key to a sustainable lake trout fishery. Stocking for Mountain Lake ceased in 1991.

Lake Trout face many threats to their survival, from over-fishing, invasive species, and changes due to global warming. It seems ironic that their greatest threat comes from the Trent System.

The Trent System aims to have the lakes at the lowest winter level by October 31st

to protect lake trout spawn. Lake trout on this lake and most other lakes in the area, begin spawning about October 10th and continue for approximately two weeks. These dates have been witnessed by the MNR and are fairly consistent from year to year. Our observations and data collecting during the 2006 spawning period confirmed these dates. To suggest that winter water levels will be established by the end of October is 3 weeks too late and ensures that many of the fish spawning during the first few days to a week run a good chance of having their spawn destroyed by drying out or freezing after water levels drop.

Only two lakes in Haliburton - Kushog and Big Bob - have an earlier winter water level date. It is claimed, incorrectly, that it is not necessary for other lakes because there is no evidence of spawning beds drying out. The inaccuracy of this statement has been confirmed by our own observations and by observations on other lakes in our area such as Soyers Lake.

On Mountain Lake we have been working with the MNR in monitoring when and where the lake trout spawn and documenting all key information such as number spawning, water temperature, wind direction, etc. We have identified three areas where trout spawn in water 1 to 6 feet in depth. Unfortunately, the fish that spawned in the 1 to 2 foot range in 2006 had their spawn destroyed in the late fall drawdown. We believed the rest would be safe. For some reason, there was an additional 1 to 2 foot drawdown in February and the first week in March, about two weeks before the hatch. A recent conversation with a lifelong resident of Soyers

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Lake confirmed the same sequence of events from October to March on Soyers Lake.

Lake Trout tend to spawn in the same area where they were born, similar to salmon returning to their original river or stream. On Mountain Lake in October 1983, the MNR documented a total of 70 spawning lake trout on just one night on the 1 to 3 ft spawning beds at the south end of the lake. Over the same beds, over 4 nights in October 2006, we counted a total of only 11 spawning trout. Late drawdown would certainly seem to be a major factor in the pronounced decline in fish numbers oriented to this area for spawning. Between fall and spring water fluctuations, probably up to 90% of lake trout spawn ^{was} ~~were~~ destroyed in Mountain Lake this year. These severe fluctuations in water levels have not just begun this year, but rather have plagued most lakes in our system for many years. This year's fluctuations were more serious, and described by our long-time lake steward as most bizarre. The reduced snowfall in the last 10 years and less-predictable weather have only added to the problems.

