PURPLE LOOSESTRIFE ASSESSMENT – 2013

Dells Pond, Chippewa Falls Flowage, Lake Wissota, Old Abe Lake, Cornell Flowage, Lake Holcombe and Jim Falls Spillway Channel

Prepared for:

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INTRODUCTION

Purple loosestrife (*Lythrum salicaria* L.) is an erect, herbaceous perennial of Eurasian origin that became established in the estuaries of northeastern North America by the early 1800's. Since then, this highly invasive species has spread throughout much of the United States, including most of Wisconsin's counties. As purple loosestrife expands its local distribution and becomes more widespread, it poses a serious threat to native emergent vegetation in shallow-water marshes and shorelines by displacing native food and cover plants in the waterways.

As part of the 2001 Lower Chippewa River Settlement Agreement, Xcel Energy agreed to monitor for the presence and spread of purple loosestrife at its six Lower Chippewa River hydroelectric projects. The surveys are to take place each year in the late summer when loosestrife blooms are easily detectable. Additionally, Xcel Energy committed to treating any small clusters of pioneering plants which occur on company-owned lands with an approved aquatic herbicide.

In 2010, Xcel Energy partnered with Beaver Creek Reserve to introduce European beetles (*Galerucella calmariensis* and/or *Galerucella pusilla*) into the main spillway channel adjacent to the Jim Falls Hydro. Beetles were again introduced into the same area during the summer of 2011. The beetles are commonly referred to as "Cella" foliage beetles or purple loosestrife bio-control beetles and they feed specifically on purple loosestrife plants. Their use has shown to be successful at decreasing the overall population of purple loosestrife. The locations and density of loosestrife within the Jim Falls spillway channel are therefore being monitored to determine the success of the beetle introduction.

METHODS

Following the same approach as previous surveys, an inspection of the entire shoreline of Dells Pond, Chippewa Falls Flowage, Lake Wissota, Old Abe Lake, Cornell Flowage and Lake Holcombe was performed by boat. The surveys were conducted between August 15 and September 15, 2013. The surveyor motored slowly around the shoreline looking for purple loosestrife plants. When loosestrife was discovered, the location was marked on a map and

coordinates were saved into a handheld GPS unit. Loosestrife infestations were classified as either "present" or "abundant" and marked on the map with a specific color. "Present" was defined as a few plants that sparsely inhabited the area but did not comprise a large percentage of the vegetation in that area. "Abundant" indicated that denser loosestrife growth existed and that the loosestrife made up a significant portion of the shoreline's overall vegetation.

By referencing the location of purple loosestrife plants with land ownership maps provided by Xcel Energy, the surveyor determined if the plants were on company-owned land. If the plants were on Xcel Energy land, and if it was only a minor infestation, the plants were sprayed with Rodeo® (an aquatic herbicide) from a backpack sprayer. From past work, it has been determined that herbicide application can be used as an effective treatment for small loosestrife populations, however, it is much less effective at controlling larger infestations. If major infestations were noted on Xcel Energy land, they were not to be treated, but documented for the possibility of a different eradication method in the future.

Using field maps, GPS coordinates, and notations made by the surveyor, the locations of purple loosestrife infestation were noted on the field maps and catalogued in a spreadsheet. The locations were then digitized onto GIS base maps (Wisconsin DNR 24K Hydrography version 6 and ESRI StreetMap USA). Locations of purple loosestrife are depicted on the maps using green for present and red for abundant. Due to the scale of the maps, locations covering less than 20 feet of shoreline are denoted by a dot while areas covering 20 feet of shoreline or greater are denoted by a line drawn to scale. Through the combined use of GPS, laser rangefinder, visual estimates, and GIS, the total length of shoreline infested by purple loosestrife was calculated for each flowage (Table 1). Appendix A provides detailed information regarding each loosestrife location.

A survey of purple loosestrife was also conducted in the Jim Falls spillway channel adjacent to the downstream powerhouse. This area has been known to contain purple loosestrife in locally large numbers which prompted the introduction of purple loosestrife bio-control beetles. A comprehensive mapping effort of the area began in 2010 to monitor the spread of loosestrife and the success of the beetle introduction. This portion of the fieldwork was completed on foot using GPS and maps to identify the locations and densities of the loosestrife within the channel.

RESULTS AND DISCUSSION

The number of purple loosestrife locations and the total length of shoreline infested for each flowage over the last three years are summarized below in Table 1. The standard approach used to tabulate abundance and shoreline coverage allows a direct comparison to be made from year-to-year. This year's survey revealed an increase in purple loosestrife infestation on Holcombe Flowage and Old Abe Flowage, a slight decrease on Cornell Flowage, and similar results on Lake Wissota compared to 2012. Collectively, the amount of loosestrife infestation has increased since 2011, albeit not to the historic levels of coverage seen in the last decade. Table 2 includes a summary of the total number of loosestrife infestations and the total length of shoreline infested for all six hydro projects over the past three years.

Table 1. Summary of Purple Loosestrife Infestations on Six Lower Chippewa River Hydroelectric Projects, 2011-2013

	Number of purple loosestrife locations						Shoreline Infested (ft)					
	Present			Abundant			Present			Abundant		
	2011	2012	2013	2011	2012	2013	2011	2012	2013	2011	2012	2013
Holcombe	106	135	151	2	1	0	886	1134	2113	145	137	0
Cornell	17	14	16	1	1	1	40	38	49	55	117	90
Old Abe	14	14	26	1	0	0	61	76	142	20	0	0
Wissota	4	8	10	0	0	0	14	20	23	0	0	0
Chippewa Falls	0	0	0	0	0	0	0	0	0	0	0	0
Dells	0	0	0	0	0	0	0	0	0	0	0	0

Table 2. Total Purple Loosestrife Infestations on Six Lower Chippewa River Hydroelectric Projects, 2011-2013

	2011	2012	2013
Total number of loosestrife locations	145	173	204
Total shoreline infested (feet)	1221	1522	2417

There was no purple loosestrife found on the Chippewa Falls Flowage in 2013 which is consistent with findings from previous years. Dell's Pond was also absent from any loosestrife infestation this year as has been the case for the last four years.

