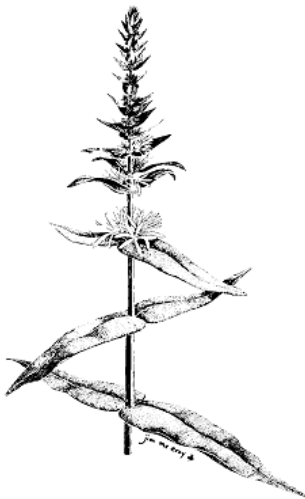




Invasive Species in Itasca County, MN



The following document contains lists, database excerpts, graphics, and maps that show the location of aquatic invasive species in Itasca County Minnesota. These data show KNOWN locations of these invasive species and it is recognized that there are numerous locations that have likely not been discovered or reported.

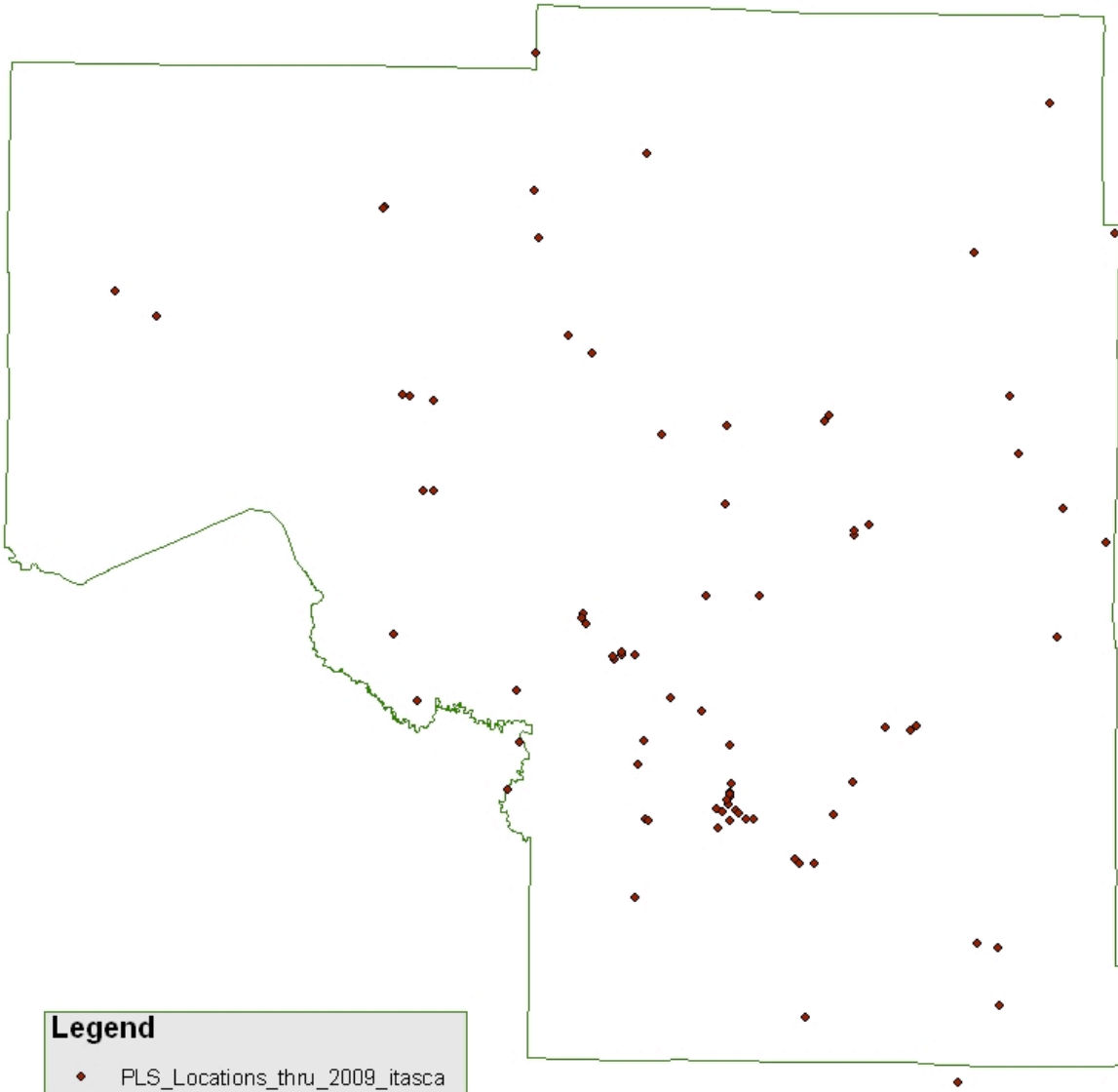
Itasca County has relatively few invasive species infestations compared to other areas of Minnesota. However, some of the infestations are extensive and have existed for many years. The majority of problematic invasive species populations are plants. Of these plant populations Itasca County is home to Flowering Rush which is not common elsewhere in Minnesota.

Purple Loosestrife

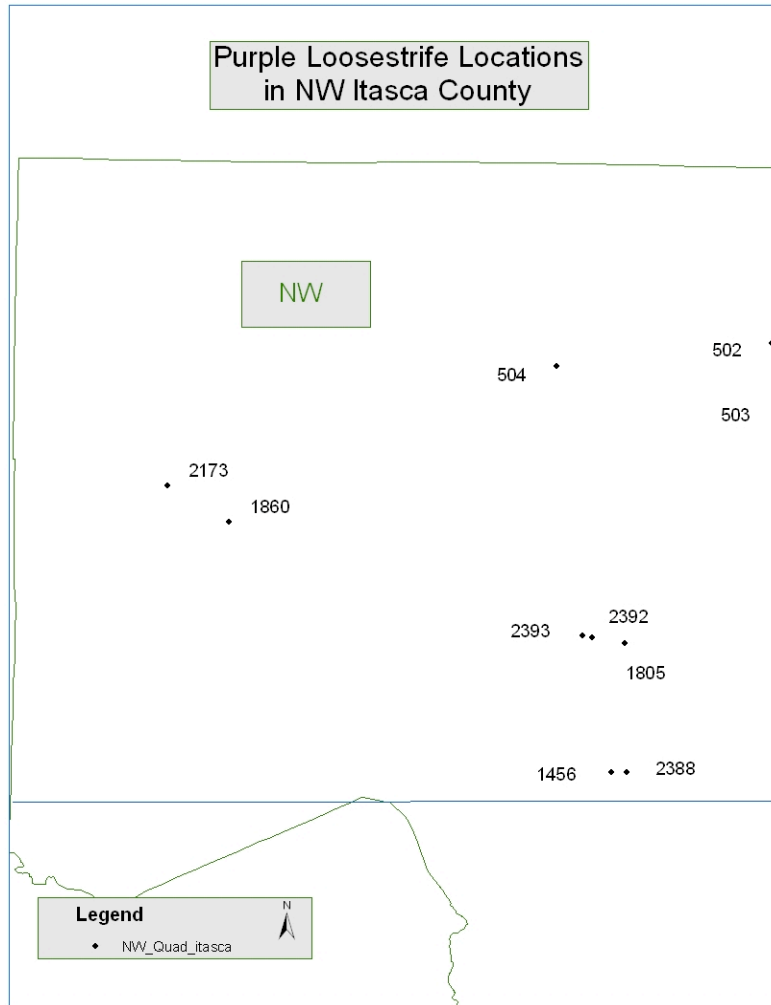
Purple Loosestrife (*Lythrum salicaria*) is a wetland plant from Europe and Asia that invades marshes and lakeshores. Purple Loosestrife (PLS) is a tall, pretty plant that was planted as an ornamental species for many years. Like other invasive plants Purple Loosestrife is a competitive species that is capable of prodigious seed production and rapid growth. A strong, thick root system also allows PLS to out-compete native plants for space and nutrients. Purple Loosestrife does not offer native species of birds, animals, and invertebrates good habitat and since it often reduces native plant populations can actually have detrimental effects on local biological systems. Initially no natural predators existed in Minnesota to check the population of PLS so huge stands began to develop in wetlands, along riverbanks and lakeshores throughout the state. Concern over the increasing population of PLS and concurrent decline of native plant species prompted lawmakers to assign a management role to the MN DNR. In the late 1980's a control program for PLS was begun.

