



August 13, 2013

Ms. Magalie Roman Salas, Secretary  
Federal Energy Regulatory Commission  
Mail Code: DTCA, HL 21.3  
888 First Street, N.E.  
Washington, D.C. 20426

FERC Project No. 1981

Dear Secretary Salas:

As per the Order Issuing New License for the Stiles Hydroelectric Project (FERC Project No. 1981) dated February 26, 2003, Oconto Electric Cooperative (OEC) is enclosing documentation of the recently completed Exotic Species Control Plan for 2013, required in Article 407 of the License.

The Exotic Species Control Plan specifically addresses purple loosestrife (*Lythrum salicaria*.) A copy of the plan, which requires an annual survey of the Machickanee Flowage, is attached as Exhibit I. The purpose of the survey is to identify and quantify possible colonies of purple loosestrife. If colonies of 1-5 plants are found on OEC owned land, removal or treatment is required. If colonies are found on private land, OEC is responsible for contacting the property owners and encouraging the owners to remove and destroy the plants.

On July 30, 2013, Jan Stranz of OEC and Al Stranz (volunteer) conducted a survey by water of the shoreline of the Machickanee Flowage, including shoreline owned by OEC. The surveyors noted locations on a map and indicated the GPS coordinates for the plants they discovered. Their survey sheet is included as Exhibit II (a) and their map is Exhibit II (b). Letters were sent to the appropriate property owners, notifying them of the presence of purple loosestrife on their land. Included in the mailing was a brochure instructing them about proper removal of the plant. A copy of the letter sent to property owners is included as Exhibit III (a) and the brochure is Exhibit III (b). Results of the survey are sent to the Machickanee Advancement Association, Wisconsin DNR, U.S. Fish and Wildlife Service, and the FERC.

On July 29, 2013 I surveyed an area  $\frac{1}{4}$  mile downstream from the hydroelectric plant on the south side of the river and removed four purple loosestrife plants. Additionally, on August 13, I removed three purple loosestrife plants identified as site #1, owned by OEC, on the enclosed survey map.

If you have questions about this report, please contact me at (920) 846-2816.

Sincerely,

A handwritten signature in black ink that reads 'Kent Lyng'.

Kent Lyng  
VP Operations/Engineering

Enclosures: Exhibits

CC: Coordinator-FERC Projects, Wisconsin Department of Natural Resources  
U.S. Fish & Wildlife Service  
Judie Gowaski, President-Machickanee Advancement Association

## **Exotic Species Control Plan**

### **General Guidelines**

Oconto Electric Cooperative (OEC), along with appropriate local groups and resource agencies, will continually work to control/eliminate exotic species, such as purple loosestrife, Eurasian milfoil and zebra mussels, in the project area. The project area is defined as those lands owned by OEC and the shoreline observable from the flowage. Although OEC will be responsible for coordinating efforts to control and eliminate exotics occurring on its own property, it is limited to supplying information to neighboring property owners.

When exotics are classified and identified by local or state authorities, OEC will proceed with a plan to monitor the identified species. The plan elements include: 1) method of monitoring, 2) frequency of monitoring, 3) documentation of transmission of monitoring data to the Wisconsin Department of Natural Resources (WDNR), U. S. Fish & Wildlife Service (USFWS), and the Machickanee Flowage Advancement Association (MFAA), 4) procedures for obtaining technical assistance and input from the WDNR, or other appropriate agencies, and 5) specific information on how OEC will cooperate with the agencies to control/eliminate the exotic species.

Along with the plan, OEC will include documentation of consultation, copies of comments and recommendations on the completed plan after it has been provided to the agencies, and descriptions of how the agencies' comments are accommodated by the plan. OEC will allow thirty (30) days for the agencies to comment and make recommendations before filing the plan with the Federal Energy Regulatory Commission (FERC). If OEC does not adopt a recommendation, the filing will include OEC's reasons based on project-specific information.

Oconto Electric Cooperative will post signs at recreation facilities on its property describing identified exotic species and informing the public on the control of the species. OEC will distribute fact sheets provided by the WDNR, or other appropriate agencies, at the project.

### **Purple Loosestrife (*Lythrum salicaria*) Plan**

OEC shall, in consultation with the MFAA, the WDNR, and the USFWS, monitor purple loosestrife (*Lythrum salicaria*) in specified project areas. The project lands, reservoir area, and ¼ mile downstream from the project will be surveyed by OEC during peak flowering stage, being mid July/mid August of each year. OEC will estimate and map the amount of infestation of purple loosestrife.