The number of purple loosestrife locations found on Lake Wissota increased from eight in 2012 to ten in 2013. These locations are all fairly minor infestations with one or two plant clumps at each location (see map of Lake Wissota). Total shoreline infested on Lake Wissota increased from 20 feet in 2012 to 23 feet in 2013.

Holcombe Flowage contained the most purple loosestrife among the six impoundments surveyed. 151 locations were noted as present and no locations were noted as abundant (see Holcombe Flowage Map 1). While a few new plants were found during the survey, the majority of the infested areas have been noted in previous years. New infestation is generally associated with areas where the native vegetation has been disturbed. This disturbance can come from urbanization (clearing for home sites, swimming areas or fishing areas), road improvements, or erosion. It is also common to have plants grow only during select years. This may be the case on Holcombe Flowage, with new plants growing this year, while previously observed plants did not.

The majority of plants on Lake Holcombe were again found in the area on and around Pine Island and along Highway 27. While a comparison to the 2012 survey shows a clear increase in the overall loosestrife populations in this area (see Holcombe Map 2); the level of infestation is not as great as the historic levels seen over the past decade. Several small infestations were again found just to the east of the Highway 27 Bridge. This area showed a slight increase from last year's survey. The only area of abundant plant growth documented in 2012 was classified as present in 2013, indicating a general decline in the number of plants in this area. No purple loosestrife was found in Main Creek, Jump River, Pine Lake, or Cranberry Lake.

Several plant clumps were found scattered along the north and south shores of the main flowage (see Holcombe Map 3 and 4) with many of these plants having been documented in the past. The large islands near the south shore of the main flowage also contain several plants. Overall, there was a general increase in plant density in the main basin.

The upstream reach of the flowage (see Holcombe Maps 5 and 6) also contains a number of purple loosestrife plants that have been noted in past surveys. The overall plant density in these areas was similar to what was documented in 2012.

In total, approximately 2,113 feet of shoreline was found to contain purple loosestrife on Lake Holcombe compared to 1,271 feet in 2012. As stated above, all infestations were classified as present. In 2012, 137 feet and 1,134 feet were reported as abundant and present respectively.

Cornell Flowage was found to contain 16 small infestations of purple loosestrife (classified as present) and one location classified as abundant (see map of Cornell Flowage). All of these locations had been noted in surveys from the last several years. The only abundant location was found in a low lying area on an island just upstream from the State Highway 64 Bridge. Although this location was classified as present in 2010, it has been classified as abundant in several previous surveys, including 2012. A total of 139 feet of shoreline was found to contain purple loosestrife in 2013, compared to 155 feet in 2012.

Twenty-six areas of loosestrife infestation were found on Old Abe Lake (see map of Old Abe Flowage) all of which were classified as present. This represents a slight increase in plant abundance from last year. Twenty-four locations were noted in the upper reaches of the flowage and consisted of single plants or a few plant clumps, many of which had been noted in past surveys. The single location documented last year near the downstream end of the flowage was noted again this year while a new single location was noted in the central portion of the flowage. The total amount of shoreline infested by purple loosestrife this year on Old Abe Lake was approximately 142 feet. This compares to 76 feet in 2012.

The minimum flow channel at Jim Falls Hydro remains an area with a relatively high concentration purple loosestrife plants. A significant decrease in the number of plants was noted in 2012; however, plant numbers have rebounded somewhat this year (Table 3). Loosestrife was found scattered throughout the channel, with the lower third of the channel being moderately infested (see maps of Jim Falls Spillway Channel). The area of greatest concentration occurs in the area just upstream from the County Highway Y Bridge (see Jim Falls Spillway map 2). This area covers approximately 16,165 square feet (Table 4); however, the loosestrife is scattered throughout the area and therefore is not classified as abundant. The number of loosestrife locations increased from 19 in 2012 to 36 in 2013. Collectively, these amounted to 153 feet of infested shoreline versus 52 feet in 2012. Each of these locations was comprised of small plant clumps infesting between one and five feet of shoreline. Three years have passed since the introduction of the bio-control beetles. While it

is too early to make a determination as to their success, the fact that loosestrife levels have remained below those seen in 2011 and in previous years is encouraging.

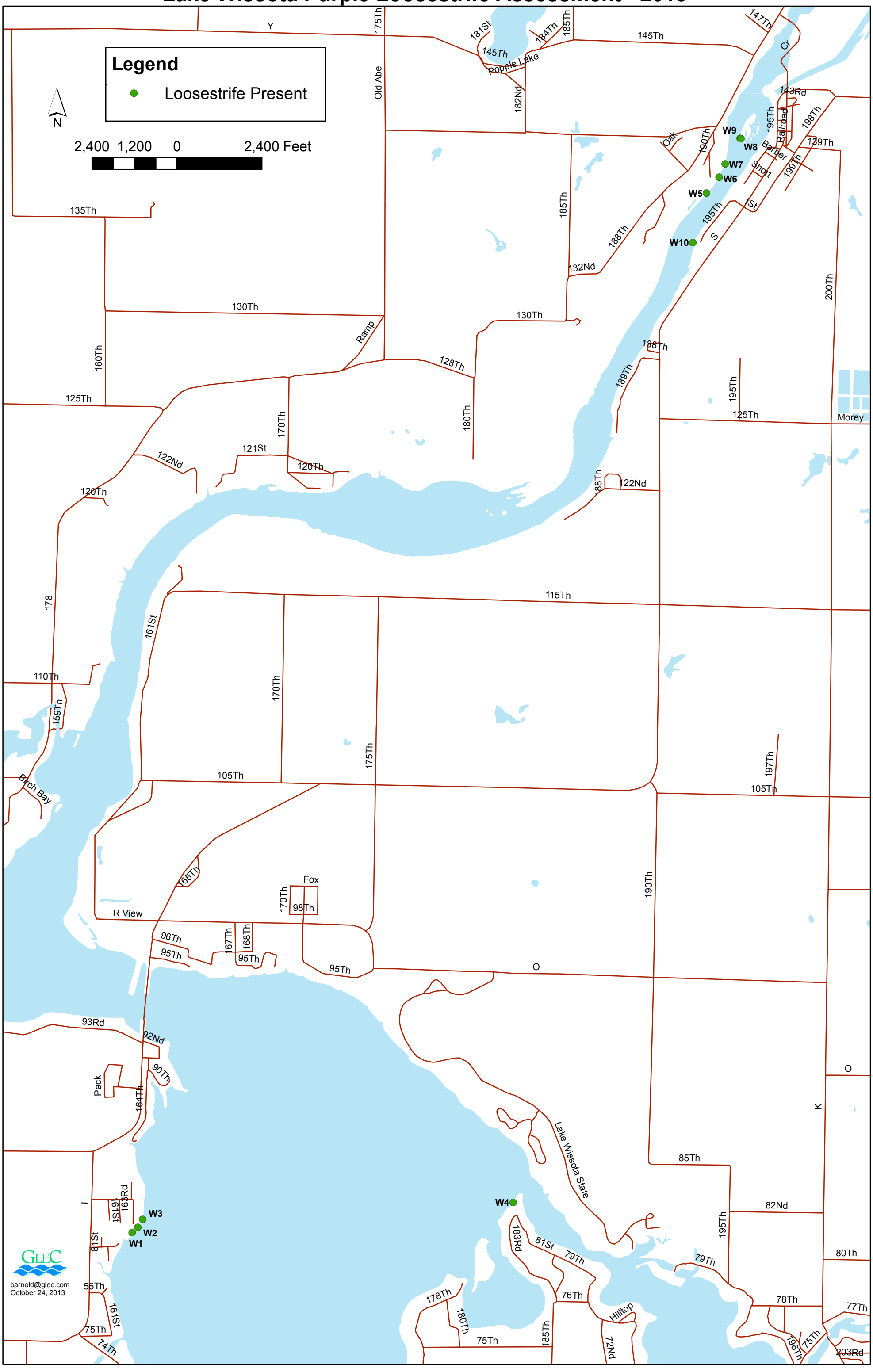
Table 3. Comparison of Purple Loosestrife Infestations in Jim Falls Spillway Channel – 2011 – 2013

