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ORIGINAL

September 17, 2003

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FILED  
THE SECRETARY  
03 SEP 22 PM 3:53  
FEDERAL ENERGY  
REGULATORY COMMISSION

Magalie Roman Salas  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Re: N.E.W. Hydro, Inc., Oconto Falls, Wisconsin, FERC Project No. 2523 — 032  
Submittal of Purple Loosestrife/Eurasian Watermilfoil Inventory for Year 2002

Dear Ms Salas:

Please find enclosed an original and 8 copies of the Oconto Falls, Wisconsin Project No. 2523 Purple Loosestrife/Eurasian Watermilfoil Inventory for Year 2002 for filing as requested by Diane Murray on August 11, 2003.

If you have any questions regarding this submission, please contact Mr. Richard Loeffler at 920-293-4628 ext. 18.

Sincerely,  
NORTH AMERICAN HYDRO, INC.

FOR Charles Alsberg  
Executive Vice President

Cc: FERC – CRO  
Encl.: 1 original & 8 copies

**Oconto Falls Upper Project Purple Loosestrife & Eurasian Watermillo Inventory**  
**August 10 & August 11, 2002**  
**FERC Project #2523 Article 407**

FILED  
**03 SEP 22 PM 3: 53**

FEDERAL ENERGY  
REGULATORY COMMISSION

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

*Purple Loosestrife*

On August 10, 2002, 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 by 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. Five 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, and 2002 and appears not to have spread. In 2002 seed heads on three of the plants nearest the main river were removed, bagged, and burned to reduce possibility of spreading. Sighting #2 was observed in 2000, 2001, and 2002 and appears not to have spread. Sighting #3 was observed in 2001 and 2002 and appears not to have spread. In 2002 seed heads on all of these plants were removed, bagged, and burned to reduce possibility of spreading. Sighting #4 was observed, pulled, and burned in 2001 and was no longer present in 2002. Sighting #5 is new in 2002. Sighting #6 is new in 2002 and seed heads on all of these plants were removed, bagged, and burned to reduce possibility of spreading.

*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 by foot and were found to contain no visible purple loosestrife plants.

During the inventory, an 8mm camcorder 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 11, 2001, 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' – 3'. 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 rake mounted on 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 with a 5.5' handle for shallow areas and a 14" wide garden rake attached to an 18' aluminum pole for deeper areas.. 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 one of the rakes. 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 heavy and observations of floating segments of Eurasian watermilfoil were common. Special attention was paid to each of the boat landings.

At the northeast boat landing near the hydroelectric plant, ~30 – 40 Eurasian watermilfoil plants were found growing from the bottom near the landing and docks along with ~5 – 10 floating strands. This was a slight increase from 2001. No Eurasian watermilfoil was observed on the apron of the landing. This occurrence was not considered a "mat" since the plants were spread far apart, but may attain "mat" status in the future.

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

The boat landing at the West Park is within mat #5 and Eurasian watermilfoil plants were found floating around the landing and dock and was mixed in with other weeds on the apron of the landing.

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

Five mats containing Eurasian watermilfoil were identified within the project boundary of which mat #1, #2, #3, and #4 were previously identified in the 2000 survey while mat #5 was identified in 2001. All five mats were discovered using the visual search method. All of these mats were interspersed with other types of weeds and all of the mats had Eurasian watermilfoil densities as noted in the survey comments at the end of this report. Mats #1 and #2 appear to have remained the same size, but have decreased in density. Mat #3 has increased in size and density. Mat #4 and #5 have remained the same size, but have increased in density. It should also be noted that more Eurasian watermilfoil plants were discovered in the shallow waters surrounding the island on the south side of the main basin (between transects #1 and #2). This occurrence was not considered a "mat" since the plants were spread far apart, but may attain "mat" status in the future.

The headwaters were surveyed visually and with the use of a 14" wide garden rake with a 5.5' handle. No Eurasian watermilfoil plants were found.