Itasca County has 83 known PLS sites. The following maps and tables indicate where each of the sites is, the condition of the plants and what management techniques were used to control the population.

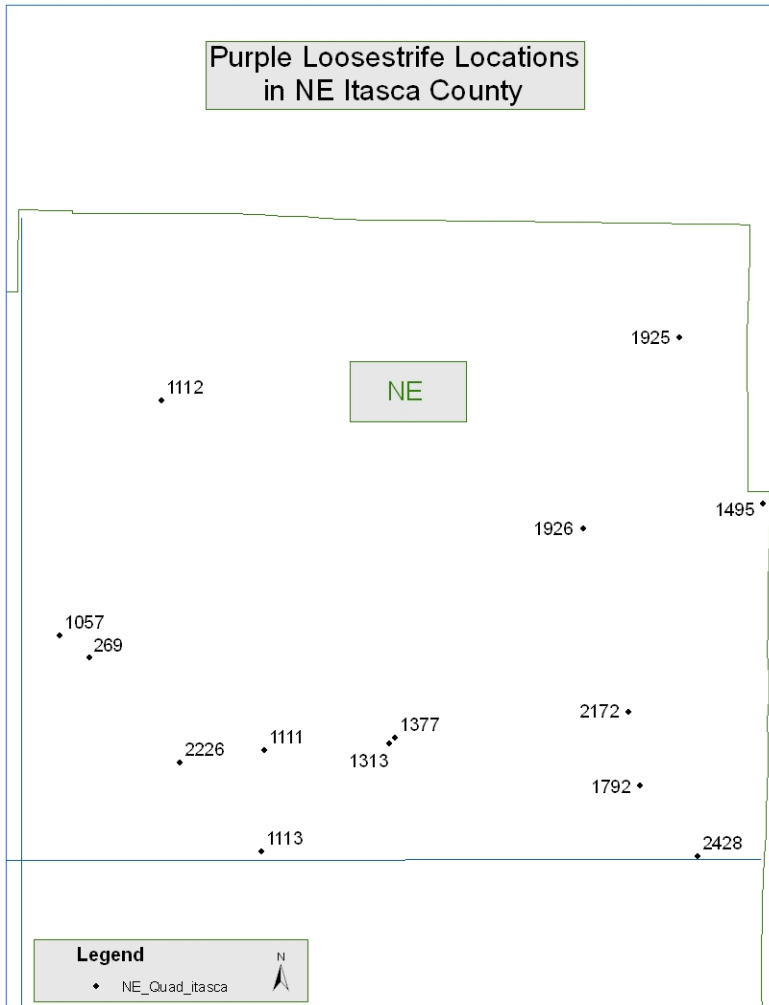
Purple loosestrife distribution
Itasca County, MN
Through 2009



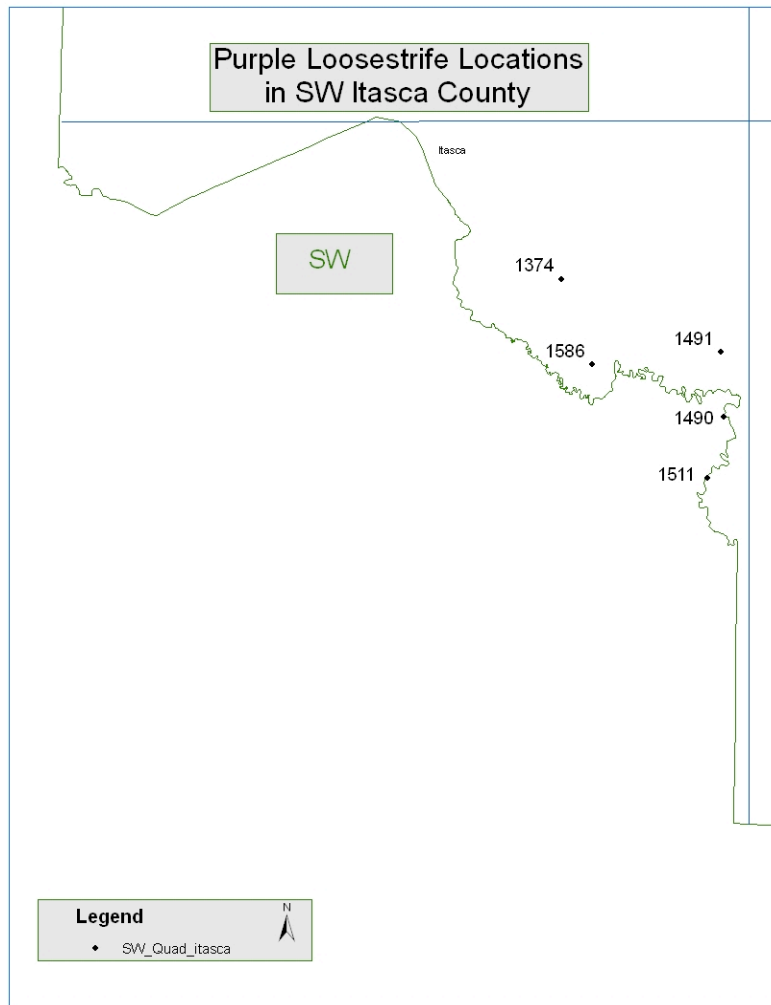
Legend
◆ PLS_Locations_thru_2009_itasca



DNR SITE #	Year found	LOCALITY	TOWNSHIP	RANGE	SECTION	"1/4"	"1/4 - 1/4"	FORTY	SITETYPE	Y UTM	X UTM
502	1988	Liberty	149	25	12	NE	NE	11	Roadside	5288266	441869
503	1988	Gunderson Lake	060	27	03	SW	SW	33	Other	5283959	442275
504	1988	Wirt	149	26	10	SW	SE	34	Roadside	5286819	428150
1456	1991	Bowstring Lake	146	26	01	NE	NE	11	Lake	5260767	431650
1805	1996	Bowstring Lake	147	25	06	SW	SW	33	Roadside	5269064	432513
1860	1997	Dunbar Lake	148	28	16	NE	SW	13	Lake	5276835	407276
2173	2002	Dixon Lake	148	29	1	SE	SE	44	Wetland	5279154	403362
2388	2007	Bowstring Lake	146	25	6	NE	NW	21	lake	5260799	432605
2392	2007	North Bowstring	147	26	2	SE	SE	44	lake	5269421	430400
2393	2007	N Bowstring hiway 35	147	26	2	NW	SE	42	wetland	5269565	429780

