

Purple Loosestrife Monitoring in Polk County



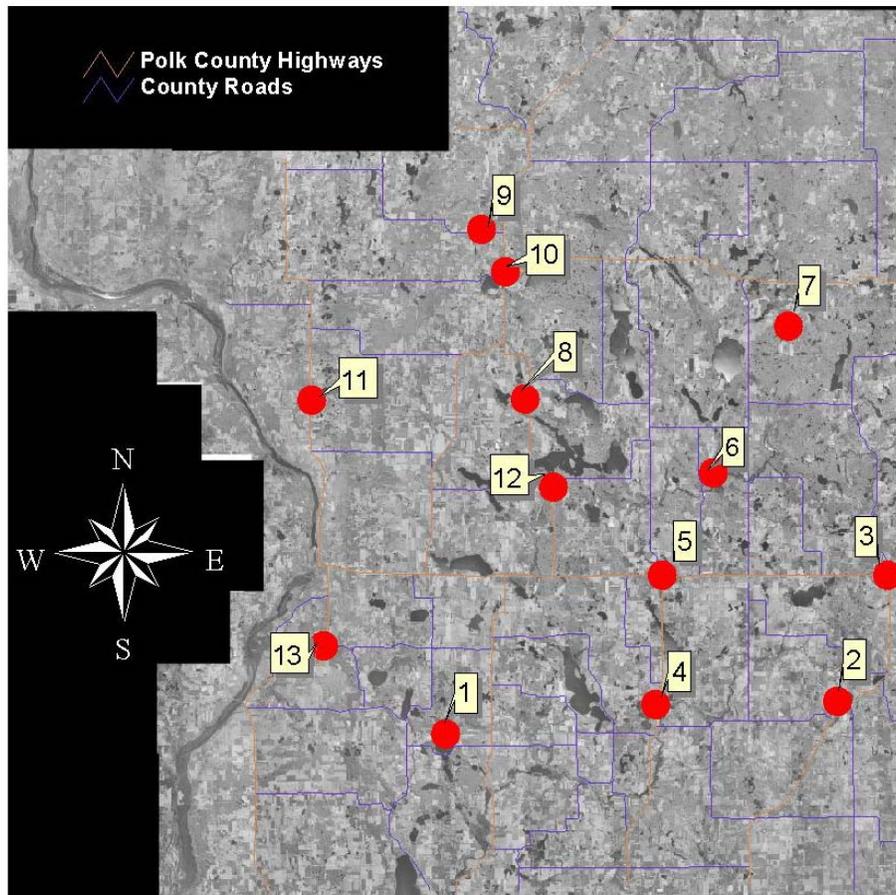
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Purple loosestrife has been present in Polk County for many years. An elaborate inventory was conducted in 2000 to understand its presence and try to reduce its spread. Sites were also prioritized for control of the infestations. Several sites were re-evaluated in 2005 to see if control had been effective and to re-attempt control measures.

Galerucella beetles were reared at two stations in 2005 to release at various sites. Density counts were conducted at sites that were known to previously have purple loosestrife.

There were 9 major problematic areas in the county according to the 2001 report. In 2005, there were also 9 known sites with purple loosestrife. We found 2 new purple loosestrife infestations. Three sites inventoried that were previously known to have purple loosestrife did not have loosestrife found. Four sites had no documented change. Further inspection is needed at three of the sites to determine the status of the infestation. Beetles were released at 4 infested sites. Chemicals were used for removal at 2 sites.

