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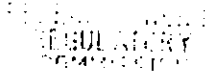
Northern States Power Company

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P.O. Box 8
Eau Claire, WI 54702-0008
Telephone (800) 895-4999

OFFICE OF THE SECRETARY

00 SEP -8 PM 4: 22

September 5, 2000



Mr. David P. Boergers, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Subject: Monitoring Results of the 2000 Survey of Purple Loosestrife Populations on the White River Flowage (FERC Project No. 2444), the Superior Falls Flowage (FERC Project No. 2587), the Big Falls Flowage (FERC Project No. 2390), the Thornapple Flowage (FERC Project No. 2475) and the Hayward Flowage (FERC Project No. 2417).

Handwritten annotations: 035, 040, 016, 036, 040

Dear Secretary:

Enclosed is an original and eight copies of the 2000 purple loosestrife monitoring reports for the above-mentioned projects as directed by the Federal Energy Regulatory Commission's (Commission) license orders. The license orders required Northern States Power Company - Wisconsin (Licensee) to perform annual surveys of project shorelines for the presence of purple loosestrife and to file with the Commission the monitoring results.

The above-mentioned flowages were surveyed in August and an estimate of purple loosestrife densities were determined and compared to previous years' surveys. The 2000 monitoring results indicated that purple loosestrife densities were similar to the monitoring results from previous years.

If you have any questions in regards to the monitoring results or to this filing, please feel free to give me a call at (715) 839-2692 or Mr. Robert Olson of my staff at (715) 839-1353.

Very truly yours,

Lloyd Everhart
Lloyd Everhart
Administrator, Hydro Licensing

Attachment: Purple Loosestrife Monitoring Report

c: Jim Fossum (U.S. Fish and Wildlife Service)
Angie Tornes (National Park Service)
Jeff Scheirer (Wisconsin DNR)
Project Files

h:\references\purpleloosestrife\090500letter.doc

000912.0136.3

FERC DOCUMENTED
SEP 8 2000

Results of the 2000 Assessment Of Purple Loosestrife Populations on the White River Flowage, the Superior Falls Flowage, the Big Falls Flowage, the Thornapple Flowage and the Hayward Flowage.

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WISCONSIN DEPARTMENT OF NATURAL RESOURCES
DIVISION OF PLANT INDUSTRY

1.0 Introduction

The operating licenses for the White River, Superior Falls, Big Falls, Thornapple and Hayward hydro projects directed the Licensee to develop a purple loosestrife (Lythrum salicaria) monitoring plan for project shorelines. The plans were developed with input from the Wisconsin Department of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (USFWS) and the National Park Service (NPS). The monitoring plans involve annual monitoring of project shorelines during a period of peak purple loosestrife biomass (late July through August). The following report is a summary of the surveys that were performed during the 2000 field season and comparisons were made to the results of surveys from previous years.

2.0 Methods

The shorelines of the Hayward and White River Flowages were surveyed for purple loosestrife on August 23, the Superior Falls Flowage was surveyed on August 24, and the Big Falls and Thornapple Flowages were surveyed on August 29. The survey dates coincided with the time of maximum flowering where purple loosestrife could be easily identified and surveyed for relative abundance. The project lands downstream from the Hayward Hydro Project were also surveyed.

Project shorelines were classified to indicate whether purple loosestrife was absent, present or abundant. Present indicated a light scattering of a few plants over an area. Abundant indicated a dense growth of numerous plants over an area. Absent indicated that no purple loosestrife plants were present. Using these determinations of infestation, purple loosestrife locations were mapped on bathymetric maps and an estimate of shoreline miles occupied determined using a planimeter.

3.0 Results

3.1 White River Flowage. Purple loosestrife plants were not found on the shorelines of the White River Flowage. This was similar to the findings from the 1998 and 1999 surveys.

3.2 Superior Falls Flowage. The shorelines of the flowage was absent of any purple loosestrife plants which was similar to the findings from the 1998 and 1999 surveys. In addition to the purple loosestrife surveys, a survey of flowage waters for eurasian milfoil (Myriophyllum spicatum) was conducted and no plants were observed. There was a

very noticeable increase in emergent vegetation in the flowage as a result of a drawdown which occurred over the previous summer.

3.3 Big Falls Flowage. There were no purple loosestrife plants found on the shorelines of the Big Falls Flowage. Again, this was similar to the results of the 1998 and 1999 surveys.