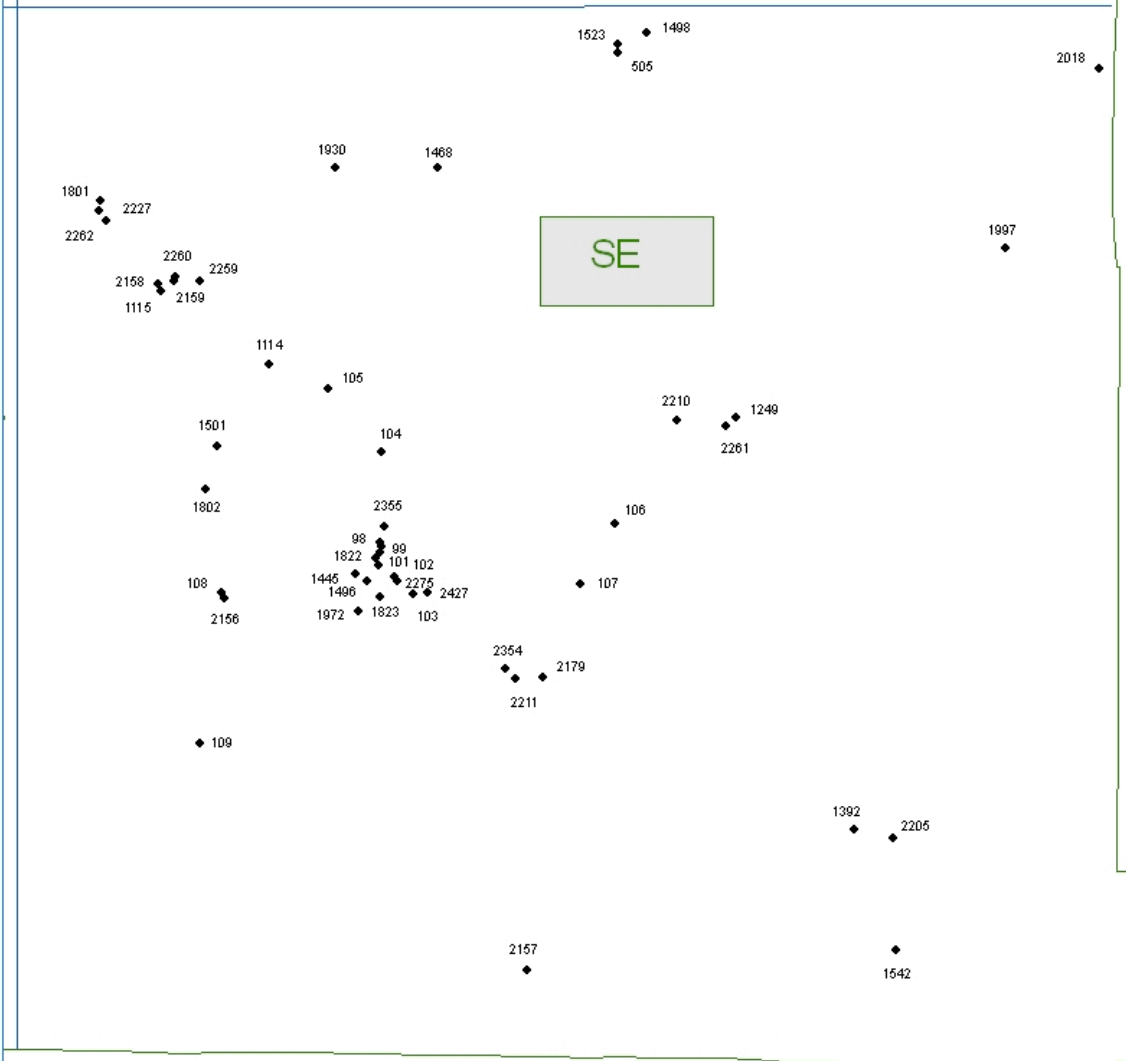


DNR SITE #	Year found	LOCALITY	TOWNSHIP	RANGE	SECTION	"1/4"	"1/4 - 1/4"	FORTY	ROAD	SITETYPE	Y UTM	X UTM
269	1987	Turtle Lake	059	27	7	NW	SW	32	State TH 5286 & 38	Lake	5273354	447038
1057	1989	Turtle Lake	060	27	36	SW	SW	33	State TH 38	Lake	5274969	444937
1111	1989	George Lake	059	25	29	NW	SE	24	Co Rd 49 & State TH 38	Lake	5266787	459497
1112	1989	Conners Lake	061	26	14	NW	SW	23	STH 38 & CSAH 42	Lake	5291773	452138
1113	1989	Trout Lake	058	25	20	SW	SE	34	CSAH 49	Lake	5259553	459268
1313	1990	Barwise Lake	059	24	32	NE	NW	12	Co Rd 7 & 339	Lake	5267223	468374
1377	1991	Barwise Lake	029	24	29	SE	SW	43	County road 339	Lake	5267661	468763
1495	1992	Beatrice Lake	060	22	01	SE	NW	42		Lake	5284369	494919
1792	1996	Buck Lake	058	22	06	SW	SE	43	Hwy 65 & Cty 540	Ditch	5264250	486137
1925	1999	Carpenter Twp	62	22	34	NW	NW	22	CSAH 557 and MN 65	Roadside	5296282	488989
1926	1999	Bear Lake	60	23	10	NE	SE	14	CSAH 552 (Bear Lake Trail)	Roadside	5282604	482101
2172	2002	O'Leary	59	23	24	SE	NE	14	State Hwy 65 & Co. Rd. 53	Wetland	5269528	485333
2226	2004	Smith Lake Itasca Co	58	26	3	NE	NE	11	USFS/CR 49	Lake	5265882	453466
2428	2009	Shafer Creek	58	22	22	SW	SW	33	CR 539	river	5259163	490271



