



North American Hydro Holdings, Inc.

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January 13, 2009

The Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: ***Oconto Falls Upper Hydroelectric Project***
Project No. 2523, Article 407
N.E.W. Hydro, Inc.
Submittal of Purple Loosestrife / Eurasian Watermilfoil Inventory for Year 2008

Dear Secretary:

On behalf of N.E.W. Hydro, Inc., and in accordance with the Purple Loosestrife/Eurasian Watermilfoil Monitoring Plan per license article named above, North American Hydro Holdings, Inc. submits the annual Purple Loosestrife/Eurasian Watermilfoil Inventory for 2008 for the above named project. Copies of the inventory have been sent to the Wisconsin Department of Natural Resources and the US Fish & Wildlife Service and no comments have been received to date.

If you have any questions regarding this submission, please contact Mr. Richard Loeffler at 920-293-4628.

Sincerely,

NORTH AMERICAN HYDRO HOLDINGS, INC.

A handwritten signature in black ink, appearing to read "Richard Loeffler", is written over the printed name of Charles Alsberg.

FOR

Charles Alsberg
Executive Vice President

Cc: FERC – CRO

08-10-10 CTM OFUP 2008 loosestrife/milfoil survey to FERC.doc

**Oconto Falls Upper Project Purple Loosestrife & Eurasian Watermilfoil Inventory
August 6, & August 7, 2008
FERC Project #2523 Article 407**

**NEW Hydro, Inc.
116 State St.
Neshkoro, WI 54960**

Purple Loosestrife

On August 6, 2008 and August 7, 2008, NEW Hydro, Inc. (NEW) performed an inventory of purple loosestrife plants at the Oconto Falls Upper Project in Oconto County, Wisconsin. The method of inventory as approved and modified by Federal Energy Regulatory Commission (FERC) Order of November 19, 1999 was defined as follows:

After Purple Loosestrife has bloomed in mid July to early August, the inventory should be conducted using a boat to survey the impoundment above the dam and on foot or by boat below the dam. County wetland maps will be used to determine other areas where Purple Loosestrife could be found on lands owned by NEW within the Project Boundary. These areas will be surveyed on foot. A pair of binoculars should be used to search for the purple flowered spikes of the plant. When plants are located, the person(s) inventorying should get close enough to make a positive identification without disturbing the plants or the immediate area around the plants as this could cause them to spread. A GPS receiver will be used to establish a GPS coordinate for the location of the plants. If it is not possible to get close enough to establish an accurate location, an approximate location will be established with reference to an established GPS coordinate. The plant should be inventoried by marking and numbering the location on a lake map along with notes approximating size of plants, stand area, percent cover, stem density, plant density, and location with reference to established GPS coordinates. Photos and/or videotape will be taken of the largest occurrences.

Example:

#1 6' tall plants; 4' X 20'; 30% cover; 4 – 5 stems per plant; 4 plants; on shoreline N44° 52.9092' E88° 10.0000'; no photo

#2 5' - 7' tall plants; 10' X 10'; 25% cover; 4 – 5 stems per plant; in marsh 50 feet bearing 25° from N44° 52.5092' E88° 10.0000'; photo No. 1

The area to be inventoried shall be the shoreline and lands owned by NEW within the Project Boundary as indicated on the Project Boundary map included as

Exhibit G of NEW Hydro, Inc. Application For New License for the Oconto Falls Hydroelectric Project FERC Project #2523. The Project Boundary is shown as the water and shoreline of the impoundment from approximately 6000' upstream of the State Highway 32 bridge to approximately 500' downstream of the Project dam.

General Observations:

For purple loosestrife, the Oconto Falls Upper Project Boundary was divided into four distinctly different areas; the tailrace (from the dam to 500' immediately downstream of the dam on the east end of the impoundment), the main basin (from the dam to 2 miles upstream of the dam where the river narrows), the headwaters (from 2 miles upstream of the dam where the river narrows to the western point of the project boundary ~6,000 feet upstream of the Highway 32 bridge), and outlying project owned lands.

The tailrace was surveyed on foot and was found to contain no visible purple loosestrife plants.

The main basin was surveyed by boat and was found to contain no visible purple loosestrife plants.

The headwaters were surveyed by boat. Seven occurrences of purple loosestrife plants were observed in this area and are noted on the lake map and survey comments at the end of this report. One of these occurrences appears to be on project owned land and is so noted.

Sighting #1 (located on project owned land) was observed in 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008 and appears to have reduced in numbers. In 2002 seed heads on three of the plants nearest the main river were removed, bagged, and burned to reduce possibility of spreading. In 2003, 2004, 2005, 2006, 2007, and 2008 all plants at this location were sprayed with an herbicide. It should also be noted that, in 2005, 2007 and 2008, a few mature plants appeared to have insect damage such as that produced by *Gallerucella* beetles. In 2007 and 2008, *Gallerucella* beetles were positively identified on a number of plants.

Sighting #2 was observed in 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008 and appears to have increased in density to the same level as when first observed in 2000. None of the plants were treated, pulled, or had seed heads cut in 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, or 2008. It should be noted that in 2006, the lower portion of the plants appeared to have insect damage such as that produced by *Gallerucella* beetles.

Sighting #3 was first observed in 2001 and in 2002 and 2003 seed heads on all of the plants were removed to reduce possibility of spreading. In 2004, no plants were

observed, but in 2005 they had returned. Seed heads were removed again in 2005. In 2006, 2007, and 2008, no plants were observed at this location.

Sighting #4 was first observed in 2001. All plants were pulled and destroyed in 2001. No plants observed in 2002, 2003, 2004, 2005, 2006, 2007, and 2008.

Sighting #5 was observed in 2002, 2003, 2004, 2005, and 2006. In 2007 and 2008, the number of plants appeared to have been reduced and all plants were pulled. Minor beetle damage was noted in 2007.

Sighting #6 was first observed in 2002. Seed heads removed on all plants in 2002, 2003, and 2004. No plants were observed in 2005. All plants were pulled and destroyed in 2006 and 2007. In 2008, a total of 10 plants were found, pulled and destroyed. Minor beetle damage was noted in 2007 and 2008.

Sighting #7 was first observed in 2005. All plants were pulled and destroyed in 2005. No plants observed in 2006, 2007, and 2008.

Sighting #8 was first observed in 2005. All plants were pulled and destroyed in 2005. No plants observed in 2006, 2007, and 2008.

Sighting #9 was first observed in 2006. All plants were pulled and destroyed in 2006 and 2007. No plants observed in 2008.

Sighting #10 was first observed in 2006. All plants were pulled and destroyed in 2006. No plants observed in 2007 and 2008.

Sighting #11 was first observed in 2007. All plants were pulled and destroyed in 2007. No plants observed in 2008.

Sighting #12 was first observed in 2007. All plants were pulled and destroyed in 2007. One blooming plant was found in 2008. This plant was pulled and destroyed.

Sighting #13 was first observed in 2008. One blooming plant was found in 2008. This plant was pulled and destroyed.

The outlying project owned lands were first researched using aerial wetland maps to determine the areas conducive to purple loosestrife growth. These areas were then surveyed on foot and were found to contain no visible purple loosestrife plants.

During the inventory, a video camcorder or digital camera was used to document new occurrences of purple loosestrife as noted in the survey comments at the end of this report.

Eurasian Watermilfoil

On August 6, 2008, and August 7, 2008, NEW Hydro, Inc. performed an inventory of Eurasian watermilfoil plants at the Oconto Falls Upper Project in Oconto County, Wisconsin. The method of inventory as approved and modified by FERC Order of November 19, 1999 was defined as follows:

After Eurasian watermilfoil has developed in mid July to early August, the inventory should be conducted by boating transects in the impoundment above and below the dam. Number and locations of transects will be determined at the time of the first inventory and appropriately marked on the inventory lake map. A GPS receiver will be used to establish GPS coordinates for the beginning and endpoints of the transects. The person(s) inventorying should visually search areas with depths of 12 feet or less for the dense mats of the plants on and below the water surface. When plants are located, the person(s) inventorying should get close enough to make a positive identification without disturbing the plants or the immediate area around the plants as this could cause them to spread. If necessary, a sample may be taken for identification later. The plant should be inventoried by marking and numbering the location on a lake map along with notes approximating area that they cover, perimeter of bed, mat density, overall mat thickness, and location with reference to the GPS coordinates. Photos and/or videotape will be taken of the largest occurrences.