If small colonies of purple loosestrife consisting of 1-5 plants are found on OEC-owned land, OEC will remove it and all of its roots, or cut and then spray it with an appropriate aquatic herbicide. Larger colonies will be removed after consultation with the resource agencies. If purple loosestrife is found on lands NOT owned by OEC, then OEC, in conjunction with the MFAA, will contact the property owner and encourage the owner to remove the plants.

Oconto Electric Cooperative will post signs at recreation facilities on its property describing purple loosestrife and informing the public on the control of this plant. OEC will distribute fact sheets provided by the WDNR, or other appropriate agencies, at the project.

After survey results are compiled and any remedial actions are taken, a report detailing such results and actions will be submitted by OEC to the MFAA, WDNR, and USFWS, with a copy to FERC by October 31 of each year.

### **Eurasian Milfoil**

There is no plan to monitor or map Eurasian milfoil in the Machickanee Flowage because of its prolific presence throughout the flowage. The MFAA, in cooperation with the WDNR and other groups, has been attempting for years to eradicate this exotic species. OEC agrees that Eurasian milfoil is undesirable. If any agency or group devises a cost-effective plan to control/eradicate this species, OEC will cooperate with that plan.

2:15pm - 4:30pm

Exhibit II (a)

**Purple Loosestrife Survey Data Sheet**

Time spent surveying: 2 hrs, 15 min Page 1 of 1

Survey date: 7/30/13	County: DeWitt	Name(s) of waterbody(ies): Machichiquae Flouage
Volunteer: Jan Stranz	Address: 10300 Electric Loop	Phone/e-mail: 920-846-3816
Volunteer: A1 Stranz	Address: 7011 Burdosh, Rd 54101	Phone/e-mail: 928-826-5360
Volunteer:	Address:	Phone/e-mail:

Site #	Number of plants			Acreage (1 acre = 1 football field)		Density of PL plants		Galernicella beetles		NOTES
	1-10	11-49	50+	Less than 1 acre	More than 1 acre	Sparse	Very dense	Leaf damage	Gal. beetles	
1	X			X			X	X		W side of river, N of Hwy 67 bridge. Saw marshed leaves, no beetles. 44.51.2611 88.03.17.22 44.51.22N 88.03.28W 44.51.22N 88.03.35W in clump of cattails 44.51.16N 88.03.43W low on shore 44.51.16N 88.03.44W at base of dock both sides 44.50.58N 88.04.58W in cattails near dock 44.51.17N 88.05.04W in cattails near shore 44.51.14N 88.05.44W at mouth of river 44.51.41N 88.03.31W 44.51.42N 88.03.29N 44.51.45N 88.03.31W 3 clump, not on dock
2	X									
3	X									
4	X									
5	X									
6	X									
7	X									
8	X									
9	X									
10	X									
11	X									