	2011	2012	2013
Total number of loosetrife points at Jim Falls Spillway	28	19	36
Sq feet of Fim Falls Spillway infestation near Hwy Y	27,288	19,835	16,165
Total other shoreline affected at Jim Falls Spillway	381	52	153

Table 4. Summary of Purple Loosestrife Infestations in Jim Falls Spillway Channel – 2013

Map point	Abundant/ Present	Coverage type	Area covered	
JF 1	Present	Aerial	16,165	sq ft
JF 2	Present	Point	1	ft
JF 3	Present	Point	4	ft
JF 4	Present	Point	3	ft
JF 5	Present	Point	4	ft
JF 6	Present	Point	7	ft
JF 7	Present	Point	2	ft
JF 8	Present	Point	15	ft
JF 9	Present	Point	2	ft
JF 10	Present	Point	4	ft
JF 11	Present	Point	4	ft
JF 12	Present	Point	1	ft
JF 13	Present	Point	3	ft
JF 14	Present	Point	1	ft
JF 15	Present	Point	3	ft
JF 16	Present	Point	2	ft
JF 17	Present	Point	3	ft
JF 18	Present	Point	15	ft
JF 19	Present	Point	2	ft
JF 20	Present	Point	5	ft
JF 21	Present	Point	1	ft
JF 22	Present	Point	5	ft
JF 23	Present	Point	1	ft
JF 24	Present	Point	3	ft
JF 25	Present	Point	5	ft
JF 26	Present	Point	9	ft
JF 27	Present	Point	1	ft
JF 28	Present	Point	7	ft
JF 29	Present	Point	2	ft
JF 30	Present	Point	3	ft
JF 31	Present	Point	6	ft
JF 32	Present	Point	10	ft
JF 33	Present	Point	5	ft
JF 34	Present	Point	8	ft
JF 35	Present	Point	4	ft
JF 36	Present	Point	2	ft

Lake Wissota Purple Loosestrife Assessment - 2013



Holcombe Flowage Purple Loosestrife Assessment - 2013

Map 1 of 7

Legend

- Loosestrife Present
- Loosestrife Present

3,000 1,500 0 3,000 Feet

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October 21, 2013

Holcombe Flowage Purple Loosestrife Assessment - 2013

Map 2 of 7

Legend

- Loosestrife Present
- Loosestrife Present

305Th
Bay Shore
Florence
27
Shore
303Rd
273Rd
301St
279Th
281St
300Th
296Th
282Nd
295Th

H75 H76 H77 H78 H73 H74 H72 H71 H79 H80 H64 H65 H66 H67 H63 H62 H61 H60 H68 H59 H69 H70 H58 H57 H56 H55 H54 H53 H52 H51 H48 H49 H50 H89 H90 H91 H92 H93 H94 H95 H96 H97 H98 H88 H87 H99 H81 H82 H83 H85 H86 H84 H103 H102 H101 H100 H104 H105 H106 H107 H108 H109 H110 H111 H112 H113 H114 H115 H116 H117 H118 H119 H120 H121 H142 H130 H131 H128 H132 H135 H126 H124 H134 H122 H129 H133 H123 H125 H127 H141 H140

500 250 0 500 Feet

N

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Holcombe Flowage Purple Loosestrife Assessment - 2013

Map 3 of 7

Legend

- Loosestrife Present

267Th
270Th
273Rd
H48
H46
H47
H44
H45
H43
H41
H42
H39
H40
H37
H38
H35
H36
H32
H34
H33
H26
H27
H29
H31
H24
H30
H25
H28
H147
H146
H145
H144
H148
H149
H143
263Rd
289Th
269Th
295Th
290Th
270Th

500 250 0 500 Feet

N

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Holcombe Flowage Purple Loosestrife Assessment - 2013

650 325 0 650 Feet

N

Map 4 of 7

Legend

- Loosestrife Present

H150
H151
H7
H6
H5
H4
H2
H3
H1

Park
256Th
265Th
264Th
Pine Point
274Th
275Th
262Nd
264Th
Anderson
266Th
254Th
263Rd
257Th
258Th
Skidmore
Warner
Flader
271St
259Th
255Th
Pine Point
M