Example:

#1 40' X 20'; 3' depth; perimeter N44° 52.8925' E88° 10.0000' N44° 52.8860' E88° 10.0000', N44° 52.8860' E88° 09.9953', N44° 52.8925' E88° 09.9953'; 50% density; 3' thick; no photo

#2 8' X 10'; 10' depth; N44° 52.9008' E88° 10.0000', N44° 52.8995' E88° 10.0000', N44° 52.8995' E88° 09.9980', N44° 52.9008' E88° 09.9980'; 25% density; 8' thick; photo No. 1

The area to be inventoried shall be that within the Project Boundary as indicated on the Project Boundary map included as Exhibit G of NEW Hydro, Inc. Application For New License for the Oconto Falls Hydroelectric Project FERC Project #2523. The project boundary is shown as the water and shoreline of the impoundment from approximately 6000' upstream of the State Highway 32 bridge to approximately 500' downstream of the Project dam.

General Observations:

For Eurasian watermilfoil, the Oconto Falls Upper Project Boundary was divided into

three distinctly different areas; the tailrace (from the dam to 500' immediately downstream of the dam on the east end of the impoundment), the main basin (from the dam to 2 miles upstream of the dam where the river narrows), and the headwaters (from 2 miles upstream of the dam where the river narrows to the western point of the project boundary ~6,000 feet upstream of the Highway 32 bridge).

Water clarity at the Project at the time of the survey was limited to 1' – 2'. It was determined at that time to use a 14" wide garden rake with a 5.5' handle for shallow areas and a 14" wide garden rake attached to an 18' aluminum pole for deeper areas. In the past, a throw rake (garden rake with a rope attached) was used to retrieve weed samples, but the 18' handle gives better control and cuts down on sampling time. For 2000 and 2001 surveys, no weed growth of any kind was retrieved from waters deeper than 10', so sampling at the 15' depth was discontinued.

The *main basin* was inventoried first followed by the *headwaters* and, finally, the *tailrace*.

The *tailrace* was surveyed visually and with the use of a 14" wide garden rake attached to an 18' aluminum pole. No Eurasian watermilfoil plants were found.

The *main basin* was surveyed visually and with the use of a 14" wide garden rake attached to an 18' aluminum pole. Eight transects were established in 2000 in this area with sample points at 1.5', 5', and 10' depths. Each sample point of each transect was an 8' circle divided into quadrants. Each quadrant was sampled using the rake. If the teeth of the rake contained less than 50% Eurasian watermilfoil, a rating of 1 was assigned, and if 50% or more, a rating of 2 was assigned. In addition, areas of weed growth were visually searched while skirting the perimeter of weed beds and shoreline.

No weed samples of any kind were detected at the 10' depth. On the sampling date, boat traffic was medium and observations of floating segments of Eurasian watermilfoil were common. Special attention was paid to each of the boat landings.

The northeast boat landing near the hydroelectric plant is within mat #9 and a few floating strands were observed here. Eurasian watermilfoil was also observed on the apron of the landing.

The north boat landing immediately east of the north swimming beach had a few floating strands of Eurasian watermilfoil near the landing with no plants appearing to be growing from the bottom. There appeared to be a few strands of Eurasian watermilfoil on the apron of the landing.

The boat landing at the West Park is within mat #5 and a few Eurasian watermilfoil plants were found floating around the landing and dock, and a few were observed on the apron of the landing.

No Eurasian watermilfoil plants were found at the HWY 32 wayside park boat landing at

the upstream end of the project boundary.

No Eurasian watermilfoil was detected at sampling locations with depths greater than 5'. Those occurrences at 5' depth and less were easily identified without the use of dredging techniques as the plants had grown to the surface and most had reddish tops.

In past years, some sampling points did not yield any Eurasian watermilfoil plants, although there may have been some plants floating on the surface and/or growing from the bottom within 25' of the sampling point. In 2002, a column was added to the survey sheet at the end of this report to show these observations.

Twelve mats containing Eurasian watermilfoil were identified within the project boundary of which mat #1, #2, #3, and #4 were first identified in the 2000, mat #5 was first identified in 2001, mat #6 was first identified in 2003, mat #8 was first identified in 2005, mat #9, #10, and #11 were first identified in 2006, and mat #12 was first identified in 2008. Mat #7 was not found in 2008. All twelve mats were discovered using the visual search method. All of these mats were interspersed with other types of plants and all of the mats had Eurasian watermilfoil densities as noted in the survey comments at the end of this report. Mats #1 through #10 are located in the *main basin* while mat #11 and #12 are located in the *headwaters*.

Mat #1 was first observed in 2000 and remained the same size and density through 2003. It decreased in size in 2004 and, in 2005, was not visible at all. The mat reappeared in 2006. It has remained the same size, but has increased in density during 2007. In 2008, this mat has not changed in size or density.

Mat #2 was first observed in 2000 and remained the same size and density through 2003. It decreased in size in 2004 and, in 2005, was not visible at all. The mat reappeared in 2006. It has increased in size and density during 2007. The size and density of this mat has not changed from 2007 to 2008.

Mat #3 was first observed in 2000, it increased in size and density through 2003. In 2004, a drastic reduction in density was observed while its size remained the same. In 2005, its density reduced further to where it could be considered the same as when it was first observed in 2000 while the size remained the same size as in 2004. In 2006, it remained the same size, but increased in density from 2005. It has remained the same size but has increased in density during 2007. In 2008 the size of this mat has more than doubled in length from 2007. It has gained in length both upstream and downstream, although the width remains the same as well as the density.

Mat #4 was first observed in 2000, it increased in size and density through 2003. In 2004, a drastic reduction in density was observed while its size remained the same. In 2005, its density reduced further to where it could be considered the same as when it was first observed in 2000 while the size remained the same size as in 2004. In 2006, it remained the same size, but increased in density from 2005. It had remained the same size but decreased in density during 2007. The size again remained the same for 2008,

but with heavier densities to the southeast and lighter densities to the northwest of the mat.

Mat #5 was first observed in 2001. It increased in size and density through 2003. In 2004, a drastic reduction in density was observed while its size remained the same. In 2005, its density reduced further to where it could be considered the same as when it was first observed in 2001 while the size remained the same as in 2004. In 2006, it remained the same size, but increased in density. In 2007, it had decreased in size but increased in density. For 2008 the length has increased slightly to the northwest and the density has remained the same from 2007.

Mat #6 was first observed in 2003. In 2004, it remained the same size but reduced in density. In 2005, its size and density remained the same. In 2006, its size and density increased. In 2007, it increased in size and density until it joined with mat #8 to form one continuous mat. In 2008, the mat grew further out into the impoundment and denser than in 2007. Similar to 2007, mat #6 has joined with mat #8. This has created a continuous area of Eurasian Watermilfoil from the N. Flatley Ave. swimming beach to the boat barrier adjacent to the dam and powerhouse.

Mat #7 was first observed in 2004. It was not visible in 2005 and reappeared in 2006. In 2007, it was not visible. In 2008, this mat could not be located once again.

Mat #8 was first observed in 2005. In 2006, and 2007 it increased in size and density. In 2008, it increased in size and density once again and remains joined with mat #6 to form one continuous mat.

Mat #9 was first observed in 2006. In 2007, it increased in size, but the density remained the same. In 2008, there was a slight increase in the density. The mat reaches out approximately 25' from the shoreline, greater in width than in 2007.

Mat #10 was first observed in 2006. In 2007, it remained the same size but increased in density. In 2008, the mat remained the same size as in 2007, but has a greater density than in the previous year.

The headwaters were surveyed visually and with the use of a 14" wide garden rake attached to an 18' aluminum pole. Two mats were observed in this part of the project boundary.

Mat #11 was first observed in 2006. In 2007, it remained the same size and decreased in density. When surveyed in 2008, the size and density of this mat has not changed from the previous year.