3.4 Thornapple Flowage. A number of purple loosestrife plants were found to be growing on the shorelines of the Thornapple Flowage (*Figure 1*). The majority of plants appear largely concentrated in the wetland area in the middle part of the flowage and in some of the small backwater areas surrounding the flowage. Otherwise, purple loosestrife was present throughout much of the flowage shoreline as scattered pioneering plants.

Purple loosestrife was observed to be present on 1.64 miles or 21.6% of the total shoreline while it was considered abundant on 0.70 miles or 9.2% of the total shoreline. The purple loosestrife density classification used during the 2000 survey was modified from the 1999 survey to include only present and abundant ratings instead of the present, common and abundant ratings. The area of purple loosestrife that was considered abundant was comparable between the 1999 and 2000 surveys. Overall, purple loosestrife presence and abundance has not changed much in the Thornapple Flowage since surveys began in the mid to late-1990's. Licensee is not aware of any purple loosestrife control measures being utilized on the Thornapple Flowage.

3.5 Hayward Flowage.

Purple loosestrife plants were prevalent on the Hayward Flowage. Several stretches of shoreline were found to have large, very dense populations (*Figure 2*).

An initial survey of purple loosestrife on the flowage was completed in August, 1997. This survey estimated that, of the 8.64 miles of shoreline, 0.3 miles (3.5%) were classified as present and 0.7 miles (8.1%) were classified as abundant. The 1998 survey yielded very similar results to the 1997 survey. The 1999 survey results indicated that purple loosestrife populations that were rated as abundant were reduced to 0.25 miles and 2.9 percent of the total shoreline. Areas where purple loosestrife was present increased to 1.08 miles or to 12.5 percent of the total shoreline.

The 2000 survey indicated that the quantity of shoreline with abundant purple loosestrife infestations had been reduced from 0.25 miles (2.9% of total shoreline) in 1999 to only 0.10 miles of shoreline (1.2% of total shoreline). However, the quantity of shoreline with purple loosestrife present increased from 1.08 miles (12.5% of total shoreline) in 1999 to 1.28 miles (14.8% of total shoreline) in 2000. The reduction in shoreline areas with abundant purple loosestrife populations and the increase in shoreline area with purple loosestrife present indicates that some control efforts have been implemented. Some of the shoreline areas that had abundant populations during the 1999 surveys contained only isolated purple loosestrife plants during the 2000 survey. There may also be

somewhat of a varying opinion during surveying on purple loosestrife abundance from year to year although the change noticed indicates that some control program has been implemented.

Project lands on the Namekagon River immediately downstream from the Hayward Dam were surveyed and no purple loosestrife plants were found. Purple loosestrife was present in several areas downstream from the Hayward Project during the 1998 and 1999 surveys. Licensee is aware that the NPS implemented a control program several years ago on the reach of river downstream from the Hayward Project. Those efforts appear to be successful.

The main areas of purple loosestrife infestation on the Hayward Flowage are concentrated in the northwest section of the flowage at the mouth of Smith Lake Creek. Although this survey does not provide any direct evidence, it is highly possible that the source of the purple loosestrife is located somewhere upstream on Smith Lake Creek, not farther up the Namekagon River.

4.0 Conclusion

Purple loosestrife was not present on the White River Flowage, the Superior Falls Flowage or the Big Falls Flowage. The Thornapple Flowage has a fair amount of purple loosestrife plants, largely concentrated in a few of the wetland areas. The areas around the Thornapple Flowage that have steeper slopes at the shoreline have limited purple loosestrife concentrations. The Hayward Flowage has significant populations of purple loosestrife, including some areas where the plant is by far the dominant plant species. However, the density of these infestations have been reduced from previous years. Populations in both the Thornapple and Hayward Flowages are significant enough that they are a good seed source for spreading to unpopulated shorelines as well as the downstream river sections.