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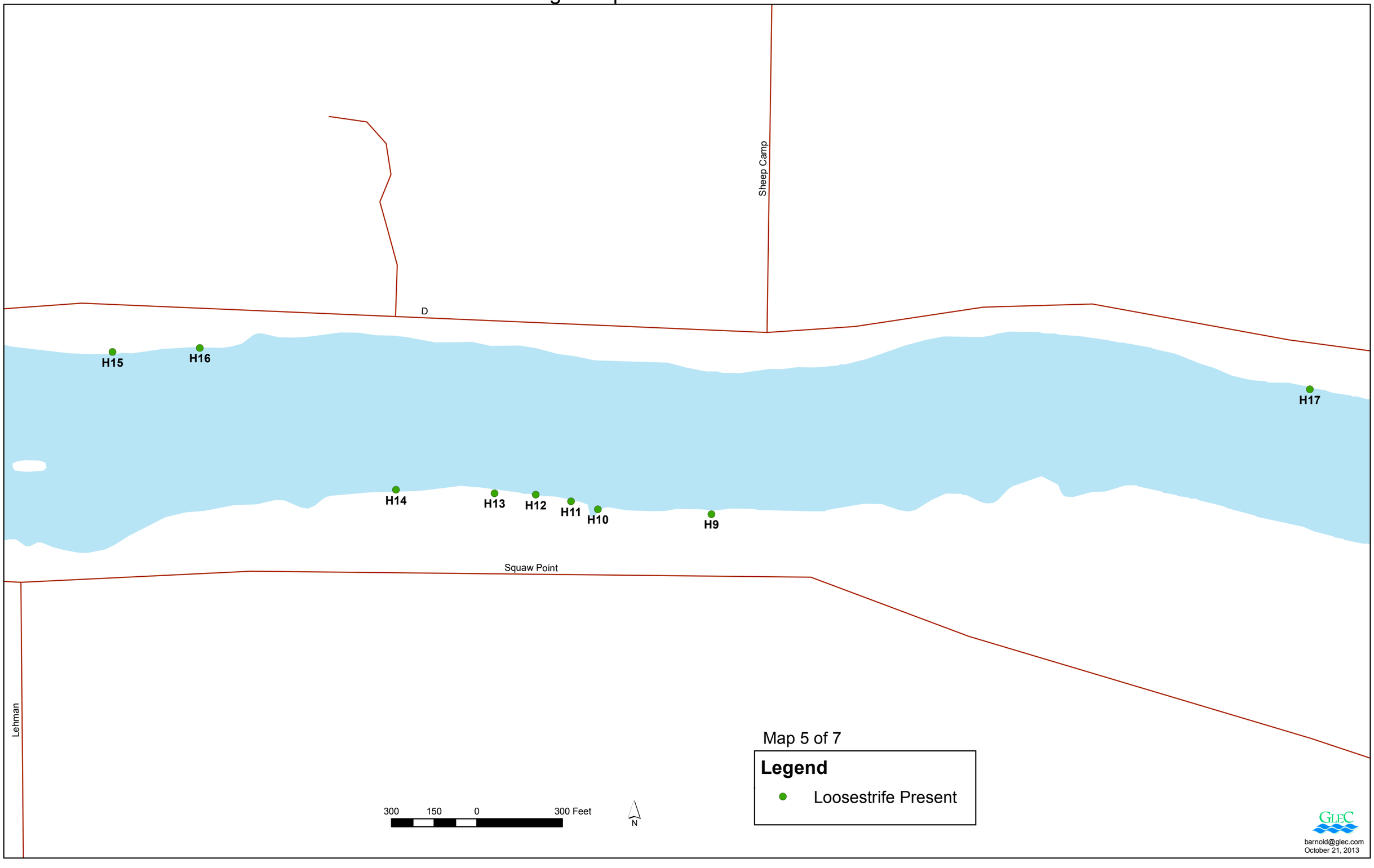
Holcombe Flowage Purple Loosestrife Assessment - 2013