DNR SITE #	Year found	LOCALITY	TOWNSHIP	RANGE	SECTION	"1/4"	"1/4 -1/4"	FORTY	SITETYPE	Y UTM	X UTM
1374	1991	Ball Club Lake	145	26	14	NW	NE	21	Wetland	5247646	428949
1490	1992	Mississippi River	056	25	13	NW	SE	24	River	5237798	440433
1491	1992	Deer River	056	25	36	NW	SW	23	Roadside	5242431	440236
1511	1993	Deer River	144	25	35	NE	NW	12	Roadside	5233444	439302
1586	1994	Chippewa National Forest	144	26	01	NE	NW	12	Roadside	5241538	431111

Purple Loosestrife Locations in SE Itasca County



Legend

- ◆ SE_Quad_itasca

DNR SITE #	Year found	LOCALITY	TOWNSHIP	RANGE	SECTION	"1/4"	"1/4 -1/4"	FORTY	SITETYPE	Y UTM	X UTM
98	1987	McKinney Lake	055	25	16	NW	NW	22	Lake	5233128	459678
99	1987	Crystal Lake	055	25	16	SW	NW	32	Lake	5232659	459671
100	1987	State TH 38	055	25	16	NW	SW	23	River	5232961	459702
101	1987	Grand Rapids	055	25	17	SE	SE	44	Lake	5232086	459596
102	1987	Grand Rapids	055	25	21	NW	SE	24	Lake	5231468	460308
DNR	Year	LOCALITY	TOWNSHIP	RANGE	SECTION	"1/4"	"1/4 -1/4"	FORTY	SITETYPE	Y UTM	X UTM

SITE #	found										
103	1987	Grand Rapids	055	25	21	SE	NE	41	River	5230662	461215
104	1987	Prairie Lake	056	25	33	NW	SW	23	Roadside	5237499	459686
105	1987	Prairie Lake	056	25	19	SW	NE	31	Wetland	5240556	457181
106	1987	Trout Creek	055	24	09	NE	SE	14	River	5234061	470946
107	1987	S Trout Lake	055	24	21	SW	NE	31	Roadside	5231126	469256
108	1987	Loon Lake	055	26	22	SW	SW	33	River	5230727	452027
109	1987	Sugar Brook	054	26	16	NE	SW	13	River	5223459	451024
505	1988	Snaptail Lake	058	24	34	SW	NE	31	Lake	5256734	471055
1114	1989	Pohl Creek	056	26	14	SE	SW	43	River	5241750	454321
1115	1989	Deer Lake	056	26	05	NE	SW	13	Lake	5245279	449130
1249	1990	Twin Lakes, Marble	056	23	30	NE	SW	13	Lake	5239188	476743
1392	1991	Warba	054	23	26	SW	SW	33	Roadside	5219312	482418
1445	1991	Forest Lake	055	25	20	SW	SE	34	Lake	5231654	458483
1468	1991	Wababna Lake	057	25	22	NE	NE	11	Lake	5251179	462431
1496	1992	Mississippi River	055	25	21	NW	NW	22	River	5231322	459047
1498	1992	Balsam	058	24	27	SE	SE	44	Roadside	5257717	472451
1501	1992	Bass Lake	056	26	34	SW	NE	31	Lake	5237811	451802
1523	1993	Snaptail Lake	058	24	34	NE	NW	12	Lake	5257136	471057
1542	1993	Hwy 65 Itasca Co.	052	23	13	SW	NE	31	Roadside	5213522	484384
1801	1996	Moose Lake	057	27	25	NE	NE	11	Lake	5249598	446253
1802	1996	Cohasset	055	26	04	SE	NE	41	Wetland	5235728	451270
1822	1997	Hale Lake	054	25	24	SE	NE	41	Lake	5232430	459428
1823	1997	G.R.Beaver Pond	055	25	20	SE	NE	41	wetland	5230531	459668
1930	1999	Bluewater Lake	57	25	19	NE	NW	12	Lake	5251205	457515
1972	1999	Grand Rapids	55	25	29	NW	SE	42	Roadside	5229841	458613
1997	1999	O'Brien Reservoir	57	22	33	NE	SE	41	River	5247359	489651
2018	1999	Rock Creek-CR553	57	22	1	NE	NW	21	Ditch	5255994	494161
2156	2002	Long Lake	55	26	22	SW	SE	43	Lake	5230484	452182
2157	2002	Splithand Marsh	53	24	19	NW	SE	42	Wetland	5212554	466672
2158	2002	Deer Lake	56	26	5	SW	NE	13	Lake	5245596	448982
2159	2002	Deer Lake	56	26	5	NE	SW	31	Wetland	5245719	449742
2179	2002	Jess Harry Rd.	54	24	6	NE	NE	11	Ditch	5226636	467487
2205	2003	East Warba	54	23	36	NE	NE	11	Roadside	5218902	484253
2210	2003	Holman Road	56	24	26	NE	SE	41	Lake	5239026	473894
2211	2003	Mississippi R Oxbow	54	24	6	NW	SW	32	River	5226587	466110
2227	2004	Day Lake inlet	57	27	25	NE	SE	41	River	5249113	446189
2259	2005	Deer Lake	56	26	4	NE	SW	31	lake	5245711	451028
2260	2005	Deer Lake (4)	56	26	5	SE	NE	14	lake	5245963	449843
2261	2005	N Twin Lakes	56	23	30	SW	NE	31	Lake	5238757	476230
2262	2005	Moose Lake Pug Hole	57	26	30	SW	SW	33	River	5248631	446518
2275	2005	Grand Rapids Library	55	25	21	NE	NW	21	roadside	5231262	460472
2354	2006	Jess Harry Road	55	25	36	SE	SE	44	wetland	5227045	465642
2355	2006	McKinney Road	55	25	9	NW	SW	32	lake	5233913	459836
2427	2009	Rapids HWY2	55	25	22	SW	SW	33	ditch	5230743	461894