Planimeter

2.5 clicks = 4,000 feet

Area where loosestrife was present:

$$\frac{2.5 \text{ clicks}}{4,000 \text{ feet}} = \frac{5.4 \text{ clicks}}{x \text{ feet}}$$

x = 8,640 feet or
1.64 miles or
21.6% of shoreline

Area where loosestrife was abundant:

$$\frac{2.5 \text{ clicks}}{4,000 \text{ feet}} = \frac{2.3 \text{ clicks}}{x \text{ feet}}$$

x = 3,680 feet or
0.70 miles or
9.2% of shoreline

LAKE Thornapple Flow
SECTION 18, 19, 22, 23, 24
RANGE 6, 7 W
TOWN Thornapple
TOWNSHIP 34 N

This is the only hydrographic map of this produced from original charts of Dept. sources — Madison

A U. S. Geological Survey Map is available ing the area (approx. 12 square miles) adjacent

To order specify Thornapple



LEGEND

TOPOGRAPHIC SYMBOLS

- BRUSH REFUGE -----
- SAPPING TANGLE -----
- SPAWNING BOX -----
- MINNOW SPAWNER -----
- WEED BED -----
- ROCKY SHOAL -----
- DWELLING -----
- ABANDONED DWELLING -----
- RESORT -----
- STEEP SLOPE -----
- SPRING -----
- INTERMITTENT INLET -----
- BRUSH -----
- WOODED -----
- PASTURED -----
- CULTIVATED -----
- ENCROACH. SHORE -----
- PERMANENT INLET -----
- PERMANENT OUTLET -----
- MARSH -----
- PARTIALLY WOODED -----
- CLEARED -----
- BENCH MARK ----- B.M.

LAKE BOTTOM SYMBOLS

- PULPY PEAT ----- P
- MUCK ----- K
- CLAY ----- C
- SAND ----- S
- RUBBLE ----- R
- EMERGENT VEG. ----- L
- FIBROUS PEAT ----- F
- DETRITUS ----- D

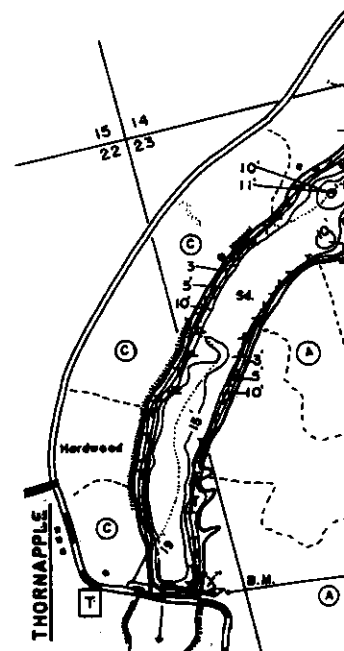


Figure 1. Locations of Purple Loosestrife Infestations on the Thornapple

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Quadrangle

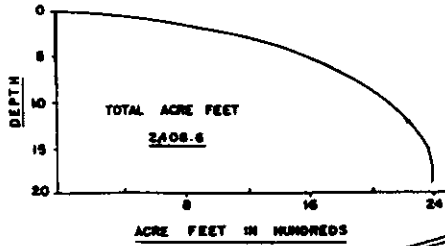
RUSK COUNTY

MAP NO.