Map 5 of 7

Legend

- Loosestrife Present

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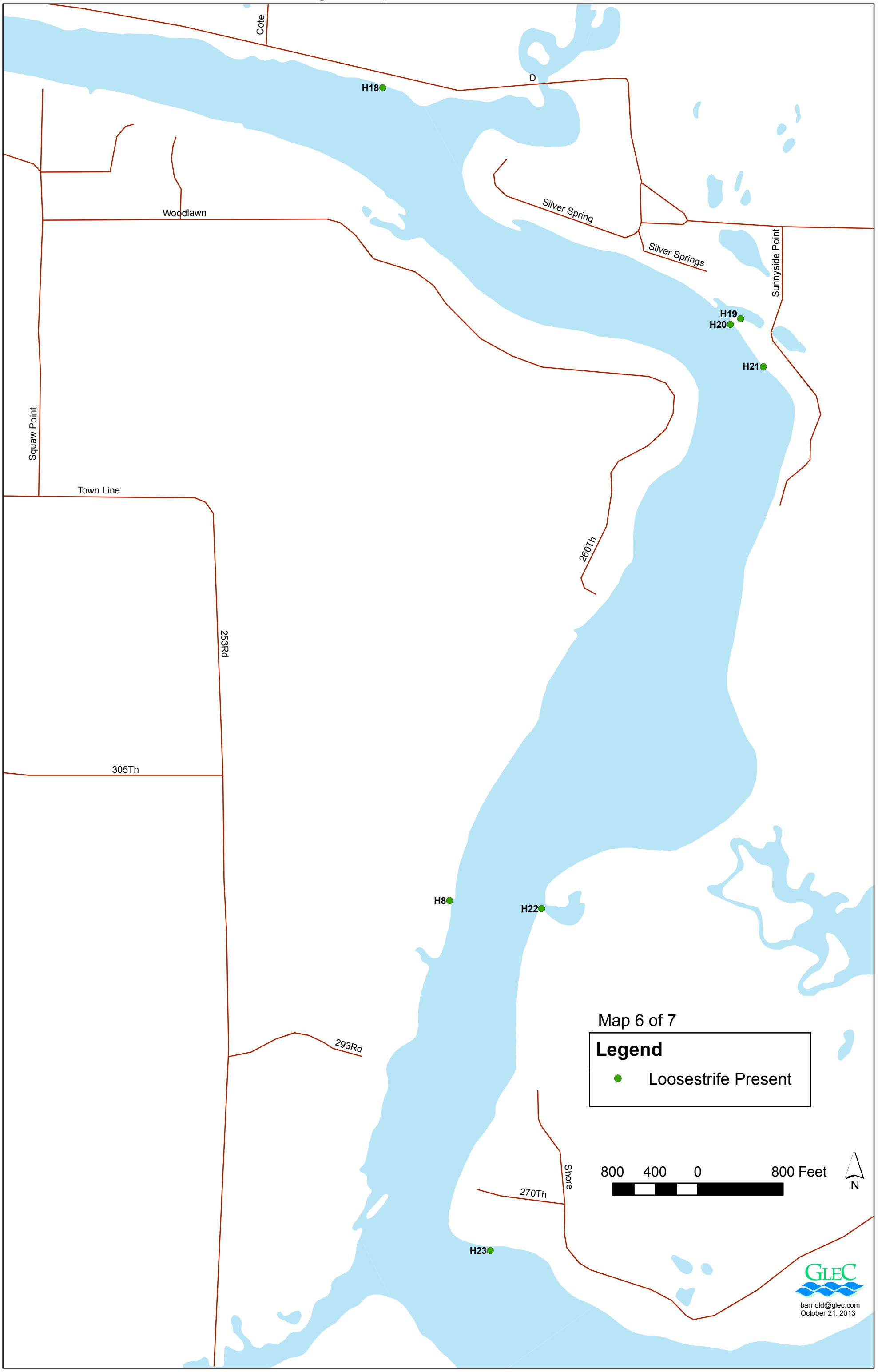
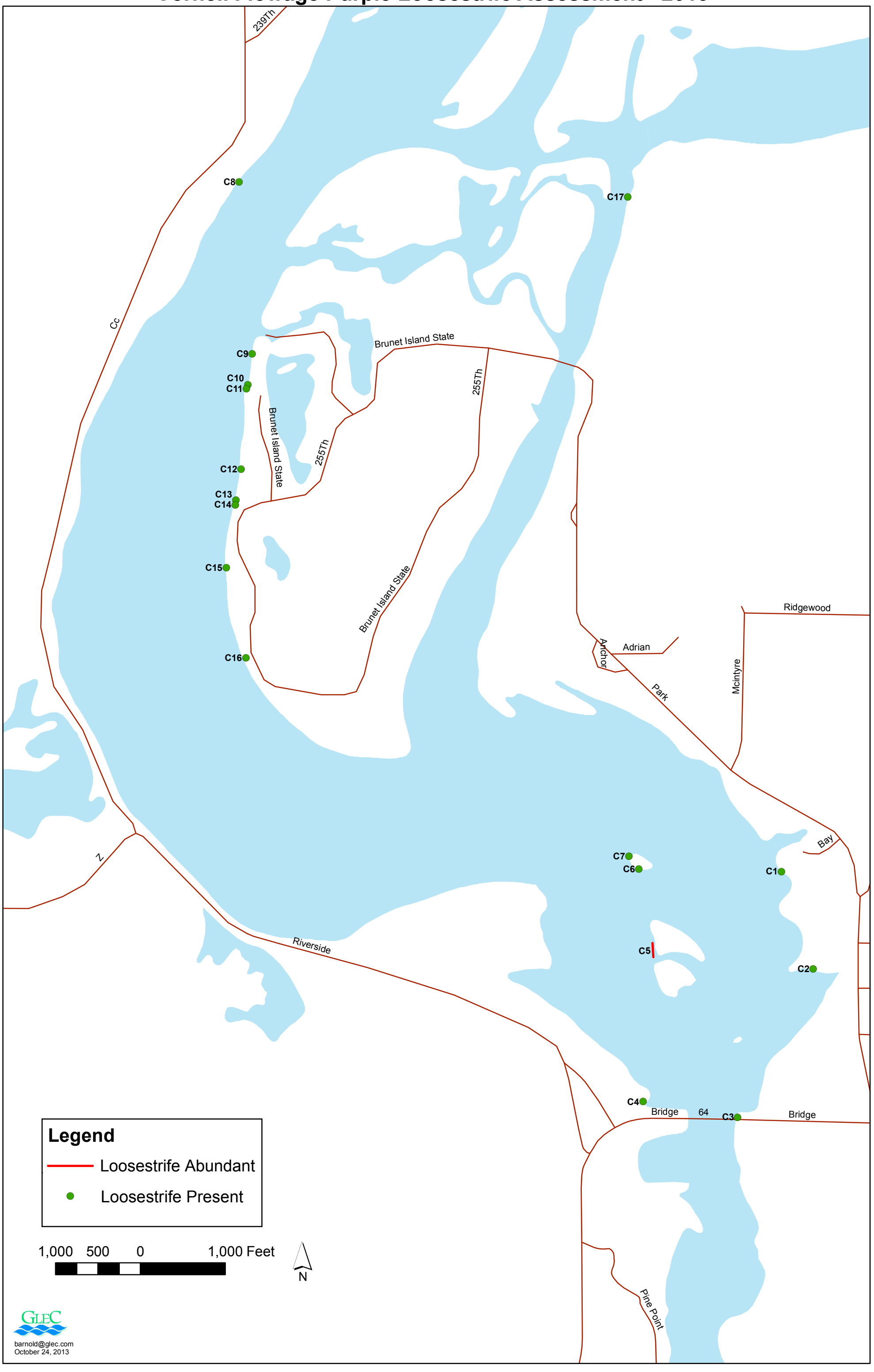
Holcombe Flowage Purple Loosestrife Assessment - 2013