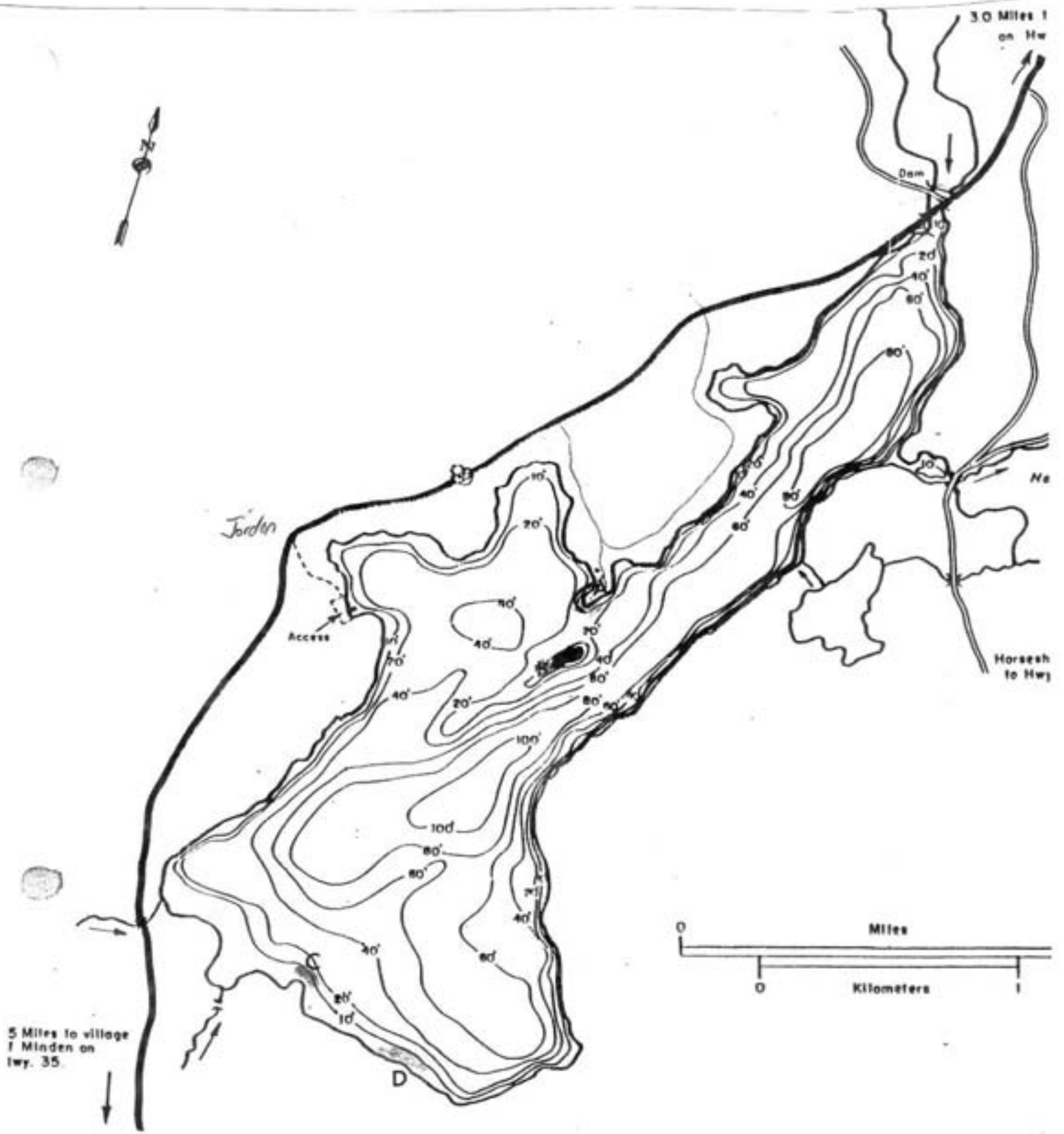
As a result of our efforts in monitoring and documenting lake trout spawning, and our concern for creating a spawning area at a safer level, we received a Canadian Wildlife Improvement Program grant to refurbish and expand the main spawning area. Sixteen MNR Junior Rangers under the guidance of MNR personnel, threw four dump truck loads of washed rock by hand to create an ideal spawning area for lake trout. The thirty lakeshore residents who worked in a supportive role that day were indicative of the support and enthusiasm from our lake community. The endorsement has been universal and unifying. The community is determined to

establish a sustainable lake trout fishery.

Will our efforts ensure the future for lake trout? We don't know; we can only hope that it is enough to compensate. Water levels that reflect the System mandate are an essential ingredient!

The lake trout fishery is a precious resource that warrants top priority. What has happened in the past with respect to unpredictable water levels is reprehensible. Two former research scientists for the MNR stated a number of years ago, "The lake trout is a fragile species, living in an inhospitable environment. It grows slowly, matures late and possesses a low reproductive potential." They stated that it is already extinct in 74 lakes in Ontario and that dams which cause fluctuating water levels do untold harm to spawning beds. They finish by stating that the demise can be averted if we consider lake trout work saving. If we don't believe that saving a species found in less than 1% of Ontario lakes is worth it, we have lost all sense of value.

We are trying to save the lake trout fishery for our grandchildren, who represent the tourists and property owners of tomorrow. If we were to present the problem of saving the lake trout from unpredictable water levels to our children or grandchildren, they would probably come up with the solution very quickly. Using current terminology, they would look at you in disbelief and state, "We are not dealing in rocket science here; in fact the solution is a no-brainer!"



Mountain Lake Minden Twp.