Purple Loosestrife Sites Inspected in 2005 Polk County, WI

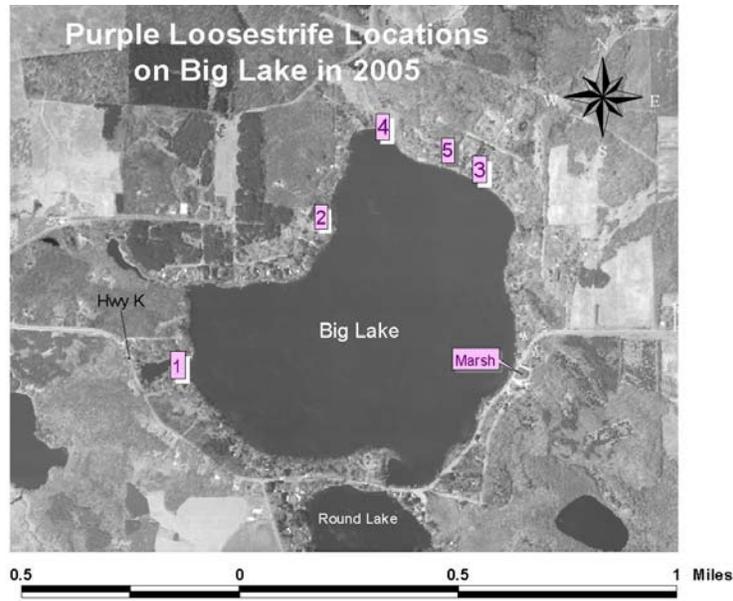


Description of Sites and Enumeration

Site 1 – Big Lake

Big Lake has several areas of infestation around the lake. The 2000 survey documented 7 different locations, with two locations (southeast and south) being removed because of successful biocontrol. Beetles were released in the north adjacent to the channel flowing through the marsh.

Areas of infestation on Big Lake include the west, south hook, east, and east at County K. On the west side of the lake (on the south end of the bay), four clumps of loosestrife were observed at Location 1. The stem density was 34 plants per square meter with herbivory at 20%. Ten beetles were seen at the west site although none were released in 2005. A few stalks were also observed on the north end of the bay.



Location 2 at the west end was not enumerated because the plant species needed to be determined. It did turn out to be purple loosestrife, but the stems were reddish with 3 whorled leaves.

Location 4 on the north end of the lake had several clumps of loosestrife. On the west side of the channel, 19 stems per square meter were counted with herbivory at 10% and 25%. The east side of the channel had 37 stems per square meter with herbivory estimated at 10-20%.

Location 5 had smaller clumps every 3 to 5 feet with 10-15% herbivory.

Location 3 on the east end had 7 stalks per square meter. One beetle was seen with 5% herbivory. The difficult-to-distinguish loosestrife was also present.

The south hook did not allow access because of the dense macrophytes, but purple was observed. Further observation is warranted. Purple loosestrife infestation was observed in the marsh south of Highway K in the southeast edge of the lake. This will be a release site for 2006.

Site 2 – Magnor Lake

Magnor Lake also has a volunteer who raised beetles. Work dates were arranged to cut and apply chemicals. The purple loosestrife is present in wetlands along the roadside. Three sites were evaluated. The sites were along the north end of the lake on Magnor Lake Lane, but the exact position is not known. Location 1 had a density of 10 stalks per square meter with minimal to moderate herbivory (10-25%). One beetle was found. Plants were flowering, but not as much as plants without herbivory. Several loner plants were found in the immediate area.

Location 2 (east of Location 1 by the telephone pole) had an average density of 6 stalks per square meter. Plants near the road had greater herbivory (50%) than plants towards the middle of the marsh (10%). No beetles were found, but bumblebees were pollinating the flowers. Several loner plants were in the immediate area.

Location 3 at the east corner of the marsh was a 30'x60' area of very healthy plants. The density is about 20+ stalks per square meter. Very little herbivory was present with tall, healthy flowers. Some plants were spreading to the nearby woods.



Site 3 – Highway intersection at Turtle Lake



New Site. Barron County Soil and Water Conservation Department has been active in removing purple loosestrife in the Turtle Lake area in Barron County. Many of their small ponds and wetland areas have been disturbed and grow loosestrife. Several

locations along the highway were found to have new establishments of purple loosestrife scattered along the ditches. These plants were removed and sprayed with Rodeo. Plants ranged from 1-20 stalks per plant. It was noted that on the east side of the fence along Hwy 63 [by the race car track] that plants were large and healthy with about 50+ stalks. No herbivory was noted. This will be a site for biocontrol in 2006.

Site 4 – Amery and Apple River

Several sites were listed in Amery and along the Apple River in the 2000 survey. However, addresses and descriptions were scarce. Lack of information did not allow us to return to these sites. Five sites were removed from the original list because of control. One site is listed as active, described as “north of the red house on the stumps”. This site was found in 2002 and treated with Rodeo. Volunteers are active along the Apple River with purple loosestrife removal. Careful inspection will be given to the Apple River in the summer of 2006.