Holcombe Flowage Purple Loosestrife Assessment - 2013

Cornell Flowage Purple Loosestrife Assessment - 2013



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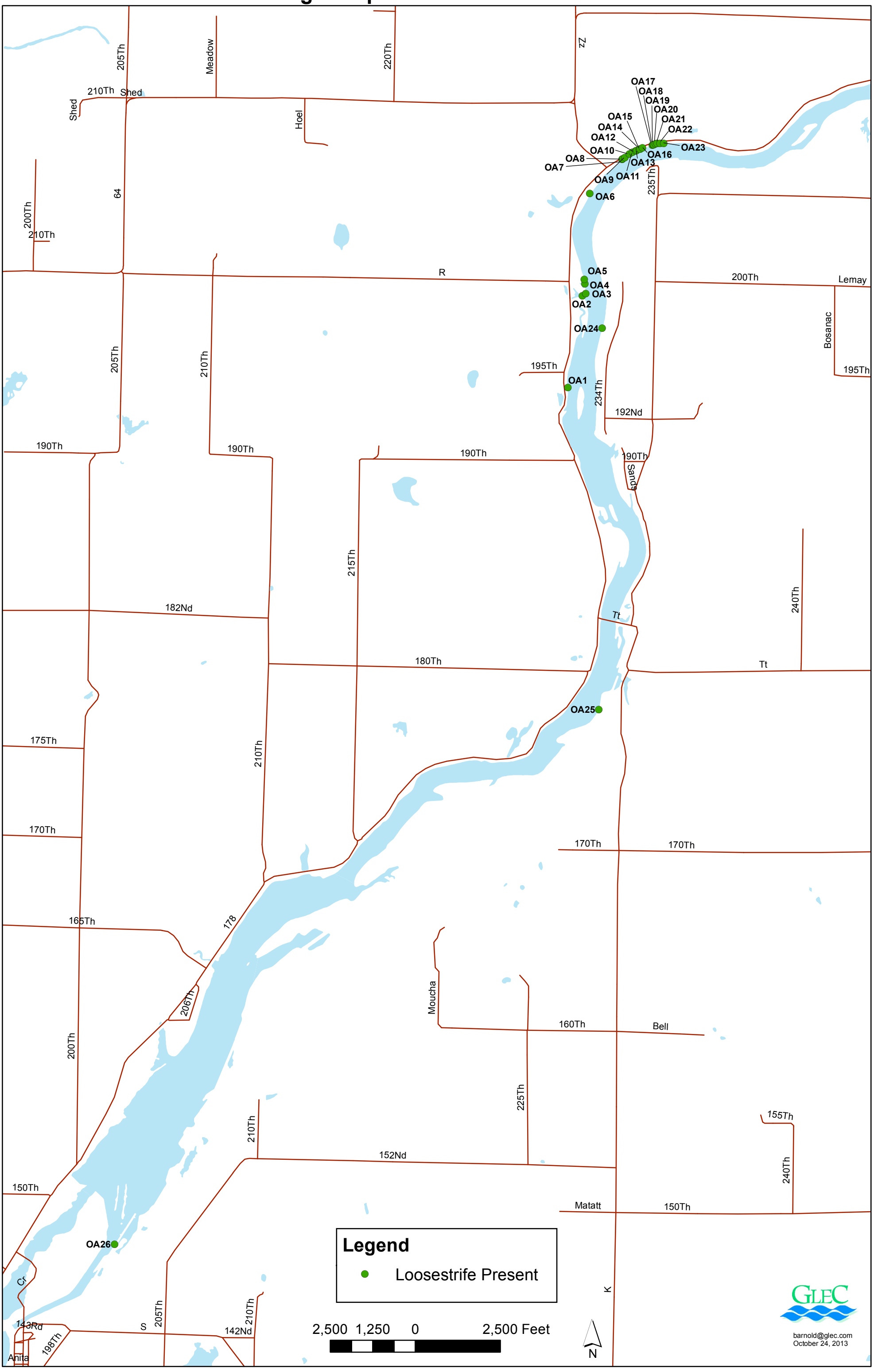
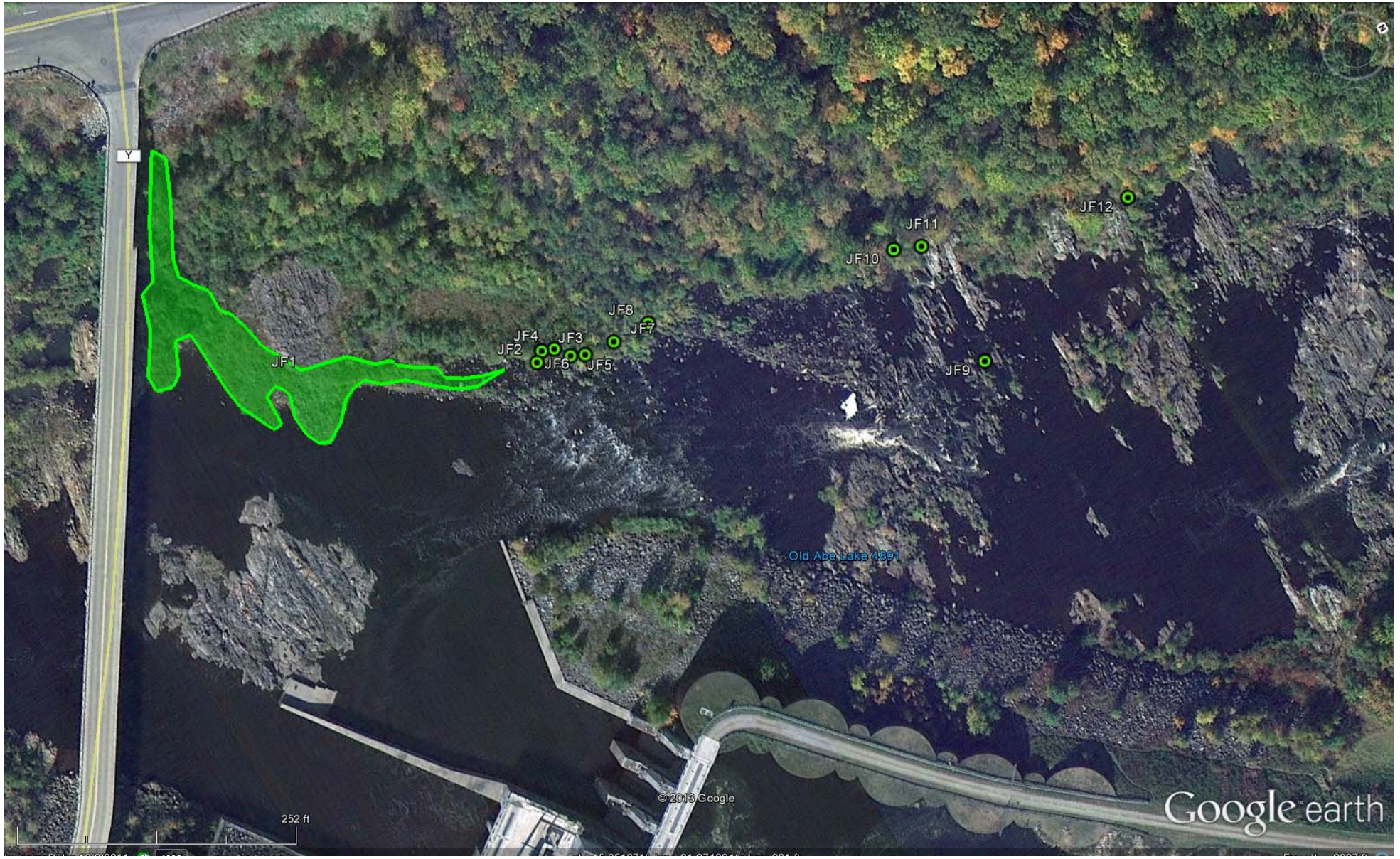
Old Abe Flowage Purple Loosestrife Assessment - 2013