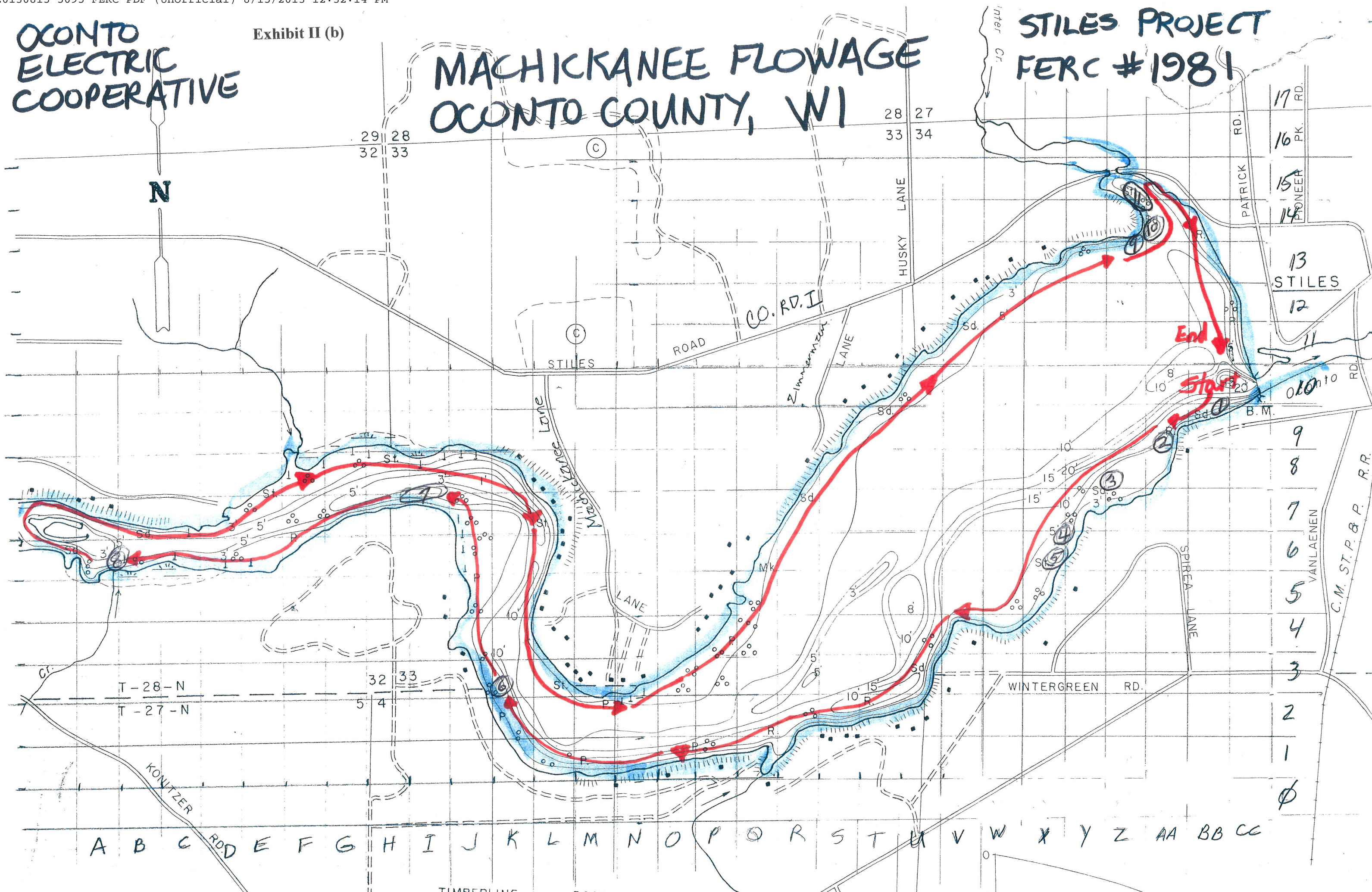
Mail this data sheet and your map to  
**WWA, Purple Loosestrife Survey Data, 222 South Hamilton Street, Suite 1, Madison, Wisconsin 53703**

# OCONTO ELECTRIC COOPERATIVE

Exhibit II (b)

# MACHICKANEE FLOWAGE OCONTO COUNTY, WI

# STILES PROJECT FERC # 1981



N

29 28  
32 33

28 27  
33 34

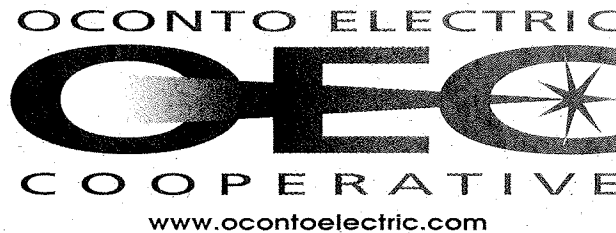
17 RD.  
16 PK.  
15 PIONEER  
14

13 STILES  
12

9  
8  
7  
6  
5  
4  
3  
2  
1  
0

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC

TIMBERLINE



August 13, 2013

Dear Machickanee Area Property Owner:

Oconto Electric Cooperative (OEC) annually conducts a survey by water of the shoreline of the Machickanee Flowage. The purpose of the survey is to monitor and track the occurrence of a non-native plant known as purple loosestrife. This survey is a requirement of OEC's 30-year operating license for the Stiles hydroelectric plant on the Machickanee Flowage and is part of a process to ensure that the environment around the hydro project is protected and enhanced for years to come.

Purple loosestrife, though beautiful to view, is an exotic, invasive plant species. Left unchecked, it will gradually overrun all native vegetation and will cause deficiencies in the ecosystem. It especially likes moist soil so it commonly is found near waterways and in roadside ditches. Wisconsin state law bans the sale, distribution or cultivation of purple loosestrife.