Mat #12 was first observed in 2008.

Observations of individual plants are the furthest upstream since surveys began in 2000 and have reached a point at N44°52.997' W88°12.123' (Datum: WGS84) which is ~3.1

miles upstream from the dam and ~0.3 miles downstream from the Larson Bridge. Plants had not been previously observed further upstream than a point at N44°53.152' W88°11.755' (Datum: WGS84) which is ~2.7 miles upstream from the dam and ~0.7 miles downstream from the Larson Bridge.

Eurasian watermilfoil weed mat sizes and densities, overall, increased noticeably from 2007 to 2008. It seems to be at its highest density and is located furthest upstream since surveys began in 2000.

Other Observations:

While travelling to the upstream boat launch at the HWY 32 wayside park, the survey crew observed large numbers of purple loosestrife plants blooming in the HWY 32 right-of-way on the north side of the bridge crossing the Oconto River. If these plants go untreated, it is probable that seeds will wash into the river and spread into the project boundary. These plants are not on Licensee owned property or within the Project Boundary.

The Licensee is only required to survey for and inventory purple loosestrife and Eurasian watermilfoil at the Oconto Falls Upper Project. However, it should be noted that the survey crew has observed the increased presence of zebra mussels over the past few years and, more recently, curly-leaf pondweed in the project waters.

Purple Loosestrife Survey

Project: Oconto Falls Upper #2523
 Date: 8/06 -8/07/2008
 Crew: RAL & CTM

Datum: WGS 84

08-11-03 CTM OFSU 2008 Loosestrife Survey form.xls

Sighting #	GPS point	Latitude	Longitude	Plant Height	Stand Area	Comments
1	66 OFUP PL001	N44°53.0397'	W088°13.7630'	4' - 6'	~200' x 50'	Located ~30 yards bearing 0° (north) of GPS point on the north side of a marshy slough. Appears to be on a snowmobile trail, as snowmobile trail signs are on either side of slough opening into the river channel. This occurrence first observed in 2000. There are 25-30 plants with 1 - 2 stems per plant. The plants cover ~5% - 10% of the stand area. Plants are thinly spread out throughout the entire slough. Most plants were not blooming. These plants are all located on project owned lands. This occurrence recorded on video tape in 2000. Seed heads of 3 plants nearest main river channel removed in 2002. All plants sprayed with herbicide in 2003, 2004, 2005, 2006, 2007, and 2008. NOTE: In 2005, 2007, and 2008, a few mature plants showed extensive leaf damage as if eaten by Galerucella beetles. Video taken of damaged plant in 2005. Galerucella beetles were positively identified on a number of plants in 2007 and 2008.
2	67 OFUP PL002	N44°52.8626'	W088°14.9756'	4' - 6'	~40' x 15'	Located ~30 yards bearing 180° (south) of GPS point on the south side of a marshy slough located directly west of the HWY 32 wayside boat landing. This occurrence first observed in 2000. There are 3 plants with 5 - 8 stems per plant. The plants cover ~2% of the Stand Area. This occurrence recorded on video tape in 2000. No treatment in 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, and 2008. NOTE: In 2006, all plants showed extensive leaf damage as if eaten by Galerucella beetles
3	78 OFUP PL003	N44°53.012'	W088°13.614'	N/A	N/A	Located ~10 yards bearing 0° (north) of GPS point on the north side of the river. This occurrence first observed in 2001. Recorded on video tape in 2001. Seed heads removed in 2002 and 2003. No plants were visible in 2004. Plants reappeared in 2005, and were pulled. No plants observed in 2006, 2007, and 2008.
4	79 OFUP PL004	N44°52.943'	W088°14.809'	N/A	N/A	Located near the waters edge on the northeast side of the HWY 32 bridge. This occurrence first observed in 2001. Recorded on video tape in 2001. All plants pulled in 2001. No plants observed in 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Purple Loosestrife Survey

08-11-03 CTM OFSU 2008 Loosestrife Survey form.xls

Project: Oconto Falls Upper #2523
 Date: 8/06 -8/07/2008
 Crew: RAL & CTM

Datum: WGS 84

Sighting #	GPS point	Latitude	Longitude	Plant Height	Stand Area	Comments
5	178 OFUP PL005	N44°53.029'	W088°13.524'	N/A	N/A	Located on the edge of the far side of a slough ~30 yards - 60 yards northwest of waypoint 178. This occurrence first observed in 2002. In 2005, a more accurate inventory was performed of this sighting. All plants have 1 - 2 stems per plant. Recorded on video tape in 2002. No treatment in 2002, 2003, 2004, and 2005. All plants pulled in 2006, 2007, and 2008. NOTE: In 2007 and 2008, all plants showed minor leaf damage as if eaten by Galerucella beetles.
	267 OFUP PL006	N44°53.059'	W088°13.549'	N/A	N/A	
	268 OFUP PL007	N44°53.057'	W088°13.562'	4'	1 plant	
	269 OFUP PL008	N44°53.056'	W088°13.578'	3' - 4'	2 plants	
	270 OFUP PL009	N44°53.050'	W088°13.615'	N/A	N/A	
	139 OFUP PL010	N44°53.055'	W088°13.530'	N/A	N/A	
6	179 OFUP PL011	N44°52.895'	W088°12.805'	2' - 5'	7-10 plants	Located ~10' due north of the waypoint on the bank. This occurrence first observed in 2002. All plants had single stems. Seed heads removed in 2002, 2003, and 2004. No plants observed in 2005. All plants pulled in 2006, 2007, and 2008. Recorded on video tape in 2002. NOTE: In 2007 and 2008, all plants showed minor leaf damage as if eaten by Galerucella beetles.
7	264 OFUP PL012	N44°53.024'	W088°13.439'	N/A	N/A	Located ~10' due north of the waypoint on the bank. This occurrence first observed in 2005. All plants pulled in 2005. No plants visible in 2006, 2007, and 2008.
8	265 OFUP PL013	N44°53.024'	W088°13.439'	N/A	N/A	Located ~10' due south of the waypoint on the bank west of HWY 32 bridge. This occurrence first observed in 2005. All plants pulled in 2005. No plants visible in 2006, 2007 and 2008.
9	120 OFUP PL014	N44°52.915'	W088°14.823'	N/A	N/A	Located ~10' due south of the waypoint on the bank east of HWY 32 bridge. This occurrence first observed in 2006. All plants pulled in 2006 and 2007. No plants observed in 2008.
10	116 OFUP PL015	N44°52.915'	W088°52.915'	N/A	N/A	Located ~10' due north of the waypoint. This occurrence first observed in 2006. All plants pulled in 2006. No plants observed in 2007 and 2008.
11	121 OFUP PL016	N44°52.643'	W088°15.762'	N/A	N/A	Located ~10' due south of waypoint. This occurrence first observed in 2007. All plants pulled in 2007. No plants observed in 2008.