5129

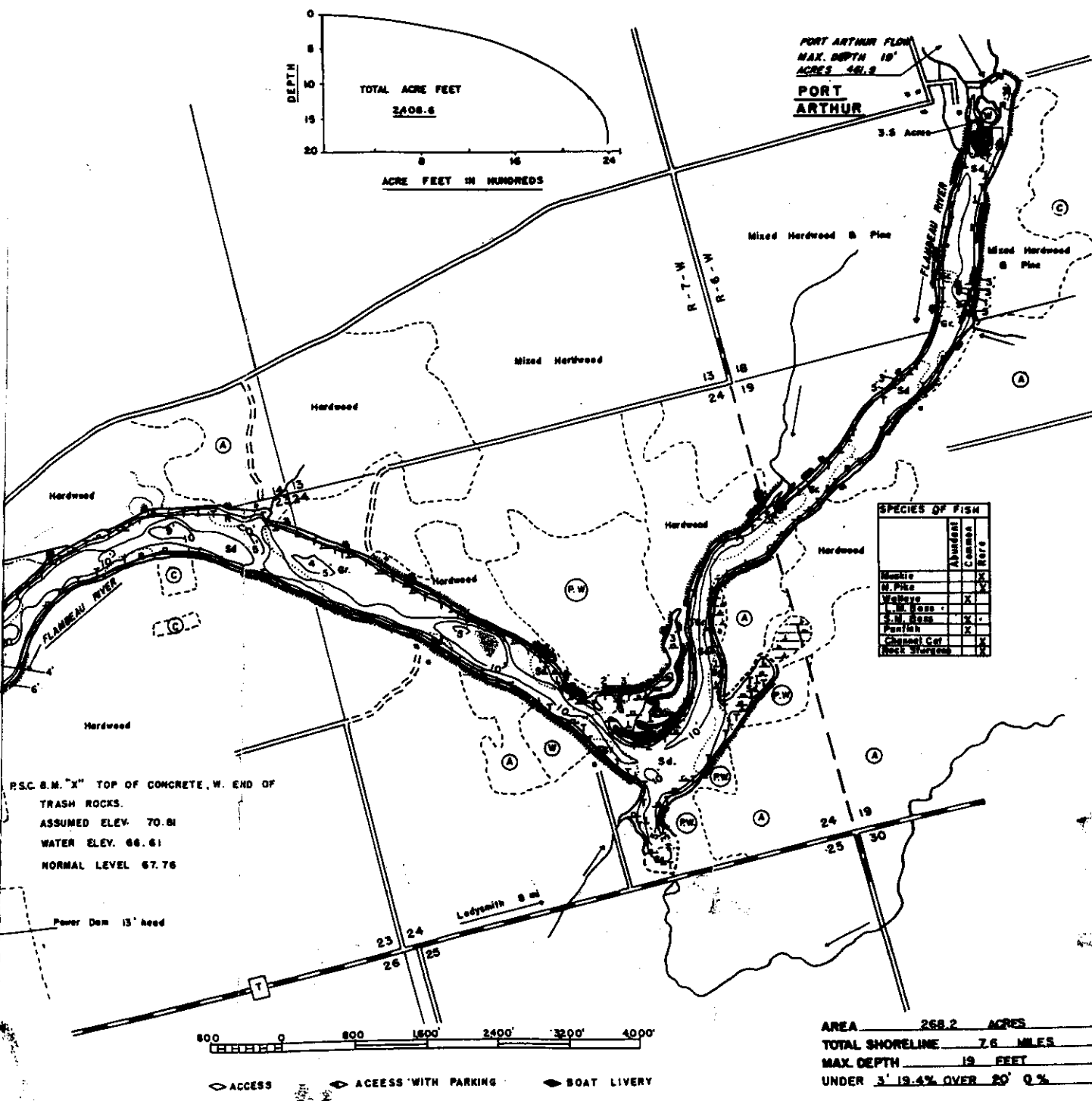
8-29-00

PRESENT
ABUNDANT



PORT ARTHUR FLW
MAX. DEPTH 10'
ACRES 48.2
PORT ARTHUR

3.5 Acres



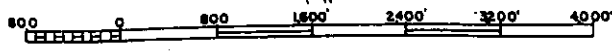
SPECIES OF FISH

Species	Abundant	Common	Rare
Brook Trout			X
N. Pike			X
Walleye	X		
E. M. Bass	X		
S. M. Bass	X		
Pumpkin	X		
Channel Cat	X		
Rock Bass	X		

P.S.C. S.M. "X" TOP OF CONCRETE, W. END OF TRASH ROCKS.
ASSUMED ELEV. 70.81
WATER ELEV. 66.61
NORMAL LEVEL 67.76

Power Dam 13' head

Lady Smith 8 mi



◊ ACCESS ◊ ACCESS WITH PARKING ◊ BOAT LIVERY

AREA 268.2 ACRES
TOTAL SHORELINE 7.6 MILES
MAX. DEPTH 19 FEET
UNDER 3' 19.4% OVER 20' 0%

Flowage.

CLARKSON MAP CO.

724 DESNOYER STREET
Kaukauna, Wisconsin 54130



Planimeter

1/2 mile = 36 clicks

1 mile = 72 clicks

LAKE Hayward Flowage
 SECTION 26, 27
 RANGE 9 W
 TOWN Hayward
 TOWNSHIP 41 N

This is
 produ
 source
 A U.
 ing th
 To or

PRESENT 
 ABUNDANT 
 8-23-00

Area where loosestrife was present:

$$\frac{7.2 \text{ clicks}}{1 \text{ mile}} = \frac{9.2 \text{ clicks}}{x \text{ miles}}$$

1.28 miles or
 6,758 feet or
 14.8% of shoreline

Area where loosestrife was abundant:

$$\frac{7.2 \text{ clicks}}{1 \text{ mile}} = \frac{0.7 \text{ clicks}}{x \text{ miles}}$$