Jim Falls Spillway Channel Purple Loosestrife Assessment – 2013 (Map 1 of 4)

Jim Falls Spillway Channel Purple Loosestrife Assessment – 2013 (Map 2 of 4)



Jim Falls Spillway Channel Purple Loosestrife Assessment – 2013 (Map 3 of 4)

Jim Falls Spillway Channel Purple Loosestrife Assessment – 2013 (Map 4 of 4)

Appendix A

Catalog of Purple Loosestrife Locations

2013

NSP PURPLE LOOSESTRIFE LOCATIONS
2013
HOLCOMBE FLOWAGE

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
H1	Present	Single	3
H2	Present	Single	4
H3	Present	Multiple	3
H4	Present	Multiple	20
H5	Present	Single	3
H6	Present	Single	3
H7	Present	Multiple	10
H8	Present	Single	2
H9	Present	Multiple	16
H10	Present	Multiple	10
H11	Present	Single	5
H12	Present	Multiple	25
H13	Present	Single	3
H14	Present	Single	4
H15	Present	Multiple	8
H16	Present	Single	3
H17	Present	Single	2
H18	Present	Single	4
H19	Present	Single	4
H20	Present	Single	1
H21	Present	Single	2
H22	Present	Single	1
H23	Present	Single	4
H24	Present	Multiple	10
H25	Present	Multiple	4
H26	Present	Multiple	2
H27	Present	Single	1
H28	Present	Single	2
H29	Present	Multiple	8
H30	Present	Multiple	6
H31	Present	Multiple	8
H32	Present	Multiple	8
H33	Present	Single	1
H34	Present	Multiple	5
H35	Present	Single	1
H36	Present	Single	1
H37	Present	Single	1
H38	Present	Multiple	12
H39	Present	Multiple	10
H40	Present	Multiple	15
H41	Present	Single	3
H42	Present	Single	1
H43	Present	Single	2
H44	Present	Single	2
H45	Present	Single	4
H46	Present	Multiple	6
H47	Present	Multiple	10
H48	Present	Multiple	16
H49	Present	Multiple	5
H50	Present	Multiple	8
H51	Present	Multiple	10
H77	Present	Multiple	22
H78	Present	Multiple	20
H79	Present	Single	3
H80	Present	Single	1
H81	Present	Multiple	20
H82	Present	Single	4
H83	Present	Single	3
H84	Present	Multiple	267
H85	Present	Single	4
H86	Present	Multiple	8
H87	Present	Multiple	193
H88	Present	Multiple	6
H89	Present	Single	3
H90	Present	Multiple	4
H91	Present	Multiple	3
H92	Present	single	4
H93	Present	Single	1
H94	Present	Single	4
H95	Present	Multiple	30
H96	Present	Single	2
H97	Present	Single	6
H98	Present	Multiple	3
H99	Present	Multiple	60
H100	Present	Multiple	8
H101	Present	Single	5
H102	Present	Single	3
H103	Present	Single	4
H104	Present	Multiple	22
H105	Present	Single	5
H106	Present	Single	6
H107	Present	Single	5
H108	Present	Single	4
H109	Present	Multiple	12
H110	Present	Single	6
H111	Present	Multiple	8
H112	Present	Multiple	20
H113	Present	Multiple	18
H114	Present	Single	2
H115	Present	Multiple	6
H116	Present	Single	5
H117	Present	Multiple	20
H118	Present	Multiple	18
H119	Present	Single	5
H120	Present	Multiple	6
H121	Present	Single	3
H122	Present	Multiple	8
H123	Present	Multiple	10
H124	Present	Multiple	25
H125	Present	Multiple	5
H126	Present	Multiple	137
H127	Present	Multiple	4

NSP PURPLE LOOSESTRIFE LOCATIONS
2013
HOLCOMBE FLOWAGE

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
H52	Present	Single	20
H53	Present	Multiple	1
H54	Present	Multiple	12
H55	Present	Multiple	5
H56	Present	Multiple	15
H57	Present	Multiple	6
H58	Present	Multiple	5
H59	Present	Multiple	2
H60	Present	Multiple	8
H61	Present	Single	12
H62	Present	Single	4
H63	Present	Multiple	2
H64	Present	Multiple	8
H65	Present	Multiple	30
H66	Present	Multiple	25
H67	Present	Multiple	50
H68	Present	Multiple	30
H69	Present	Multiple	8
H70	Present	Multiple	8
H71	Present	Multiple	20
H72	Present	Multiple	8
H73	Present	Multiple	25
H74	Present	Multiple	304
H75	Present	Multiple	10
H76	Present	Multiple	16

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
H128	Present	Single	1
H129	Present	Single	5
H130	Present	Single	2
H131	Present	Single	1
H132	Present	Single	4
H133	Present	Multiple	12
H134	Present	Single	5
H135	Present	Single	1
H136	Present	Single	3
H137	Present	Multiple	10
H138	Present	Single	2
H139	Present	Multiple	3
H140	Present	Single	3
H141	Present	Single	3
H142	Present	Single	4
H143	Present	Single	3
H144	Present	Multiple	12
H145	Present	Multiple	15
H146	Present	Multiple	16
H147	Present	Single	2
H148	Present	Single	2
H149	Present	Multiple	8
H150	Present	Single	4
H151	Present	Single	5