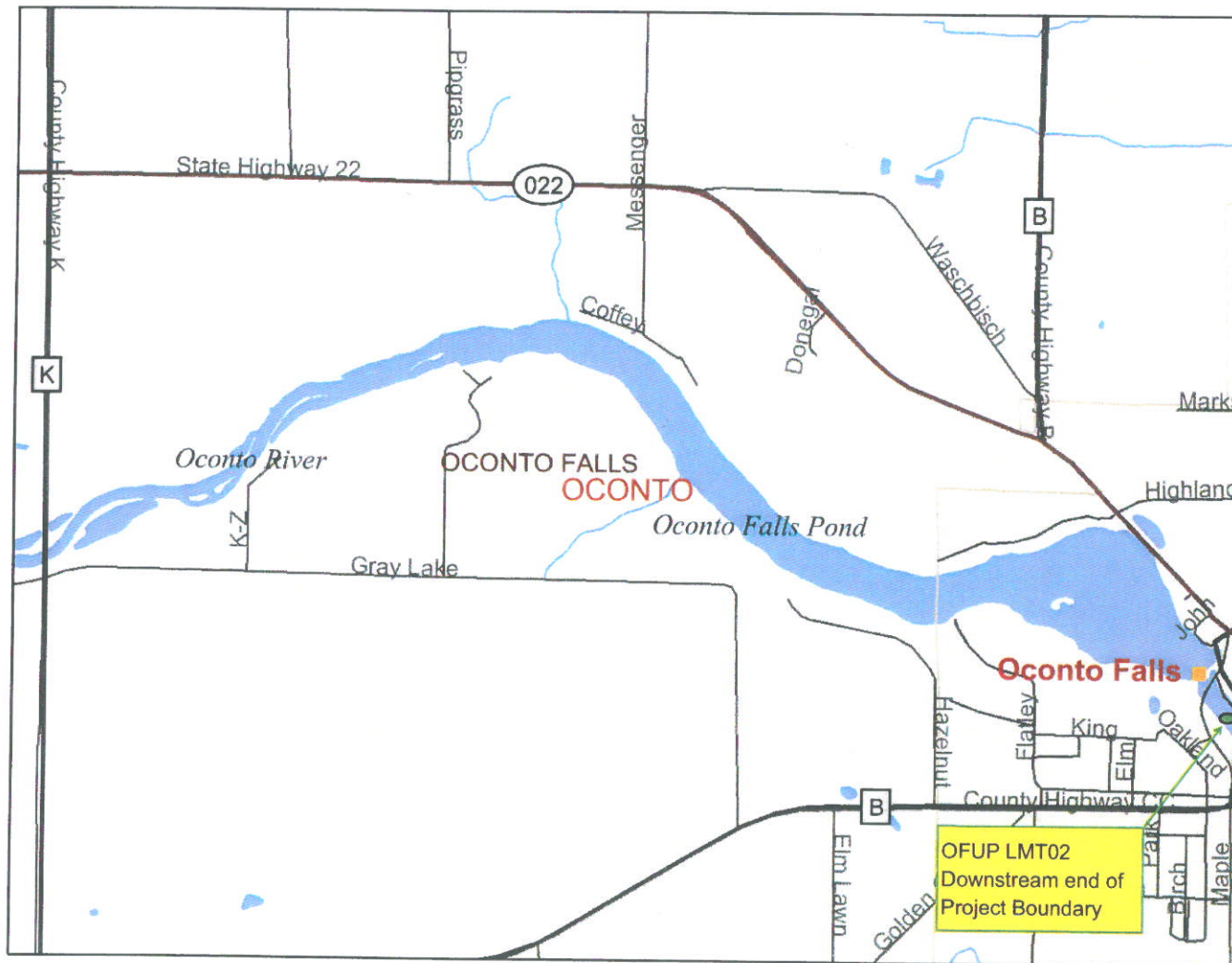
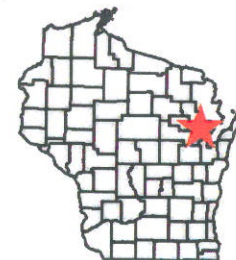
Purple Loosestrife Survey**Project:** Oconto Falls Upper #2523**Datum:** WGS 84

08-11-03 CTM OFSU 2008 Loosestrife Survey form.xls

Date: 8/06 -8/07/2008**Crew:** RAL & CTM

Sighting #	GPS point	Latitude	Longitude	Plant Height	Stand Area	Comments
12	122 OFUP PL017	N44°53.050'	W088°13.863'	3'	1 plant	Located ~10' due north of waypoint. This occurrence first observed in 2007. Single stem plant. All plants pulled in 2007 and 2008. NOTE: In 2008, all plants showed minor leaf damage as if eaten by Galerucella beetles.
13	OFUP PL018	N44°52.914'	W088°14.829'	3'	1 plant	Located at the waypoint. First discovered in 2008. All plants pulled in 2008.

Oconto Falls Upper #2523 Purple Loosestrife Survey 2008



Legend

- Dams
 - Major Highways
 - Interstate
 - State Highway
 - U.S. Highways
 - County Roads
 - Local Roads
 - 24K County Boundaries
 - Civil Towns
 - Civil Town
 - 24K Open Water
 - 24K Rivers and Shorelines
 - Cities and Villages
 - Village
 - City
-
- Purple Loosestrife Observed in 2008
 - Purple Loosestrife Observed in Previous Years and not in 2008

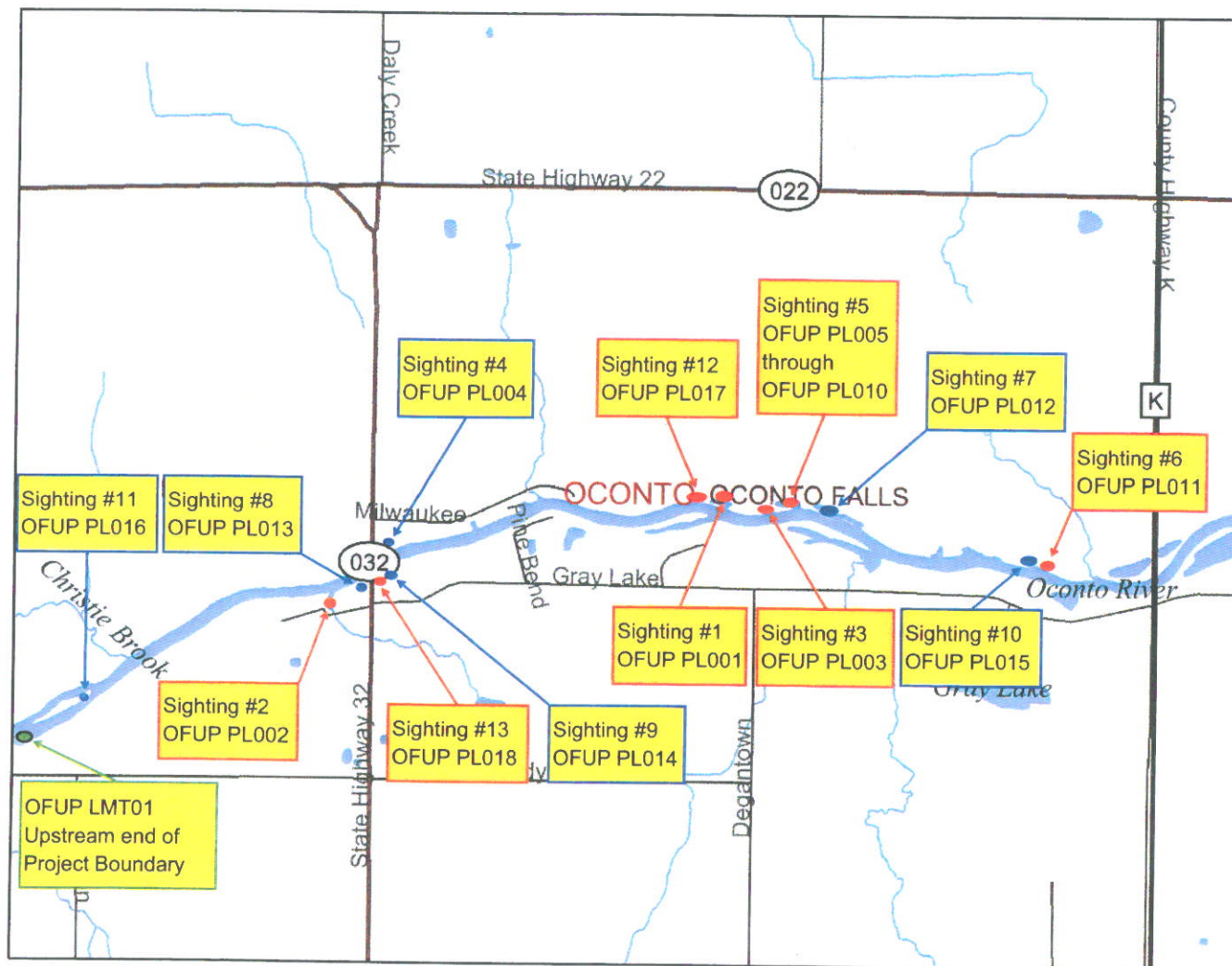
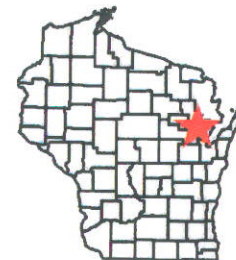
0 2500 5000 7500 ft.