**Purple Loosestrife Survey**

**Project:** Oconto Falls Upper #2523  
**Date:** 8/10/02  
**Crew:** RAL

**Datum:** WGS 84  
**Page:** 1 of 2

Sighting #	GPS point	Latitude	Longitude	Plant Height	Stand Area	Comments
1	66	N44°53.0397'	W088°13.7630'	4' - 6'	~50' x 20'	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. ~30 - 50 plants with 1 - 10 stems per plant. The plants cover ~20% - 30% of the stand area. There is also one 4' tall single stem plant located ~10 yards, one 4' tall single stem plant located ~20 yards, and three 4' - 6' tall 1 - 5 stems per plant located ~50 yards all bearing 270° (west) of the GPS point on the west side of the slough. 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.
2	67	N44°52.8626'	W088°14.9756'	4' - 6'	~10' x 10'	Located ~30 yards south of GPS point on the south side of a marshy slough located directly west of the HWY 32 wayside boat landing. ~5 plants with 5 - 15 stems per plant. The plants cover ~75% of the Stand Area. This occurrence recorded on video tape in 2000.
3	78	N44°53.012'	W088°13.614'	4' - 6'	2 plants	Located ~10 yards north of GPS point on the north side of the river. 2 plants are ~5 yards apart with 2 - 5 stems per plant. This occurrence recorded on video tape in 2001. Seed heads removed in 2002.
4	79	N44°52.943'	W088°14.809'	5'	1 plant	Located near the waters edge on the northeast side of the HWY 32 bridge. This plant was pulled and disposed in 2001 and was not present in 2002. This occurrence recorded on video tape in 2001.

**Purple Loosestrife Survey**

**Project:** Oconto Falls Upper #2523  
**Date:** 8/10/02  
**Crew:** RAL

**Datum:** WGS 84  
**Page:** 2 of 2

Sighting #	GPS point	Latitude	Longitude	Plant Height	Stand Area	Comments
5	178	N44°53.029'	W088°13.524'	4' - 6'	3 plants	Located on the edge of the far side of a slough ~30 yards - 60 yards northwest of the waypoint. Two of the plants are on either side of a stand of cattails. The third plant is located ~30 yards to the east of these plants. All plants have 3 - 8 stems per plant. This occurrence was recorded on video tape in 2002.
6	179	N44°52.895'	W088°12.805'	4' - 5'	2 plants	Located ~10' due north of the waypoint on the bank. One plant had 3 stems and the other had 7 stems. Seed heads removed. This occurrence was recorded on video tape in 2002.



**Eurasian Watermilfoil Survey - Transects**

**Project:** Oconto Falls Upper #2523  
**Date:** 8/11/02  
**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	9	N44°52.7195'	W088°09.4319'	0	0	0	1	1	#*
	5	10	N44°52.7343'	W088°09.4323'	0	0	2	0	2	#*
	10	11	N44°52.7684'	W088°09.4185'	0	0	0	0	0	
2	1.5	13	N44°52.6616'	W088°09.2612'	0	0	0	0	0	#
	5	14	N44°52.7357'	W088°09.2024'	1	0	0	0	1	#
	10	15	N44°52.7716'	W088°09.1844'	0	0	0	0	0	
3	1.5	17	N44°52.6085'	W088°09.1567'	0	0	0	0	0	#
	5	18	N44°52.6269'	W088°09.1521'	0	0	0	0	0	
	10	19	N44°52.6540'	W088°09.1324'	0	0	0	0	0	
	5	20	N44°52.6842'	W088°09.1117'	0	0	0	0	0	
	10	21	N44°52.7166'	W088°09.0910'	0	0	0	0	0	
4	1.5	23	N44°52.5970'	W088°09.0412'	0	0	0	0	0	
	5	24	N44°52.6102'	W088°09.0244'	0	0	0	0	0	
	10	25	N44°52.6183'	W088°08.9994'	0	0	0	0	0	
5	1.5	27	N44°52.8430'	W088°09.0258'	0	1	1	1	3	#
	5	28	N44°52.8408'	W088°09.0274'	0	0	0	0	0	#*
	10	29	N44°52.8383'	W088°09.0359'	0	0	0	0	0	
6	1.5	37	N44°52.8919'	W088°09.2443'	0	0	0	0	0	#
	5	38	N44°52.8890'	W088°09.2434'	0	0	0	0	0	*
	10	39	N44°52.8808'	W088°09.2402'	0	0	0	0	0	
7	1.5	41	N44°52.8450'	W088°09.4266'	0	0	0	0	0	#
	5	42	N44°52.8420'	W088°09.4280'	0	0	0	0	0	
	10	43	N44°52.8376'	W088°09.4237'	0	0	0	0	0	
8	1.5	45	N44°52.7965'	W088°09.6999'	0	0	0	0	0	#
	5	46	N44°52.7952'	W088°09.6999'	0	0	0	0	0	
	10	47	N44°52.7887'	W088°09.6960'	0	0	0	0	0	