Site 5 – Intersection of Hwy 8 and Hwy 46

New Site. A few plants were noticed during inspections, two plants with three stalks each. Plants were cut and sprayed with Rodeo. No other loosestrife was found in the area.

Site 6 – White Ash Lake Channel

This site was found in 2000 and beetles were released in 2003. Four locations were surveyed near the channel. Location 1 was on the east side of the channel half way up. Six stalks were in bloom with no herbivory. There were 14 stalks per square meter; no other loosestrife was visible in the immediate area. Beetles were released in 2005.



Location 2 was in the northern half of the south-part of the channel on the east side. Stem density was 36 stalks per square meter. Most of the stalks were in bloom with no herbivory. Smaller clumps of loosestrife were in the immediate area.

Location 3 was on the west side of the channel just before the 90-degree turn. Forty-plus stalks were found per square meter with no herbivory. Most stalks were in bloom with the surrounding area (25'x25') densely filled with loosestrife. Beetles were released in 2005.

Location 4 was just around the bend on the east side of the channel. The stem density was 12 stalks per square meter. Three to four stalks were in bloom with no herbivory. The area was a 20' by 10' section with scattered loosestrife.

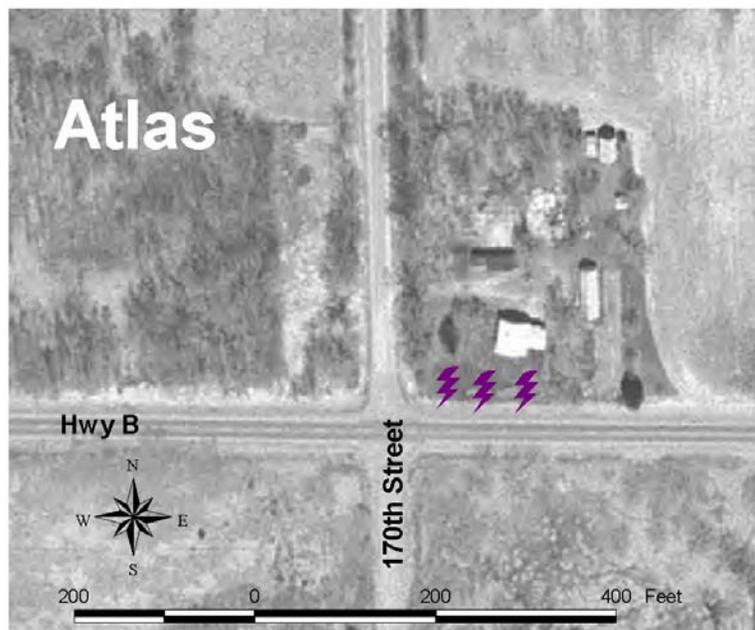
Site 7 – Johnstown Township, 233rd Ave

Two locations were initially found to have purple loosestrife in 2000, east in the wetland and west by the driveway. The east wetland location was removed from the active list in 2002, and no loosestrife was found in 2005. The West location was removed in 2003. No control method was used in 2005.

Site 8 – 5 Flags Golf Course, Balsam Lake

This site was found in 2002. The area of infestation was estimated at 1 sq meter in 2002. Rodeo was applied, and the site was removed in 2003. This site was not inspected in 2005.

Site 9 – Atlas, Hwy B and 170th St



This site on the north side of Hwy B was found in 2000, and the control method used has been Rodeo. NRCS staff cut and sprayed the length of the ditch in 2001. The

estimated area of infestation was 2532 sq meters in 2002. Hand cutting and Rodeo were used in 2004. The stem density was 11 stems per square meter in 2005. The infestation area stretches along the ditch about 125 feet. No other areas or ditches were found to contain loosestrife. A handful of beetles were released in 2005.

Site 10 - Luck, Hwy 35

This site was found in 2000, and beetles were released in 2001. Three permanent sites were established in the marsh. All three sites were checked and no purple loosestrife was found, only fireweed and swamp milkweed. Dave Blumer (DNR) also visited this site in spring to harvest rootstock for beetle larva, but with no success. Loosestrife seems to have been overrun. We will re-evaluate the site in 2006.