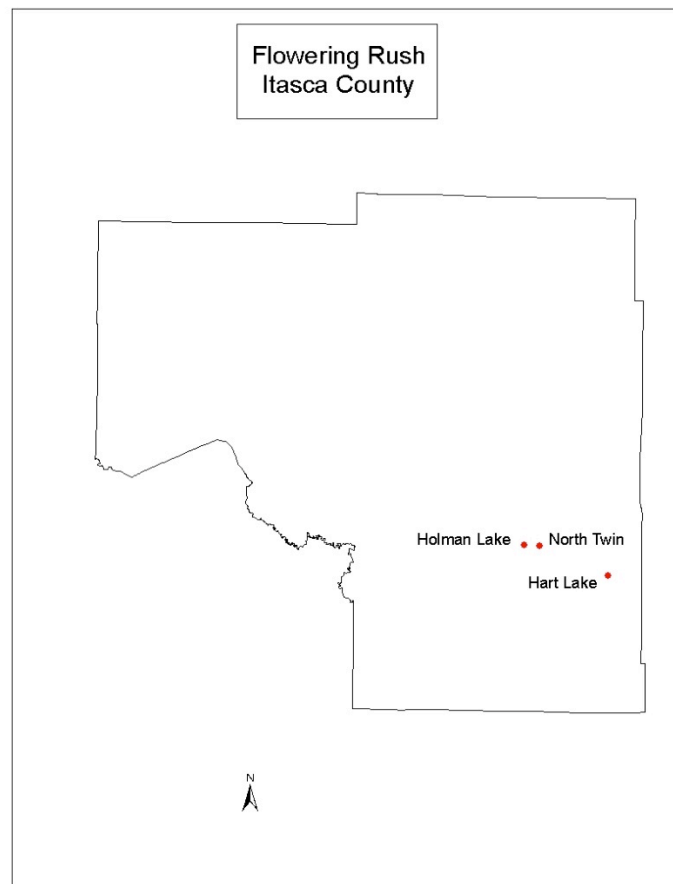
Flowering Rush

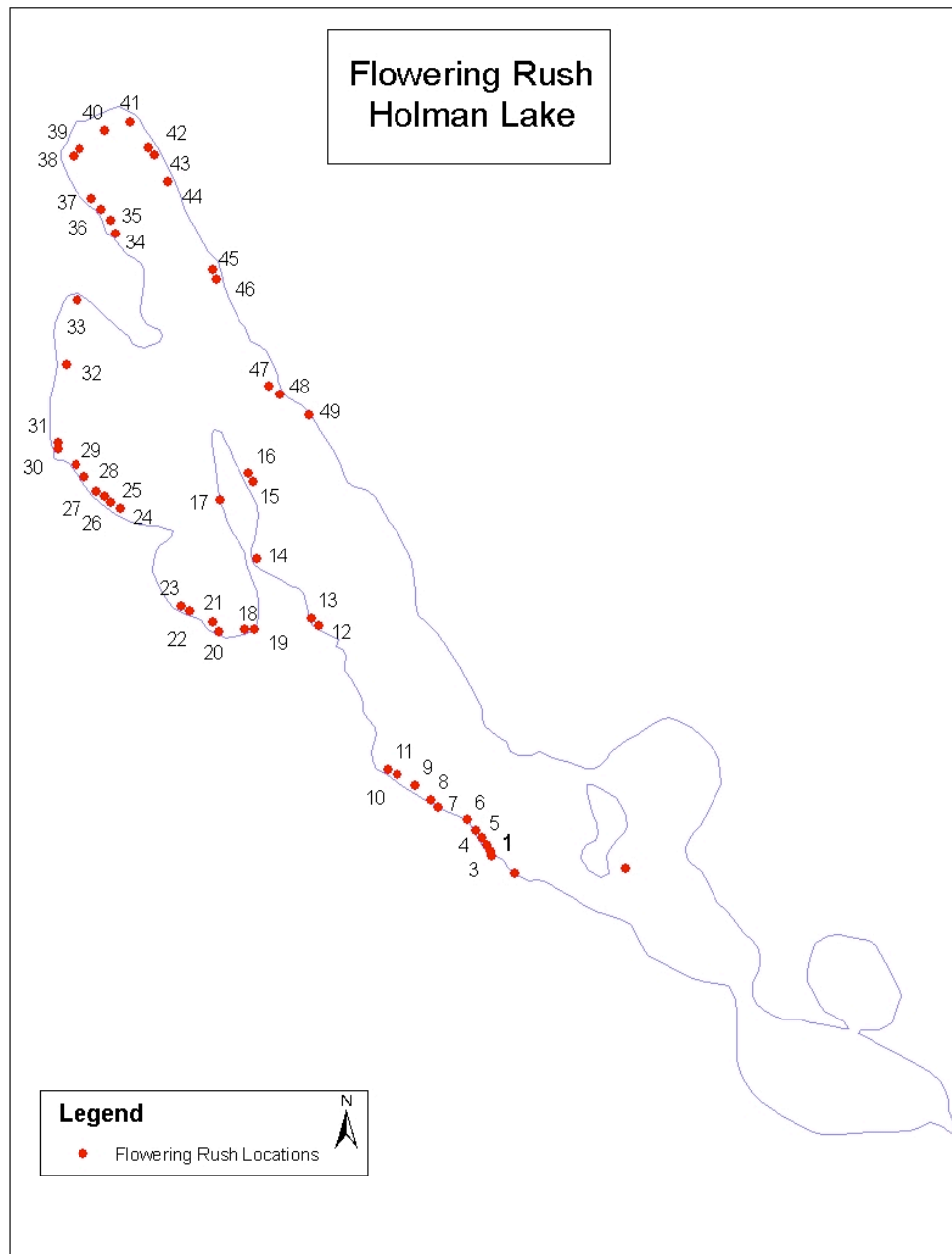
Flowering Rush (*Butomus umbellatus* L.) is a perennial aquatic plant, native to Europe and Asia. It grows along lake and river shores as an emergent plant. Like many other invasive plants such as Purple Loosestrife, Flowering Rush was planted as an ornamental plant by water gardeners. Over the years populations of Flowering Rush have escaped captivity and begun wild populations. Flowering Rush is an aggressive invasive plant that has the potential to out-compete native emergent plants for space and nutrients. Large stands of Flowering Rush can also make open water access difficult for lake shore home owners and reduce recreational opportunity for lake users.

Flowering Rush propagates through the production of vegetative rhizomes, root like structures that grow away from the parent plant and sprout new plants along the way. Some Flowering Rush plants also produce bulbils which are small seed-like pods that function to disperse the population of plants. Few Flowering Rush populations in Minnesota produce seeds.

Three Lakes in Itasca County support healthy populations of Flowering Rush. The lakes, North Twin, Holman, and Hart are quite close to each other and are part of the same watershed.