Scale: 1:26,960

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Oconto Falls Upper #2523 Purple Loosestrife Survey 2008



Legend

- Dams
- Major Highways
- Interstate
- State Highway
- U.S. Highways
- County Roads
- Local Roads
- 24K County Boundaries
- Civil Towns
- Civil Town
- 24K Open Water
- 24K Rivers and Shorelines
- Cities and Villages
- Village
- City
- Purple Loosestrife Observed in 2008
- Purple Loosestrife Observed in Previous Years and not in 2008

0 2500 5000 7500 ft.



Scale: 1:26,960

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Eurasian Watermilfoil Survey - Transects

08-11-03 RAL CTM OFSU 2008 Milfoil Survey form.xls

Project: Oconto Falls Upper #2523
Date: 8/7/2008
Crew: RAL & CTM

Datum: WGS 84
Page: 1 of 1

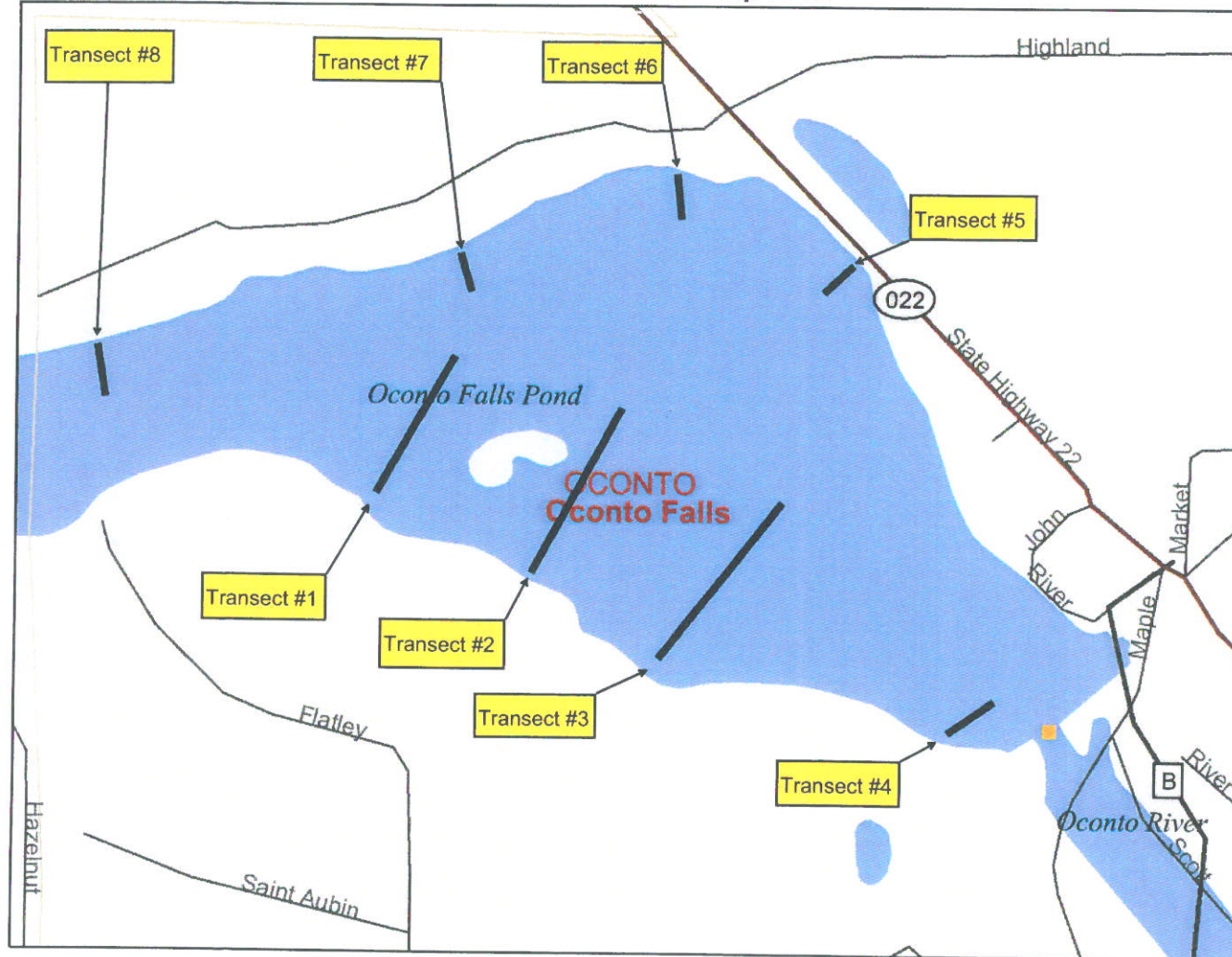
Eurasian watermilfoil growing from bottom within 25' of sample point = #
Eurasian watermilfoil floating within 25' of sample point = *

Transect #	Depth	GPS point	Latitude	Longitude	1<50%	1<50%	1<50%	1<50%	Rating	Within 25'
					2≥50%	2≥50%	2≥50%	2≥50%		
1	1.5	OFUP TS01A	N44°52.7195'	W088°09.4319'	0	0	0	0	0	
	5	OFUP TS01B	N44°52.7343'	W088°09.4323'	1	0	0	1	2	# *
	10	OFUP TS01C	N44°52.7684'	W088°09.4185'	0	0	0	0	0	*
2	1.5	OFUP TS02A	N44°52.6616'	W088°09.2612'	0	0	0	0	0	
	5	OFUP TS02B	N44°52.7357'	W088°09.2024'	1	1	1	1	4	# *
	10	OFUP TS02C	N44°52.7716'	W088°09.1844'	0	0	0	0	0	
3	1.5	OFUP TS03A	N44°52.6085'	W088°09.1567'	2	1	1	1	5	#*
	5	OFUP TS03B	N44°52.6269'	W088°09.1521'	1	1	1	1	4	# *
	10	OFUP TS03C	N44°52.6540'	W088°09.1324'	0	0	0	0	0	*
	5	OFUP TS03D	N44°52.6842'	W088°09.1117'	1	1	2	1	5	#*
	10	OFUP TS03E	N44°52.7166'	W088°09.0910'	0	0	0	0	0	
4	1.5	OFUP TS04A	N44°52.5970'	W088°09.0412'	1	1	1	0	3	# *
	5	OFUP TS04B	N44°52.6102'	W088°09.0244'	1	2	2	2	7	#*
	10	OFUP TS04C	N44°52.6183'	W088°08.9994'	0	0	0	0	0	
5	1.5	OFUP TS05A	N44°52.8430'	W088°09.0258'	0	1	1	0	2	# *
	5	OFUP TS05B	N44°52.8408'	W088°09.0274'	1	1	0	0	2	#
	10	OFUP TS05C	N44°52.8383'	W088°09.0359'	0	0	0	0	0	
6	1.5	OFUP TS06A	N44°52.8919'	W088°09.2443'	0	0	0	1	1	#*
	5	OFUP TS06B	N44°52.8890'	W088°09.2434'	0	0	0	1	1	#
	10	OFUP TS06C	N44°52.8808'	W088°09.2402'	0	0	0	0	0	
7	a 1.5	OFUP TS07A	N44°52.8467'	W088°09.4100'	0	0	0	1	1	# *
	a 5	OFUP TS07B	N44°52.8433'	W088°09.4100'	0	0	0	0	0	#
	a 10	OFUP TS07C	N44°52.8400'	W088°09.4083'	0	0	0	0	0	
8	1.5	OFUP TS08A	N44°52.7965'	W088°09.6999'	1	0	1	1	3	#*
	5	OFUP TS08B	N44°52.7952'	W088°09.6999'	0	0	0	0	0	#
	10	OFUP TS08C	N44°52.7887'	W088°09.6960'	0	0	0	0	0	

a offset ~75ft east from original transect due to willow tree fallen in water - latitude and longitude reflect offset

Oconto Falls Upper #2523 Eurasian Watermilfoil

Transect Location Map 2008



Legend

- Dams
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0 700 1400 2100 ft.