**Eurasian Watermilfoil Survey - Mat Descriptions**

**Project:** Oconto Falls Upper #2523  
**Date:** 8/11/02  
**Crew:** RAL & CTM

**Datum:** WGS 84  
**Page:** 1 of 2

Mat #	Depth	GPS point	Latitude	Longitude	Comments
1	0' - 5'	31	N44°52.7679'	W088°08.9863'	Located from immediately on the east side of the swimming beach to boat launch docks to the east. Mat extends from shore to ~20' out from shore. Mat is interspersed with other weeds. Total Mat density is ~50% - 75% of which ~10% - 20% is Eurasian Watermilfoil.
		32	N44°52.7729'	W088°08.9940'	
		33	N44°52.7892'	W088°09.0109'	
2	0' - 5'	34	N44°52.8133'	W088°09.0233'	Located from immediately on the west side of the swimming beach to where HWY 22 meets the lakeshore to the east. Mat extends from shore to ~20' out from shore. Mat is interspersed with other weeds. Total Mat density is ~50% - 75% of which ~10% - 20% is Eurasian Watermilfoil.
		35	N44°52.8286'	W088°09.0265'	
		36	N44°52.8437'	W088°09.0283'	
3	0' - 5'	180	N44°52.837'	W88°09.914'	Located on north shore ~550 yards upstream from the boat landing in the park on the south side of the impoundment in Oconto Falls. Mat is ~30' - 50' wide and runs parallel to shore in the 2' - 5' depth range. Mat is interspersed with other weeds. Total Mat density is ~30% - 60% of which ~50% - 75% is Eurasian Watermilfoil.
		181	N44°52.843'	W88°09.959'	
		49	N44°52.8465'	W088°09.9786'	
		50	N44°52.8541'	W088°10.0106'	
		51	N44°52.8613'	W088°10.0369'	
		52	N44°52.8675'	W088°10.0597'	
		53	N44°52.8805'	W088°10.0931'	
		54	N44°52.8952'	W088°10.1251'	
		55	N44°52.9184'	W088°10.1610'	
		56	N44°52.9358'	W088°10.1870'	
		182	N44°52.964'	W88°10.217'	
		183	N44°52.984'	W88°10.230'	
184	N44°53.030'	W88°10.300'			
185	N44°53.094'	W88°10.386'			

# Eurasian Watermilfoil Survey - Mat Descriptions

**Project:** Oconto Falls Upper #2523      **Datum:** WGS 84  
**Date:** 8/11/02      **Page:** 2 of 2  
**Crew:** RAL & CTM

Mat #	Depth	GPS point	Latitude	Longitude	Comments
4	4' -5'	57	N44°53.0944'	W088°10.4541'	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 ~750' x ~200' and is in the center of the river. Mat is interspersed with other weeds. Total Mat density is ~75% - 80% of which ~50% is Eurasian Watermilfoil. It should also be noted that only the downstream half of the Mat appeared to contain Eurasian Watermilfoil.
		58	N44°53.1284'	W088°10.4607'	
		59	N44°53.1601'	W088°10.4738'	
		60	N44°53.2086'	W088°10.5103'	
		62	N44°53.1968'	W088°10.5389'	
		63	N44°53.1701'	W088°10.5475'	
		64	N44°53.1220'	W088°10.5007'	
		65	N44°53.1081'	W088°10.4868'	
5	0' - 5'	71	N44°52.756'	W088°09.898'	Located from ~50' downstream (east) 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 interspersed with other weeds. Total Mat density is ~50% - 75% of which ~15% - 30% is Eurasian Watermilfoil. This mat was recorded on video tape in 2001.
		72	N44°52.743'	W088°09.859'	
		73	N44°52.735'	W088°09.810'	
		74	N44°52.720'	W088°09.750'	
		75	N44°52.715'	W088°09.702'	
		76	N44°52.723'	W088°09.673'	
		77	N44°52.728'	W088°09.643'	

# LARGE-FORMAT IMAGES

One or more large-format images (over 8 1/2" X 11") go here.  
These images are available in FERRIS at:

For Large-Format(s):

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