This year's survey of the Machickanee Flowage shoreline was conducted on July 30, 2013 by an OEC employee and a volunteer. During the survey, colonies of purple loosestrife were located and identified. The purpose of this letter is to notify you, the approximate landowner, that purple loosestrife was found on or near your property. We ask that you review the enclosed brochure describing purple loosestrife and the methods of controlling it. We encourage you to remove it according to information in the brochure. Control of purple loosestrife at this point is very important in reducing the plant's ability to spread. If you would like assistance in removing it, please contact Oconto Electric Cooperative for more details. Our contact information is listed below.

Thank you for your help in this very important effort to eliminate purple loosestrife and thus enhance a healthy plant environment around the Machickanee Flowage.

Sincerely,

Kent A. Lyng  
VP - Operations & Engineering

Enclosure

MANAGEMENT OF

INVASIVE PLANTS  
IN WISCONSIN

Brendon Panke and Mark Renz

**I**nvasive plants can thrive and aggressively spread beyond their natural range, disrupting ecosystems. The *Management of Invasive Plants in Wisconsin* series explains how to identify invasive plants and provides common management options. Management methods recommend specific timings for treatment, as well as expected effectiveness. For more information, go to: [fyi.uwex.edu/weedsci/category/invasive-plants-of-wisconsin](http://fyi.uwex.edu/weedsci/category/invasive-plants-of-wisconsin).

**UW**  
**Extension**  
Cooperative Extension

**NPM** 

A3924-22

# Purple loosestrife

## (*Lythrum salicaria*)

**P**urple loosestrife is an herbaceous perennial that grows 3–9' tall, with many sides (four or more) and stems that become semi-woody late in the growing season. Mature plants have multiple stems (30–50) originating from a woody crown.

### Legal classification in Wisconsin:

Restricted

**Leaves:** Opposite and occasionally alternate, pairs alternating at 90° angles along the stem. Leaves are 1–4" long, lance-shaped, have smooth edges, and are directly attached to the stem (sessile).

**Flowers:** Summer. Magenta-colored with 5–6 petals that are clustered like spikes at stem tips.

**Fruits and seeds:** Very small and borne in capsules that burst in middle to late summer. Bursting capsules progress upward from the bottom of the spike of flowers to the top.

**Roots:** Large, semi-woody taproot with extensive spreading roots forming mats below the soil surface. The root system of one plant can occupy an area up to 4.5' in diameter.

**Similar species:** Swamp loosestrife (*Decodon verticillatus*; native) can be distinguished by leaves that do not alternate at 90°, stems that arch and often root where the thickened portion of the stem (nodes) touch soil, and flowers clumped along the stem where leaves attach to the stem (axils). Winged loosestrife (*Lythrum alatum*; native) can be distinguished by its winged stem and paired flowers borne in scattered leaf axils. Fireweed (*Epilobium angustifolium*;



native), blue vervain (*Verbena hastata*; native), and blazing stars (*Liatris* sp.; native) can be distinguished from purple loosestrife by loosestrife's squared stalk, leaves borne in pairs, and flower spikes borne at stem tips.

### Ecological threat:

- Invades all types of wetlands where it can become the dominant vegetation.
- Alters wetland function, including decomposition rates and timing, water chemistry, and evapotranspiration rates.

## MANAGEMENT OF INVASIVE PLANTS IN WISCONSIN

## Non-chemical control

### Removal

**Effectiveness in season: 50–70%**  
**Season after treatment: < 50%**

Pulling and digging can be effective individual plant control techniques. Pull if soil conditions allow for the removal of all root tissue. This is easier with a first- or second-year plant since its root system is not extensive. Root fragments left behind can resprout. Bag all plant material and dispose of it in a landfill or burn it to avoid potential for root material or above-ground tissue to reroot.

### Mowing

**Effectiveness in season: 50–70%**  
**Season after treatment: < 50%**

Mowing or cutting in late summer after flowers have emerged, but before seeds are produced, will reduce the number of shoots and seeds produced, but provides unreliable levels of suppression. Mowing three times in a season, starting in late spring and repeating before flowers form on regrowth, will provide suppression for the entire season. Use a mower that bags cut material or rake and bag cut material after mowing and dispose of it in a landfill or burn it to avoid potential for above-ground tissue to resprout.



### Cultivation

**Effectiveness in season: 90–100%**  
**Season after treatment: 70–90%**

Cultivation, if repeated, can provide effective control since roots that resprout are located near the soil surface. Cultivate three times a season beginning in late spring. Cultivation, however, can spread root fragments into previously uninfested areas.