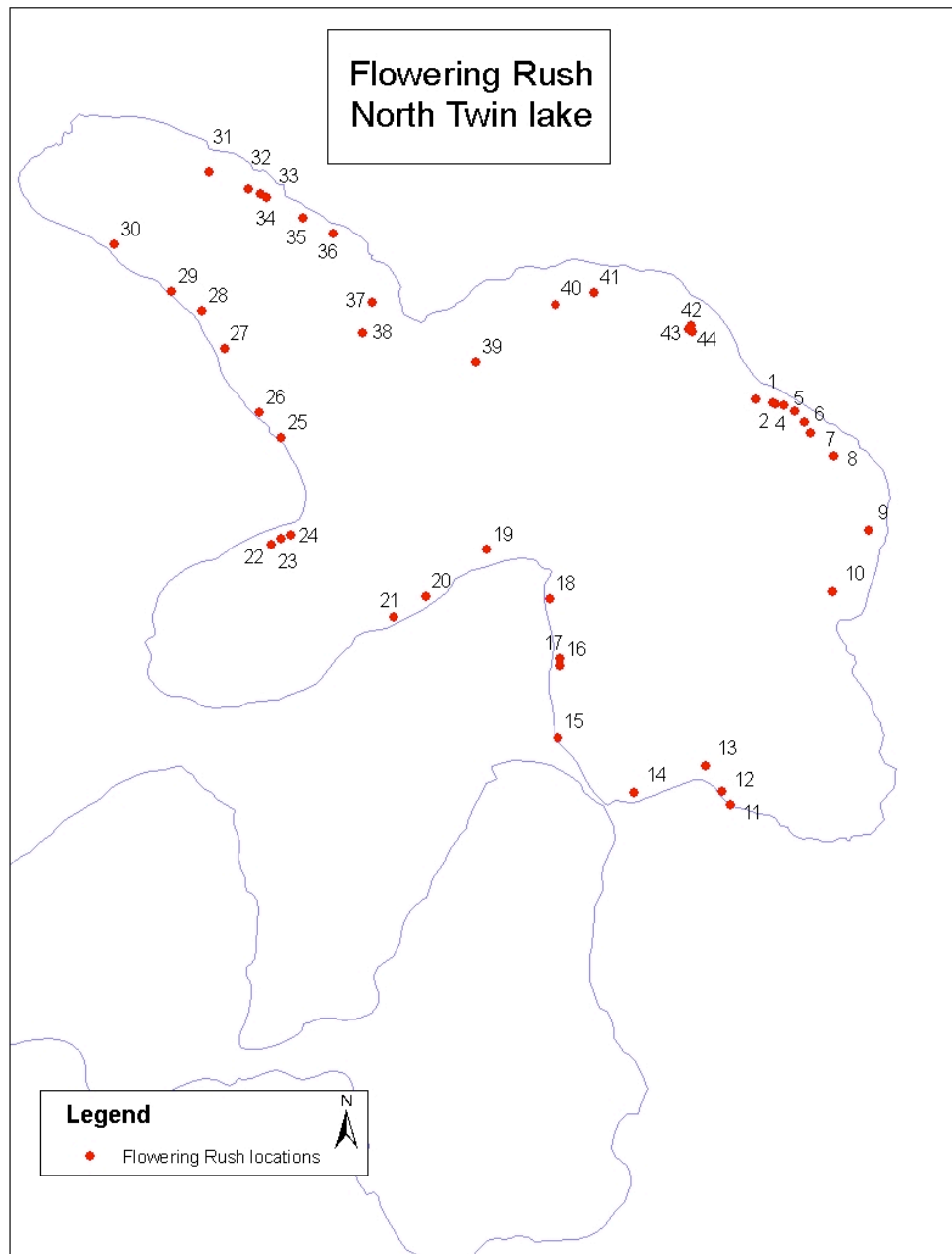
Efforts to control Flowering Rush on North Twin Lake have thus far been unsuccessful. Flowering Rush has proved to be a very resistant plant that is not easily controlled with herbicide. Ongoing research by the US Army Corps of Engineers and a handful of universities around the country may result in improved control methods.





Waypoint	LAT	LONG	Y_coordinate utm	X_coordinate utm
001	47.30221217	-93.35041367	5238807	473511
002	47.30251660	-93.35096846	5238841	473469
003	47.30260486	-93.35101523	5238851	473466
004	47.30269857	-93.35109612	5238862	473459
005	47.30282933	-93.35122503	5238876	473450
006	47.30295329	-93.35135043	5238890	473440
007	47.30312454	-93.35156232	5238909	473424
008	47.30332118	-93.35227747	5238931	473370
009	47.30345562	-93.35247243	5238946	473356
010	47.30369207	-93.35285263	5238973	473327
011	47.30388469	-93.35330961	5238994	473293
012	47.30395066	-93.35354875	5239002	473275
013	47.30636816	-93.35526746	5239271	473146
Waypoint	LAT	LONG	Y_coordinate utm	X_coordinate utm

014	47.30648702	-93.35543778	5239284	473133
015	47.30747717	-93.35677578	5239395	473033
016	47.30876472	-93.35688818	5239538	473025
017	47.30890495	-93.35700184	5239553	473016
018	47.30846951	-93.35772780	5239505	472961
019	47.30628912	-93.35708315	5239263	473009
020	47.30629742	-93.35685415	5239264	473026
021	47.30625023	-93.35772143	5239259	472960
022	47.30642525	-93.35789267	5239278	472948
023	47.30660453	-93.35844235	5239298	472906
024	47.30666740	-93.35866498	5239305	472889
025	47.30831067	-93.36016526	5239488	472777
026	47.30842466	-93.36039023	5239501	472760
027	47.30850924	-93.36055904	5239511	472747
028	47.30860563	-93.36074931	5239521	472733
029	47.30884577	-93.36106388	5239548	472709
030	47.30903487	-93.36127569	5239569	472693
031	47.30930007	-93.36173510	5239599	472659
032	47.30940023	-93.36171985	5239610	472660
033	47.31072072	-93.36153234	5239757	472675
034	47.31180877	-93.36126236	5239878	472696
035	47.31291435	-93.36031060	5240000	472768
036	47.31313881	-93.36043381	5240025	472759
037	47.31331433	-93.36067596	5240045	472741
038	47.31349798	-93.36091510	5240065	472723
039	47.31420659	-93.36137719	5240144	472688
040	47.31434103	-93.36122196	5240159	472700
041	47.31464915	-93.36058091	5240193	472749
042	47.31477672	-93.35995546	5240207	472796
043	47.31436869	-93.35953091	5240161	472828
044	47.31424514	-93.35937233	5240148	472840
045	47.31380392	-93.35903328	5240099	472865
046	47.31232049	-93.35792754	5239933	472948
047	47.31215436	-93.35783299	5239915	472955
048	47.31036725	-93.35650052	5239716	473055
049	47.31024371	-93.35625065	5239702	473074
050	47.30989234	-93.35553702	5239663	473127



Waypoint	LAT	LONG	Y coordinate utm	X coordinate utm
001	47.23328518	-93.50812797	5231213	461538
002	47.30836817	-93.31118627	5239479	476479
003	47.30830036	-93.31080087	5239471	476508
004	47.30828553	-93.31073734	5239470	476513
005	47.30826507	-93.31054615	5239467	476527
006	47.30817086	-93.31028849	5239457	476547
007	47.30799803	-93.31005841	5239437	476564
008	47.30782293	-93.30990275	5239418	476576
009	47.30746309	-93.30936581	5239378	476616
010	47.30627035	-93.30854572	5239245	476678
011	47.30529042	-93.30937469	5239136	476615
012	47.30187077	-93.31174945	5238757	476433
013	47.30208853	-93.31194500	5238781	476419
Waypoint	LAT	LONG	Y coordinate utm	X coordinate utm