0.10 miles or
 528 feet or
 1.2% of shoreline

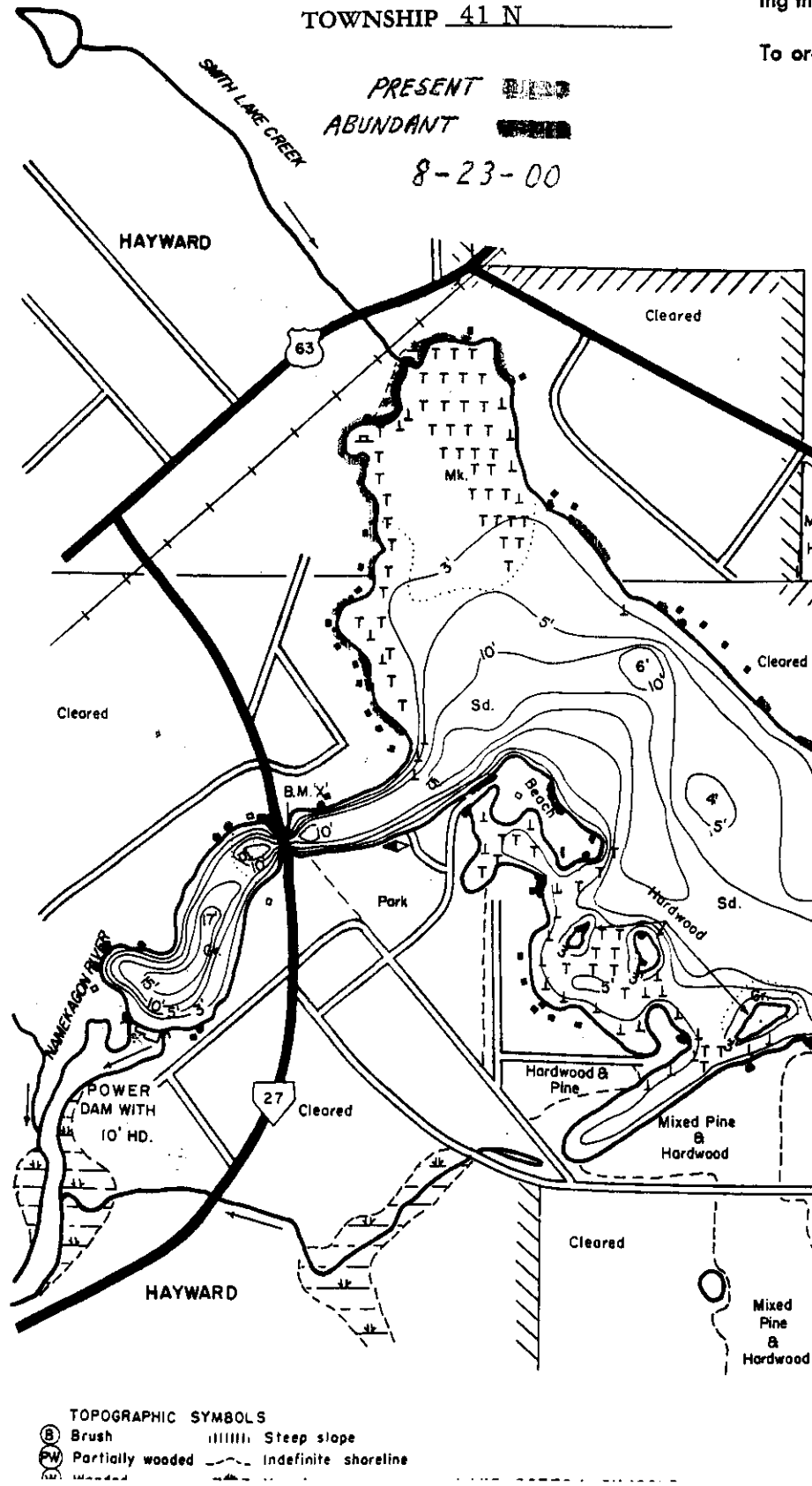


Figure 2. Locations of Purple Loosestrife Infestations on the Hayward Flowage

the only hydrographic map of this lake available,
 based from original charts of Dept. of Natural Re-
 — Madison

Geological Survey Map is available from us show-
 area (approx. 12 square miles) adjacent to this lake.