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Scale: 1:7,000

Eurasian Watermilfoil Survey - Mat Descriptions

Project: Oconto Falls Upper #2523

Datum: WGS 84

08-11-03 RAL CTM OFSU 2008 Milfoil Survey form.xls

Date: 8/6/2008 & 8/7/2008

Crew: RAL & CTM

Mat #	Depth	GPS point	Latitude	Longitude	Comments
1	0' - 5'	OFUP EW01-A OFUP EW01-B OFUP EW01-C	N44°52.7679' N44°52.7729' N44°52.7892'	W088°08.9863' W088°08.9940' W088°09.0109'	Located from immediately on the east side of the swimming beach to boat launch docks to the east. Mat is ~180' x 20' and extends out from shore in the 2' - 5' depth range. Mat is interspersed with other weeds. Total Mat density is ~20% - 80% of which ~50% - 90% is Eurasian Watermilfoil.
2	0' - 5'	OFUP EW02-A OFUP EW02-B OFUP EW02-C OFUP EW02-D	N44°52.8133' N44°52.8286' N44°52.8437' N44°52.894'	W088°09.0233' W088°09.0265' W088°09.0283' W088°09.130'	Located from immediately on the west side of the swimming beach to where HWY 22 meets the lakeshore to the east. Mat is ~780' x 20' and extends out from shore in the 2' - 5' depth range. Mat is interspersed with other weeds. Total Mat density is ~10% - 60% of which ~20% - 50% is Eurasian Watermilfoil.
3	0' - 5'	OFUP EW03-O OFUP EW03-P OFUP EW03-I OFUP EW03-J OFUP EW03-A OFUP EW03-B OFUP EW03-C OFUP EW03-D OFUP EW03-E OFUP EW03-F OFUP EW03-G OFUP EW03-H OFUP EW03-K OFUP EW03-L OFUP EW03-M OFUP EW03-N OFUP EW03-Q OFUP EW03-R	N44°52.887' N44°52.868' N44°52.837' N44°52.843' N44°52.8465' N44°52.8541' N44°52.8613' N44°52.8675' N44°52.8805' N44°52.8952' N44°52.9184' N44°52.9358' N44°52.964' N44°52.984' N44°53.030' N44°53.094' N44°53.287' N44°53.094'	W088°09.245' W088°09.309' W088°09.914' W088°09.959' W088°09.9786' W088°10.0106' W088°10.0369' W088°10.0597' W088°10.0931' W088°10.1251' W088°10.1610' W088°10.1870' W088°10.217' W088°10.230' W088°10.300' W088°10.386' W088°10.571' W088°10.386'	Located on north shore beginning ~500 feet upstream from where HWY 22 meets the lakeshore. Mat is ~1.7 miles x 30' wide and runs parallel to shore in the 2' - 5' depth range. Mat is interspersed with other weeds. Total Mat density is ~10% - 80% of which ~10% - 90% is Eurasian Watermilfoil.
4	4' -5'	OFUP EW04-A OFUP EW04-B OFUP EW04-C	N44°53.0944' N44°53.1284' N44°53.1601'	W088°10.4541' W088°10.4607' W088°10.4738'	Located in center of river ~1400 yards upstream from the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~2050' x ~200' and is in

Eurasian Watermilfoil Survey - Mat Descriptions

08-11-03 RAL CTM OFSU 2008 Milfoil Survey form.xls

Project: Oconto Falls Upper #2523

Datum: WGS 84

Date: 8/6/2008 & 8/7/2008

Crew: RAL & CTM

Mat #	Depth	GPS point	Latitude	Longitude	Comments
		OFUP EW04-D OFUP EW04-E OFUP EW04-F OFUP EW04-G OFUP EW04-H OFUP EW04-I OFUP EW04-J OFUP EW04-K OFUP EW04-L OFUP EW04-M	N44°53.2086' N44°53.1968' N44°53.1701' N44°53.1220' N44°53.1081' N44°53.233' N44°53.256' N44°53.277' N44°53.303' N44°53.303'	W088°10.5103' W088°10.5389' W088°10.5475' W088°10.5007' W088°10.4868' W088°10.533' W088°10.555' W088°10.585' W088°10.650' W088°10.791'	the center of the river. Mat is interspersed with other weeds. Total Mat density is ~50% - 90% of which ~1% - 50% is Eurasian Watermilfoil. Heaviest concentrations of Eurasian Watermilfoil are located on the south and west sides of the mat with lighter concentrations on the north and east sides.
5	0' - 5'	OFUP EW05-H OFUP EW05-A OFUP EW05-B OFUP EW05-C OFUP EW05-D OFUP EW05-E OFUP EW05-F OFUP EW05-G	N44°52.778' N44°52.756' N44°52.743' N44°52.735' N44°52.720' N44°52.715' N44°52.723' N44°52.728'	W088°10.002' W088°09.898' W088°09.859' W088°09.810' W088°09.750' W088°09.702' W088°09.673' W088°09.643'	Located from the west side of the boat landing at the West Side Park on the south side of the impoundment in Oconto Falls to ~1100' upstream (west) of the boat landing. Eurasian Watermilfoil mat is formed on the outside edge of an existing mat of submergent weed growth in the 3' - 6' depth range. Mat is ~1100' x ~50'. Mat is interspersed with other weeds. Total Mat density is ~30% - 70% of which ~5% - 70% is Eurasian Watermilfoil. This mat was recorded on video tape in 2001.
6	2' -5'	OFUP EW06-A OFUP EW06-B OFUP EW06-C OFUP EW06-D OFUP EW06-E OFUP EW06-F OFUP EW06-G OFUP EW06-H OFUP EW06-I OFUP EW06-J OFUP EW06-K OFUP EW06-L OFUP EW06-M OFUP EW06-N	N44°52.765' N44°52.759' N44°52.746' N44°52.736' N44°52.718' N44°52.700' N44°52.684' N44°52.681' N44°52.680' N44°52.686' N44°52.680' N44°52.671' N44°52.650' N44°52.629'	W088°09.253' W088°09.218' W088°09.186' W088°09.154' W088°09.125' W088°09.109' W088°09.094' W088°09.095' W088°09.134' W088°09.172' W088°09.184' W088°09.183' W088°09.146' W088°09.119'	Located east of the island in the impoundment ~600 yards east of the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~2500' x ~200' interspersed with other weeds. Total Mat density is ~25% - 80% of which ~10% - 85% is Eurasian Watermilfoil.

Eurasian Watermilfoil Survey - Mat Descriptions

Project: Oconto Falls Upper #2523

Datum: WGS 84

08-11-03 RAL CTM OFSU 2008 Milfoil Survey form.xls

Date: 8/6/2008 & 8/7/2008

Crew: RAL & CTM

Mat #	Depth	GPS point	Latitude	Longitude	Comments
		OFUP EW06-O OFUP EW06-P OFUP EW06-Q OFUP EW06-R OFUP EW06-S	N44°52.623' N44°52.619' N44°52.623' N44°52.608' N44°52.580'	W088°09.088' W088°09.051' W088°09.027' W088°09.005' W088°08.986'	
7	0' - 5'	OFUP EW07-A OFUP EW07-B OFUP EW07-C	N44°53.042' N44°53.007' N44°52.996'	W088°10.468' W088°10.425' W088°10.411'	Located ~1250 yards upstream from the West Side Park boat landing on the south side of the impoundment in Oconto Falls. No Eurasian Watermilfoil was found at this location.
8	2' - 5'	OFUP EW08-A OFUP EW08-B OFUP EW08-C OFUP EW08-D OFUP EW08-E OFUP EW08-F	N44°52.743' N44°52.755' N44°52.761' N44°52.763' N44°52.766' N44°52.765'	W088°09.595' W088°09.547' W088°09.488' W088°09.407' W088°09.313' W088°09.253'	Located west of the island in the impoundment ~150 yards east of the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~1500' x ~100' interspersed with other weeds. Total Mat density is ~5% - 50% of which ~5% - 10% is Eurasian Watermilfoil.
9	2' - 5'	OFUP EW09-A OFUP EW09-B OFUP EW09-C OFUP EW09-D OFUP EW09-E	N44°52.623' N44°52.631' N44°52.651' N44°52.684' N44°52.707'	W088°08.831' W088°08.852' W088°08.891' W088°08.936' W088°08.955'	Located at the east end boat ramp nearest the hydroelectric plant. Mat is ~600' x ~20'. Total Mat density is ~10 - 50% of which ~50% is Eurasian Watermilfoil.
10	2' - 5'	OFUP EW10-A OFUP EW10-B OFUP EW10-C OFUP EW10-D OFUP EW10-E OFUP EW10-F OFUP EW10-G	N44°53.343' N44°53.353' N44°53.353' N44°53.341' N44°53.336' N44°53.333' N44°53.337'	W088°10.790' W088°10.845' W088°10.882' W088°10.899' W088°10.871' W088°10.838' W088°10.809'	Located in the center of the river ~2200 yards upstream from the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~475' x ~125' and is in the center of the river. Mat is interspersed with other weeds. Total Mat density is ~60% - 90% of which ~10% - 90% is Eurasian Watermilfoil.
11	2' - 5'	OFUP EW11-A OFUP EW11-B OFUP EW11-C OFUP EW11-D	N44°53.305' N44°53.323' N44°53.332' N44°53.327'	W088°10.960' W088°10.979' W088°11.055' W088°11.134'	Located ~2475 yards upstream from the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~1600' x ~300' and is on the south side of the river. Mat is interspersed with other weeds. Total Mat density is