NSP PURPLE LOOSESTRIFE LOCATIONS
2013
CORNELL FLOWAGE

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
C1	**Present**	Single	3
C2	**Present**	Single	3
C3	**Present**	Multiple	5
C4	**Present**	Single	3
C5	**Abundant**	Multiple	90
C6	**Present**	Single	3
C7	**Present**	Multiple	4
C8	**Present**	Single	2
C9	**Present**	Single	3
C10	**Present**	Single	3
C11	**Present**	Single	2
C12	**Present**	Single	3
C13	**Present**	Multiple	4
C14	**Present**	Single	1
C15	**Present**	Multiple	4
C16	**Present**	Single	3
C17	**Present**	Single	3

NSP PURPLE LOOSESTRIFE LOCATIONS
2013
LAKE WISSOTA

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
W1	**Present**	Single	2
W2	**Present**	Multiple	8
W3	**Present**	Single	2
W4	**Present**	Single	2
W5	**Present**	Single	1
W6	**Present**	Single	2
W7	**Present**	Single	1
W8	**Present**	Single	1
W9	**Present**	Single	2
W10	**Present**	Single	2

NSP PURPLE LOOSESTRIFE LOCATIONS
2013
OLD ABE FLOWAGE

Location #	Degree of Infestation	Single / Multiple	Coverage (ft)
OA1	**Present**	Multiple	4
OA2	**Present**	Multiple	16
OA3	**Present**	Single	2
OA4	**Present**	Single	2
OA5	**Present**	Multiple	14
OA6	**Present**	Single	3
OA7	**Present**	Single	1
OA8	**Present**	Single	1
OA9	**Present**	Single	3
OA10	**Present**	Single	2
OA11	**Present**	Multiple	18
OA12	**Present**	Multiple	20
OA13	**Present**	Single	1
OA14	**Present**	Single	2
OA15	**Present**	Multiple	4
OA16	**Present**	Multiple	8
OA17	**Present**	Multiple	15
OA18	**Present**	Single	2
OA19	**Present**	Single	3
OA20	**Present**	Multiple	8
OA21	**Present**	Single	2
OA22	**Present**	Multiple	3
OA23	**Present**	Single	1
OA24	**Present**	Single	2
OA25	**Present**	Single	3
OA26	**Present**	Single	2

Appendix B

Agency Consultation

Xcel Energy®
RESPONSIBLE BY NATURE™

1414 West Hamilton Avenue
P.O. Box 8
Eau Claire, WI 54702-0008

March 7, 2013

Mr. Brock Woods
Wisconsin Dept. of Natural Resources
2801 Progress Road
Madison, WI 53716

Mr. Nick Utrup
U.S. Fish & Wildlife Service
2661 Scott Tower Drive
New Franken, WI 54229-9565

Subject: Purple Loosestrife Monitoring

Dear Mr. Woods and Mr. Utrup:

Xcel Energy annually monitors for purple loosestrife at its six lower Chippewa River hydro projects. The Federal Energy Regulatory Commission (FERC) reviewed our 2011 Purple Loosestrife Report and recommended that we annually consult with the Wisconsin Department of Natural Resources (WDNR) and U.S. Fish & Wildlife Service (USFWS) to discuss possible additional control methods.

2012 Monitoring Results

There was a modest increase in loosestrife presence on Lake Holcombe in 2012 compared to 2011 while areas classified as abundant decreased. On Cornell Flowage, the presence of loosestrife remained about the same while the amount of shoreline classified as abundant increased. The length of shoreline on Old Abe Flowage classified as present increased slightly while the abundant category dropped from 20 feet to zero. On Lake Wissota, loosestrife presence showed a slight increase while no areas were classified as abundant. There were no loosestrife plants documented on Chippewa Falls Flowage or Dells Pond.

Purple Loosestrife & Other Invasive Species Control

Xcel Energy has cooperated in the past with the Lake Holcombe Improvement Association (LHIA) to stock loosestrife beetles on Lake Holcombe. A resident population of loosestrife beetles has been established and continues to be monitored by Mr. Brian Guthman. Xcel Energy is also helping to fund a 3-year Eurasian Water

Milfoil Control Project sponsored by the LHIA. This is the third and final year for this project with a final report due December 31, 2013.

From 2010-11 Xcel Energy partnered with Beaver Creek Reserve to introduce loosestrife beetles into the minimum flow channel at our Jim Falls Hydro Project. The goal was to reduce the high concentration of loosestrife plants in an effort to prevent infestation of Lake Wissota immediately downstream. The initial results are promising as last year's monitoring showed a marked decrease in loosestrife abundance.

Finally, Xcel Energy has funded several invasive species studies and educational efforts through its Natural Resource Fund (NRF). The projects include:

1) Aquatic Plant Study on Lake Wissota (2005) – Beaver Creek Reserve
2) Post-drawdown Evaluation of Lake Holcombe (2005) – Beaver Creek Reserve
3) Lake Wissota Aquatic Plant Management (2008) – Beaver Creek Reserve
4) Aquatic Invasive Species Education (2008-09) – Beaver Creek Reserve
5) Lake Holcombe Eurasian Water Milfoil Control Project (2011-13) - LHIA

Xcel Energy feels that its current monitoring efforts and partnerships, combined with the above-referenced projects, are sufficient to control purple loosestrife and other invasive species. We will continue to provide our annual loosestrife report to the various stakeholder groups to assist in their invasive species control efforts. Lastly, the NRF is still available for additional invasive species projects and we annually invite numerous resource agencies, lake associations and sportsman's groups to submit their grant proposals.

Both the WDNR and USFWS were provided copies of our 2012 loosestrife report and an electronic version is available upon request. If you have any questions, you may contact me by telephone at 715-737-1353 or by electronic mail at matthew.j.miller@xcelenergy.com.

Sincerely,

Matthew J. Miller

Matthew J. Miller
Hydro Licensing Specialist

c: Brian Guthman – Lake Holcombe Improvement Association (via email)
Jeanette Kelly – Beaver Creek Reserve (via e-mail)
Cheryl Laatsch – WDNR (via e-mail)
General Project Files