Lat. 44° 59' Long. 78° 43'

MINDEN TOWNSHIP STOCKING HISTORY

LAKE	YEAR	SPECIES	AGE	NUMBER	CLIP
MOUNTAIN LAKE	1923	LAKE TROUT	F	10000	
	1924	SMALLMOUTH BASS	FG	5000	
	1926	LAKE TROUT	F	15000	
	1927	LAKE TROUT	F	15000	
	1929	LAKE TROUT	F	21000	
	1932	LAKE TROUT	FG	10000	
	1932	WALLEYE	F	50000	
	1938	SMALLMOUTH BASS	F	5000	
	1938	SMALLMOUTH BASS	FG	750	
	1938	LAKE TROUT	FG	5000	
	1939	LAKE TROUT	FG	15000	
	1940	SMALLMOUTH BASS	F	15000	
	1940	BROOK TROUT	Y	1200	
	1941	SMALLMOUTH BASS	F	10000	
	1941	LAKE TROUT	FG	5000	
	1943	LAKE TROUT	FG	5000	
	1944	LAKE TROUT	FG	8000	
	1945	LAKE TROUT	FG	10000	
	1946	LAKE TROUT	FG	4000	
	1947	SMALLMOUTH BASS	A	151	
	1948	LAKE TROUT	FG	1000	
	1949	LAKE TROUT	Y	1000	
	1950	SMALLMOUTH BASS	A	170	
	1950	LAKE TROUT	FG	1000	
	1951	LAKE TROUT	FG	2000	
	1953	LAKE TROUT	FG	3000	
	1954	LAKE TROUT	FG	3000	
	1955	LAKE TROUT	FG	3000	
	1958	LAKE TROUT	FG	3000	
	1959	LAKE TROUT	Y	1000	
	1960	LAKE TROUT	Y	1500	
	1961	LAKE TROUT	Y	800	
	1961	LAKE TROUT	FG	1000	
	1962	LAKE TROUT	Y	2000	
	1963	LAKE TROUT	Y	800	
	1964	LAKE TROUT	Y	2040	
	1966	LAKE TROUT	Y	2100	
	1967	LAKE TROUT	Y	3600	
	1968	LAKE TROUT	Y	2500	AD
	1969	LAKE TROUT	Y	2250	
1970	LAKE TROUT	Y	3000	LP	
1972	LAKE TROUT	Y	1750	RV	
1975	LAKE TROUT	2Y	2400	LP	
1976	LAKE TROUT	2Y	1000	LP	
1982	LAKE TROUT	Y	3000	RV	
1985	LAKE TROUT	Y	2500	RP	
1985	LAKE TROUT	Y	2500	LP	
1987	LAKE TROUT	Y	4000	RV	
1989	LAKE TROUT	Y	2000	LV	
1991	LAKE TROUT	Y	3950	RP	

Lake Trout Spawning Assessment
Data Sheet

Lake: Mountain Observers: Ed Forsbrey
Township: Minden Hills Ross Froats

Site #	A	C	D			
Date	Oct 21/06	"	"			
Time	8:30	7:30	8:00			
Water Temp	52°	"	"			
Wind Direction	Nil	"	"			
Surface Condition	Calm	"	"			
Cloud Cover	Overcast	"	"			
Moon Phase	No Moon	"	"			
#of Lake Trout Observed	17	2	1			
Other Species Observed	0	0	0			

Comments: _____

MOUNTAIN LAKE (Lat 44°59' N, 78°43' W) Minden Twp.

Shoal D - East of centre of south end of lake, approx. 100m offshore.

Date	# 4 Shoal #	Water Surface °C	Observers	Observations	Condition	Management Recommendations and Actions
<u>Oct. 21 1983</u>	0	11.5	D. Wilson / J. Wilson	- 50 L.T.	partially silted	(Wilson: Wilson 1983)

MOUNTAIN LAKE (lat 44°59' long 118°43') Minden Twp.

Shoal C - Centre of southern end of lake, \approx 100 m off shore.

Date	#3 Shoal #	Water Surface °C	Observers	Observations	Condition	Management Recommendations and Actions
Jul 21 1983	C	11.5	D. Wilson/ W. Wilson	- 20 L.T.	- partially silted	(Wilson : Wilson 1983)
Oct 25 1983	C	10.0°	H. Brown/ C. Gray	Nil	- Variable sized rubble, Very silty	