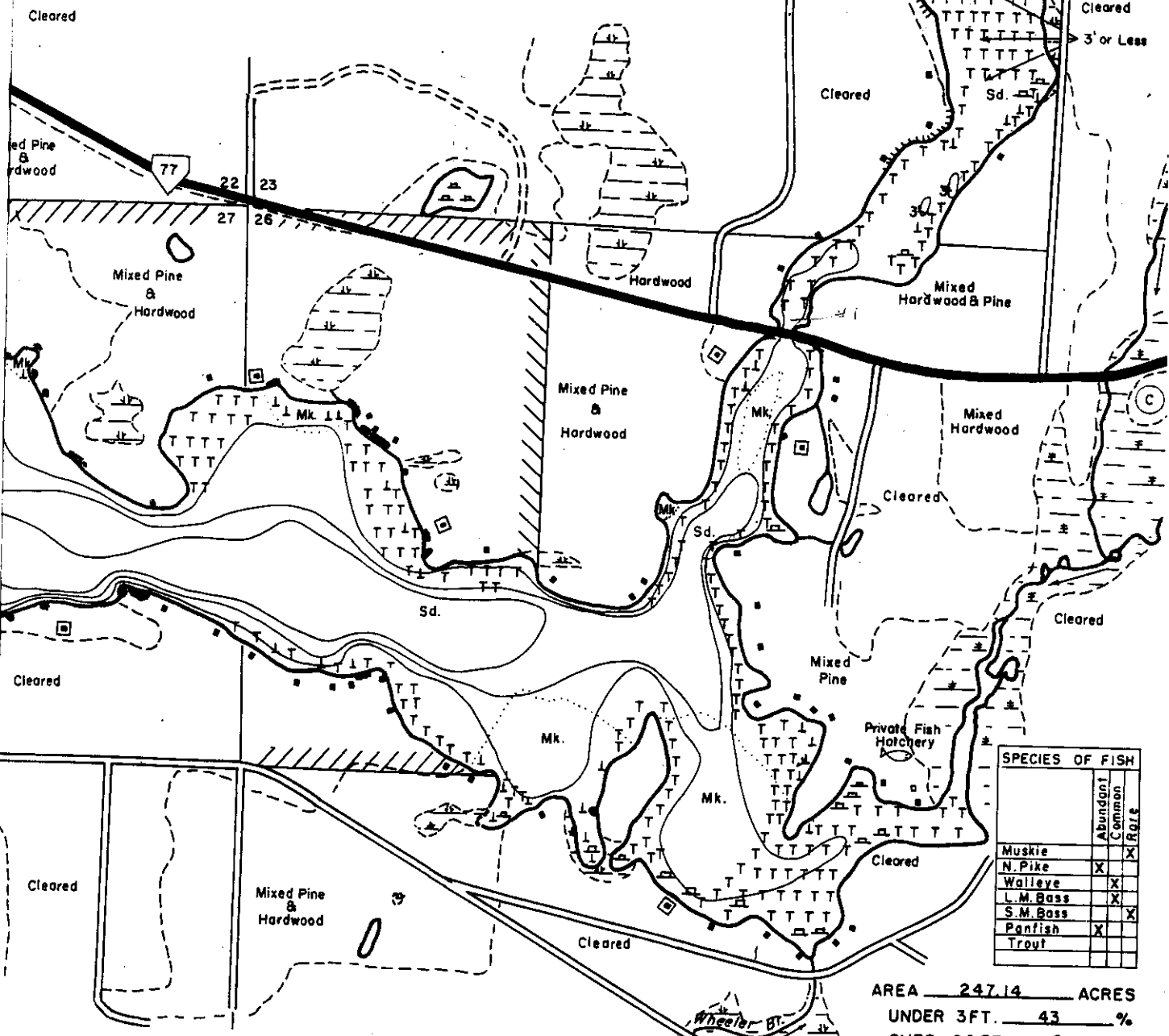
SAWYER COUNTY

Map No. 5260

or specify Hayward Quadrangle

The Clarkson Company

Kaukauna, Wisconsin 54130



SPECIES OF FISH	
	Abundant Common Rare
Muskie	X
N. Pike	X
Walleye	X
L.M. Bass	X
S.M. Bass	X
Panfish	X
Trout	

AREA 247.14 ACRES
 UNDER 3FT. 43 %
 OVER 20FT. 0 %
 VOLUME 1235.34 ACRE FT.
 TOTAL ALK. 69 P.P.M.
 SHORELINE 8.64 MILES
 MAX. DEPTH 17 FEET

owage.

Access with Parking ◆ Boat Livery