014	47.30249958	-93.31235094	5238827	476388
015	47.30205551	-93.31402221	5238778	476262
016	47.30293536	-93.31582524	5238877	476126
017	47.30409466	-93.31577830	5239005	476130
018	47.30420496	-93.31578199	5239018	476130
019	47.30514407	-93.31603873	5239122	476111
020	47.30594505	-93.31751654	5239212	475999
021	47.30518171	-93.31894691	5239127	475891
022	47.30486185	-93.31970715	5239092	475833
023	47.30599735	-93.32258306	5239219	475616
024	47.30610640	-93.32234326	5239231	475635
025	47.30616096	-93.32213514	5239237	475650
026	47.30770608	-93.32236170	5239409	475634
027	47.30811437	-93.32287417	5239454	475595
028	47.30913185	-93.32372233	5239568	475532
029	47.30973442	-93.32425886	5239635	475491
030	47.31004321	-93.32495598	5239669	475439
031	47.31078928	-93.32629574	5239753	475338
032	47.31195604	-93.32408812	5239882	475505
033	47.31169185	-93.32315538	5239852	475576
034	47.31161582	-93.32286704	5239843	475598
035	47.31155715	-93.32272690	5239837	475608
036	47.31122263	-93.32187194	5239799	475673
037	47.31097762	-93.32115789	5239772	475726
038	47.30988119	-93.32023278	5239650	475796
039	47.30939236	-93.32045507	5239596	475779
040	47.30894208	-93.31778141	5239545	475981
041	47.30985940	-93.31590763	5239646	476123
042	47.31005025	-93.31501412	5239667	476190
043	47.30947433	-93.31277976	5239602	476359
044	47.30954038	-93.31272963	5239610	476363
045	47.30944701	-93.31271639	5239599	476364

Curly Leaf Pondweed

Curly-leaf pondweed (*Potamogeton crispus*) is a submerged plant that is native to Europe and Asia. Curly-leaf pondweed (CLP) was introduced to Minnesota nearly a century ago and has spread to lakes throughout the State. Like many invasive plants CLP is a rapid-growing plant that can out-compete native plants under certain conditions. Curly-leaf pondweed often grows into large, dense mats that form on the surface of the water and make recreational use nearly impossible. Curly-leaf pondweed has also been associated with changes in nutrient dynamics in some lakes where it is thought to contribute to changes in phosphorus concentration. Like other invasive species CLP often out-competes native plants and as a result can cause damage to biological systems by altering habitat.

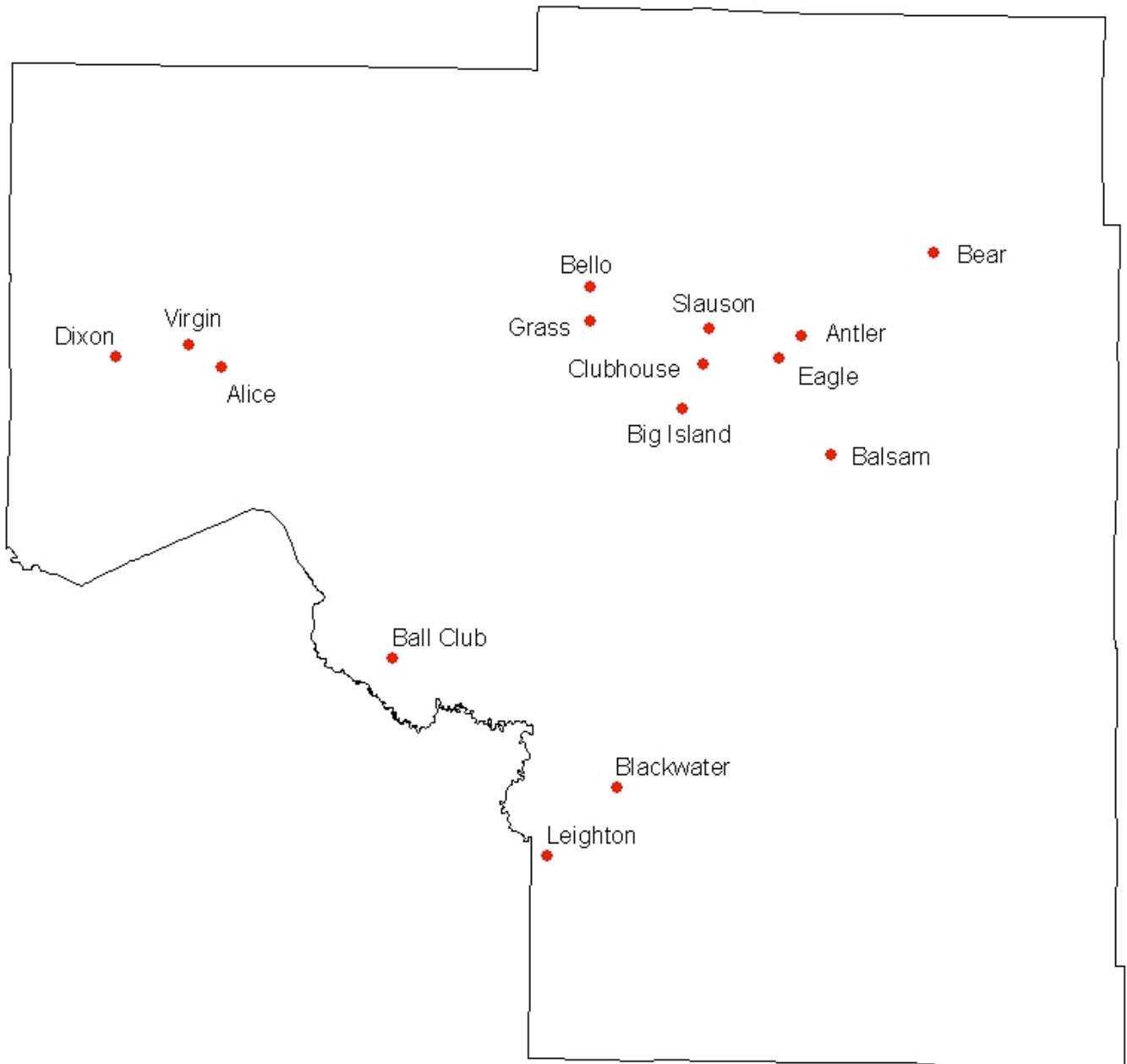
Curly-leaf pondweed has a life history pattern that is different than most native aquatic plants in Minnesota. Under normal conditions CLP plants sprout in the fall and grow during the winter when native vegetation has died back or achieved a senescent state. By the time the ice has left the lake in the spring CLP is often fully leafed and actively growing before native vegetation begins to grow. By mid-summer the CLP plants reach the peak of growth and then begin to die so that by the end of summer few CLP plants exist. This characteristic gives CLP an early competitive advantage over native plants for space, nutrients and sunlight. Another unusual characteristic of CLP is the way it reproduces. Just before the peak growth period mature CLP plants grow exaggerated stem tips that form hard seed-like turions. Turions drop to the sediment and sprout new plants when conditions are favorable. Turions can remain viable for many years.

There are 15 lakes in Itasca County that are known to contain curly-leaf pondweed. The table below lists those lakes and the map shows their location in Itasca County.