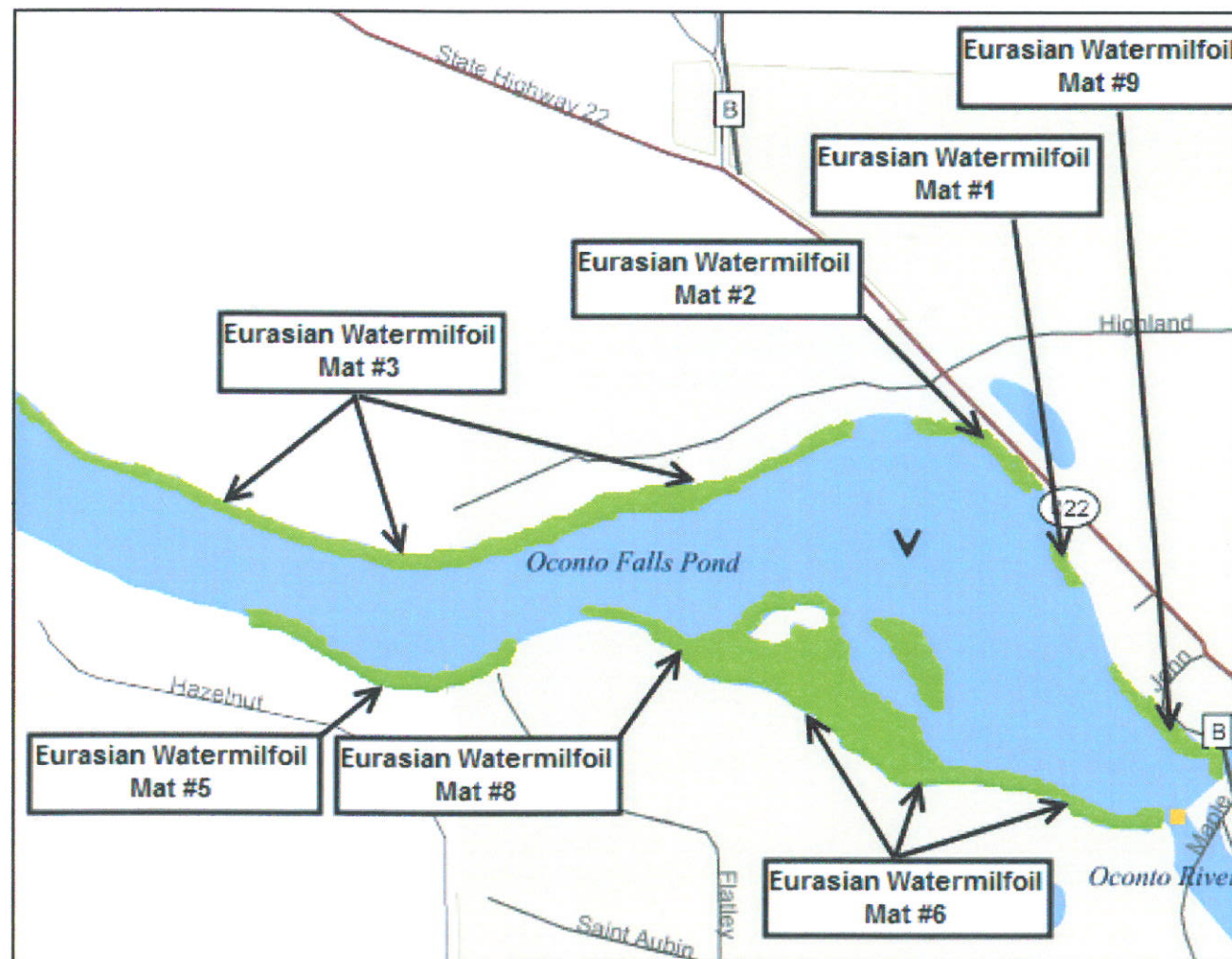
Eurasian Watermilfoil Survey - Mat Descriptions

08-11-03 RAL CTM OFSU 2008 Milfoil Survey form.xls

Project: Oconto Falls Upper #2523**Datum:** WGS 84**Date:** 8/6/2008 & 8/7/2008**Crew:** RAL & CTM

Mat #	Depth	GPS point	Latitude	Longitude	Comments
		OFUP EW11-E OFUP EW11-F OFUP EW11-G	N44°53.304' N44°53.259' N44°53.245'	W088°11.228' W088°11.325' W088°11.329'	~50% - 80% of which ~10% - 40% is Eurasian Watermilfoil.
12	2' - 5'	OFUP EW12-A OFUP EW12-B OFUP EW12-C	N44°53.293' N44°53.274' N44°53.259'	W088°11.320' W088°11.358' W088°11.398'	Located ~2880 yards upstream from the West Side Park boat landing on the south side of the impoundment in Oconto Falls. Mat is ~350' x ~30' and is on the north side of the river at a power line crossing. Mat is interspersed with other weeds. Total Mat density is ~10% - 25% of which ~10% - 20% is Eurasian Watermilfoil.