Site 11 - St. Croix Falls, 230th Street and 205th Ave

This site was found in 2000. Beetles were released in 2002. Boy scouts also made an attempt to cut and spray purple loosestrife from the site in 2000 or 2001. There is still a large amount of purple loosestrife present. On the east side of 230th Street on the north side of the dirt road, 3-4 smaller sized plants were found. On the south side of the dirt road, purple loosestrife was even dispersed along the pond. Plants were medium sized with 10-20 stalks per plant. Loosestrife was present in the emergent vegetation within the pond.

On the west side of 230th Street, purple loosestrife was thickly dispersed within the north half of the wetland. There was minimal herbivory, and the plants were flowering. Ten plants were sighted on the south side of the wetland, but more spaced out. The connecting pond had about 10 plants dispersed along the shoreline. Beetles should be released at this site in 2006.

Site 12 - Balsam Lake

Two sites were described in the original survey, west by the Highway Department and north of the bank in town. These sites were found in 2000 and removed by 2002 after control with Rodeo. No loosestrife was noted in these locations in 2005.

Site 13 - Dresser

Two sites are noted in Dresser with having purple loosestrife. One is located in a garden at 240th St and 100th Ave. This site was found in 2001. Rodeo was applied, but the site remains active. The second site in Dresser is the acreage north of Lotus Lake on the DNR state property. Biocontrol was used here in 2002. However, the area of infestation and density remains large, 4888 square meters with a density of 36 stems per square meter (2003 data). Purple loosestrife was noted at Lotus Lake on all sides of the lake in 2005, but the density was not enumerated. These two sites will be further investigated in 2006.

Future Control Measures

This inventory pinpointed areas to target for control in 2006. Beetles will again be reared and released as well as chemical control in less dense areas. Education will also be a component of purple loosestrife control. Education efforts in 2005 and 2006 include passing brochures to interested citizens, presenting identification information at lake association meetings and PCALR (Polk County Association of Lakes and Rivers) meetings, talking to residents we came in contact with while doing field surveys, and communicating with volunteers participating in purple loosestrife control. A display was exhibited at the 2005 Polk County Fair with live beetles being reared in netted purple loosestrife plants. Native look-alikes were highlighted as well as life history on the plant. This report will be posted on our website. We hope to make people aware of the danger of exotic species and to protect and enhance the biological integrity of our wetlands and roadways for years to come.

Preventing Further Spread

Prevention is the best way to stop the purple loosestrife invasion. The Department of Natural Resources recommends the following steps to prevent its further spread:

1. Be on the lookout for pioneering plants or isolated small colonies, especially in areas otherwise free of purple loosestrife. Remove pioneering plants immediately.
2. Rinse off equipment, boats and trailers, clothing, and footwear used in infested areas before moving into uninfested areas.
3. Remove and destroy purple loosestrife planted in lawns and gardens. It is illegal to cultivate purple loosestrife in Wisconsin.

Although purple loosestrife in gardens may seem harmless, its seeds eventually will spread to favorable moist soil or wash into nearby waters and wetlands. Some plant producers claim to have sterile varieties of purple loosestrife. Research has shown, however, that all cultivars are capable of producing seeds if they cross-pollinate with another loosestrife plant. And, plants don't have to be near each other for pollination to occur. Honeybees, the main pollinators of loosestrife, commonly travel one to two miles during their foraging.

As of 1987, state law bans the sale, offering for sale, distribution, planting, or cultivation of purple loosestrife. This ban covers both *Lythrum salicaria* and *L. virgatum*. There are no exceptions for cultivars, hybrids, or so-called sterile varieties. Sale violations of purple loosestrife should be reported to the Department of Agriculture, Trade and Consumer Protection at Bureau of Plant Industry, P.O. Box 8911, Madison, WI 53708-8911 or phone at (608)-224-4571. Cultivation violations should be reported to county or municipal law enforcement officials. Each violation is subject to a \$100 fine [sec. 66.955(2)(5)].

For further information, contact the Land and Water Resources Department or

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Though purple loosestrife will probably never disappear completely from Wisconsin or Polk County, we may be able to restore health to our wetland ecosystems efficiently by simply restoring some of the natural checks and balances necessary in maintaining a diverse, healthy environment.