DOW_NUM	LAKENAME	X coordinate UTM	Y coordinate UTM
310156	Bear	478393	5282681
310349	Antler	466207	5275091
310259	Balsam	468930	5264215
310906	Virgin	410097	5274203
310671	Big Island	455256	5268402
310502	Slauson	457810	5275707
310454	Eagle	464161	5272976
310540	Clubhouse	457155	5272472
310874	Alice	413064	5272233
310812	Ball Club	428778	5245531
310726	Bello	446881	5279539
310727	Grass	446876	5276475
310739	Leighton	442924	5227309
310921	Dixon	403309	5273093
310561	Blackwater	449360	5233580

Management of problematic CLP populations is common in southern Minnesota but occurs in only two lakes in Itasca County, Dixon and Blackwater. Dixon Lake is part of the MN DNR invasive species program Pilot Project to Control Curly-leaf Pondweed and has received grant monies for two years to control CLP. These treatments will continue for at least 3 years or until the CLP population is reduced to specified levels. Blackwater Lake (Cohasset Hot Pond) has not received MN DNR grant monies and pays for treatments out of pocket via the Pokegama Lake Association. Both treatment programs have shown positive initial results.

Itasca County Curly-leaf pondweed



Legend

• Itasca_County_locations



Eurasian watermilfoil

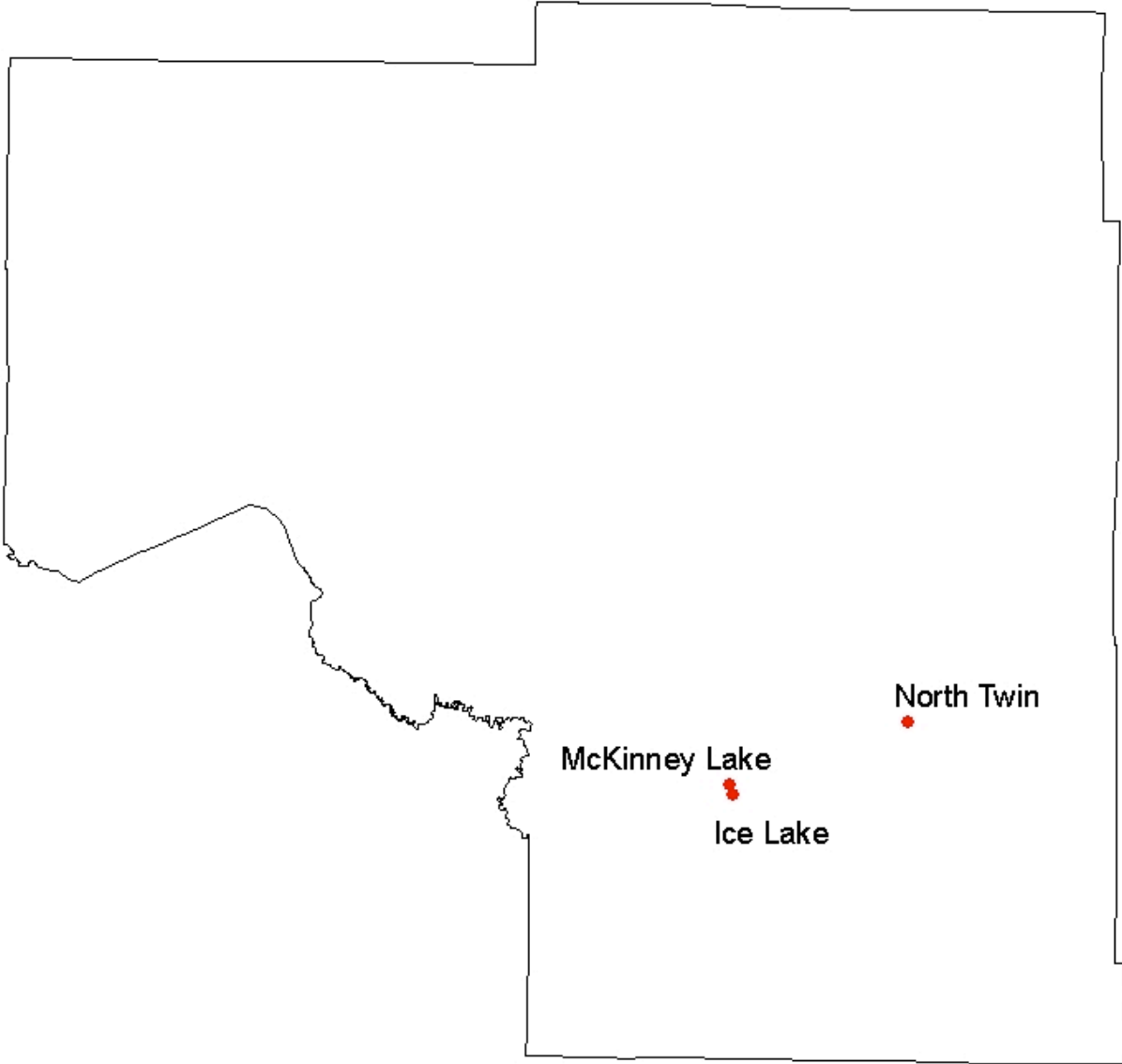
Eurasian watermilfoil (*Myriophyllum spicatum*) is an invasive, submerged, aquatic plant first discovered in Lake Minnetonka in 1987. Like curly-leaf pondweed, Eurasian watermilfoil is a fast-growing plant that often forms dense floating mats on the surface of the water and thick, dense stands under water. Eurasian watermilfoil can reduce recreational use of lakes and rivers and alter habitat under the right conditions. Since it was first discovered in Minnesota over 200 lakes have been infested with Eurasian watermilfoil. The spread of the plant has included Itasca County which has 3 lakes that support populations of Eurasian watermilfoil.

The three lakes in Itasca County that support a population of Eurasian watermilfoil (EWM) are listed below. All three lakes have had their EWM populations treated with herbicide. McKinney Lake was treated in the 1990's with a potent herbicide. The herbicide effectively killed all of the plants in the lake including EWM. Native plants returned shortly after treatments but unfortunately, the EWM eventually returned as well. A second application was applied to McKinney Lake in 2006. The lake is still being monitored by DNR staff and has thus far shown positive response to the treatment.

North Twin Lake has a small persistent population of EWM that grows in shallow water just to the north of the boat access and swimming beach. The population was discovered in the 1990's and has been treated with herbicide periodically over the years. The EWM has not spread beyond its original location. Efforts by local residents and Greenway Township board members to secure DNR grant monies have resulted in treatments for EWM in recent years. An application for grant money will occur again in 2010.

DOW_NUMBER	NAME	X coordinate utm	Y coordinate utm
31037000	McKinney Lake	459674	5233586
31037200	Ice Lake	460098	5232617
31019000	North Twin	476041	5239317

Itasca County Eurasian watermilfoil



Legend

• Itasca_County_locations