Oconto Falls Upper #2523 Eurasian Watermilfoil Mat Locations 2008



Legend

- Dams
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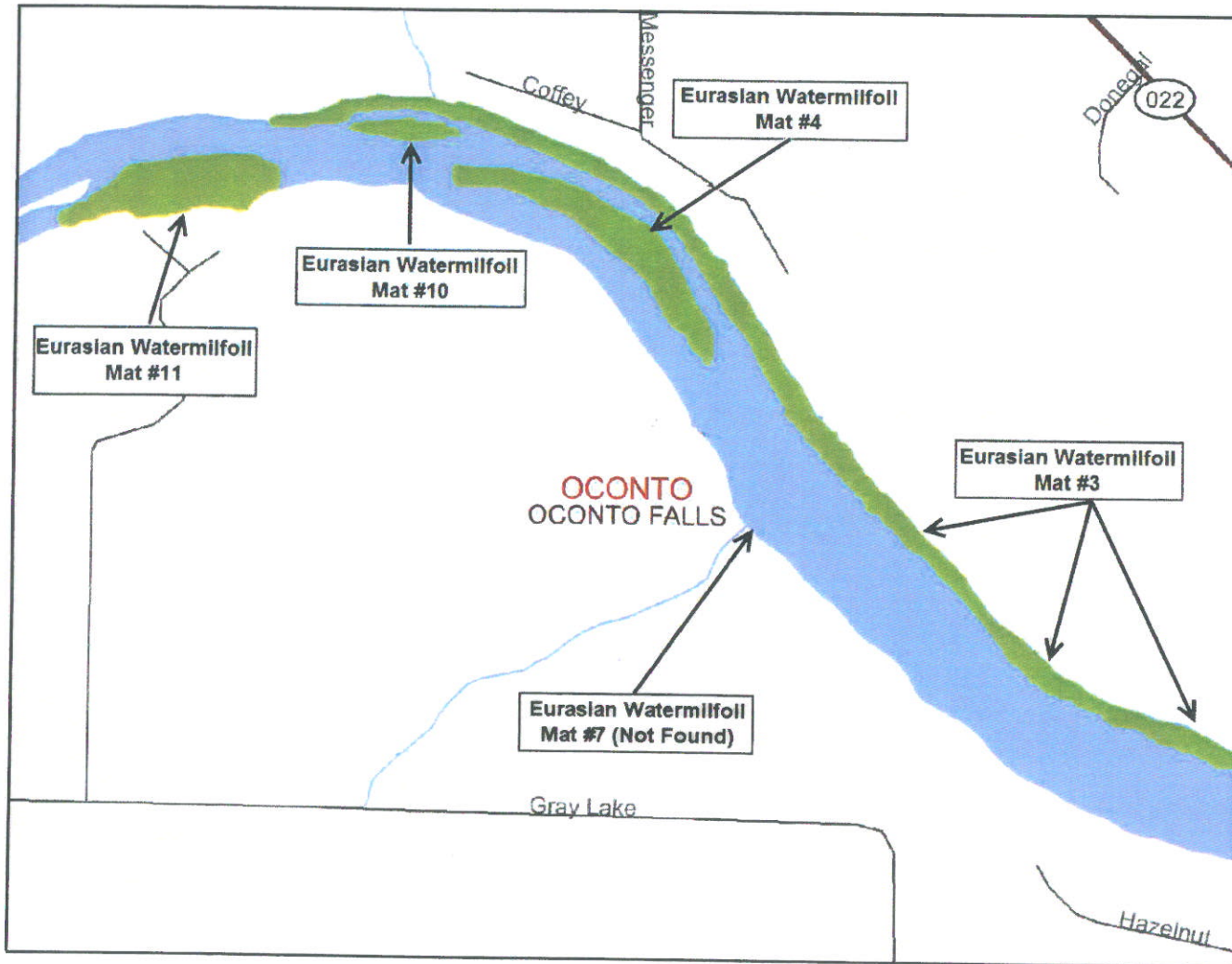
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Scale: 1:9,791

Oconto Falls Upper #2523 Eurasian Watermilfoil Mat Locations 2008



Legend

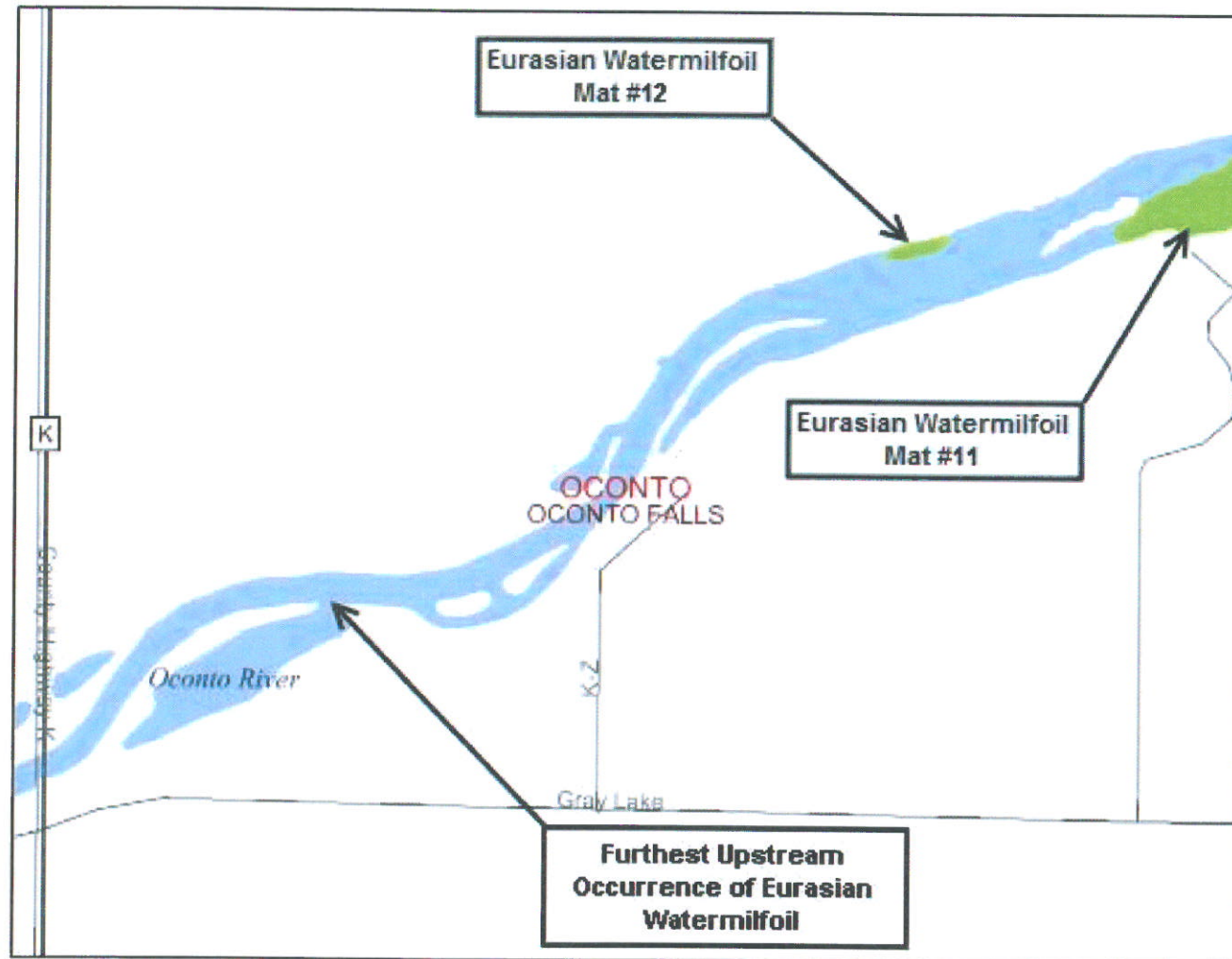
- Dams
- Major Highways
- Interstate
- State Highway
- U.S. Highways
- County Roads
- Local Roads
- 24K County Boundaries
- Civil Towns
- Civil Town
- 24K Open Water
- 24K Rivers and Shorelines
- Cities and Villages
- Village
- City



Scale: 1:9,791

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Oconto Falls Upper #2523 Eurasian Watermilfoil Mat Locations 2008



Legend

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North American Hydro Holdings, Inc.

116 State Street, P.O. Box 167, Neshkoro, WI 54960 USA

Tel 920-293-4628 Fax 920-293-8087 Email nah@nahydro.com Web www.nahydro.com

December 10, 2008

Mr. James Reyburn
Water Quality Biologist
Wisconsin Department of Natural Resources
Northeast Region Headquarters
P.O. Box 10448
2984 Shawano Ave.
Green Bay, WI 54307-0448

Ms. Louise Clemency
Field Supervisor
U.S. Fish and Wildlife Service
2661 Scott Tower Drive
New Franken, WI 54229

Re: Oconto Falls (Upper)
FERC Project, No. 2523
N.E.W. Hydro, Inc.
Article 407, Purple Loosestrife & Eurasian Watermilfoil Inventory

Dear Mr. Reyburn and Ms. Clemency:

Attached is a copy of our "Purple Loosestrife & Eurasian Watermilfoil Inventory" for 2008. This annual report has been prepared to comply with Article 407 of the project's federal hydropower license and is being filed with the Federal Energy Regulatory Commission.

We invite you to review and comment, but we respectfully request that any written response be provided to us ASAP from the date of this letter. Please contact me at 920-293-4628 ext. 18 if you wish to discuss or have any questions.

Sincerely,
North American Hydro Holdings, Inc.
Agent for Licensee

A handwritten signature in black ink, appearing to read "Richard Loeffler".

Richard Loeffler

Attachment: Oconto Falls Upper, Project No. 2523 Purple Loosestrife Inventory/Eurasian Watermilfoil Inventory for 2008.

Document Content(s)

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