### Prescribed burning

**Effectiveness in season: 50–70%**  
**Season after treatment: < 50%**

Burns can kill germinating seedlings and suppress above-ground growth of established plants, depending on fire intensity. However, the habitats that loosestrife grows in are rarely conducive to fire. This makes it difficult to have a complete burn that significantly damages loosestrife populations. After the fire, established plants will likely be quick to resprout and reinvade areas; this management method is not recommended unless integrated with other techniques. A handheld propane torch can be effective for treating seedlings.

### Biological control

**Effectiveness in season: < 50%**  
**Season after treatment: < 50%**

The Wisconsin DNR, in cooperation with the U.S. Fish and Wildlife Service, has developed a biological control agent rearing and distribution program. This program focuses on two foliage-consuming beetles (*Galerucella* sp.). These beetles can reduce populations by > 90% within five years, although the level of reduction varies by site and year. Plant size and seed production are typically greatly reduced, but plants are rarely eliminated. Competition from taller native plants can be used to reduce loosestrife further and keep it controlled. Contact the Wisconsin DNR if you are interested in receiving more information about this biological control program.

### Manipulation of the environment

**Effectiveness in season: < 50%**  
**Season after treatment: < 50%**

Flooding can be effective at reducing purple loosestrife populations, especially if used in conjunction with cutting stems. Cut the stems of purple loosestrife so that the part of the plant that remains rooted is below water and remains submerged for at least 12 months. This is easiest in an area where the water level can be controlled.

### Chemical control

#### Foliar

Apply directly to individual plants or broadcast across an infested area. Broadcasted foliar applications are typically the most cost-effective treatment in dense infestations. Use lower rates on smaller plants and less dense populations and higher rates on larger plants and denser populations.

**aminopyralid\***

**Effectiveness in season: 70–90%**  
**Season after treatment: 70–90%**

**Common name:** Milestone

**Rate:**

**broadcast:** 5–7 fl oz/A  
 (0.08–0.1 lb a.e./A)

**spot:** Equivalent to broadcast rates.

**Timing:** Apply from early to middle flowering stage.

**Remarks:** 14 fl oz/A can be used as long as less than half of the area is treated. Depending on the volume of solution applied per acre, typical mixtures for spot treatments are 2–8 mL Milestone per gallon of water.

**Caution:** Do not apply directly to water or to areas where surface water is present. Remains in soil for up to one year, depending on application rate. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants. Do not compost treated plants since herbicide can persist through composting process.

**glyphosate\***

**Effectiveness in season: 70–90%**  
**Season after treatment: 50–70%**

**Common name:** Rodeo

**Rate:**

**broadcast:** 2–3 lb a.e./A

**spot:** For a 3 lb a.e./gal product, 1–1.5%  
 (0.03–0.05 lb a.e./gal)

**Timing:** Apply during early flowering stage or to regrowth in the fall. Fall treatments are the most effective, but must be made before a killing frost.

**Caution:** Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground since glyphosate is not selective. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants.

**imazapyr\***

**Effectiveness in season: 90–100%**  
**Season after treatment: 70–90%**

**Common name:** Habitat

**Rate:**

**broadcast:** 8–16 fl oz/A  
 (0.13–0.25 lb a.e./A)

**spot:** 0.5–1% (0.01–0.02 lb a.e./gal)

**Timing:** Apply during bud to middle flowering stage.

**Caution:** Use product labeled for aquatic use if potential exists for solution to contact surface waters. Applications can result in bare ground since imazapyr is not selective and can remain in the soil for several months to more than a year, depending on application rate. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants.

**metsulfuron\***

**Effectiveness in season: 70–90%**  
**Season after treatment: 70–90%**

**Common name:** Escort

**Rate:**

**broadcast:** 0.5–1 oz/A (0.3–0.6 oz a.i./A)

**spot:** 0.04 oz/gal (0.02 oz a.i./gal)

**Timing:** Apply when target species is actively growing and fully leafed out.

**Caution:** Do not apply directly to water or to areas where surface water is present. Remains in the soil for months, depending on application rate. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants.

**triclopyr\***

**Effectiveness in season: 50–70%**  
**Season after treatment: < 50%**

**Common name:** Garlon 3A

**Rate:**

**broadcast:** 192–256 fl oz/A  
 (4.5–6 lb a.e./A)

**spot:** 1–2% (0.03–0.06 lb a.e./gal)

**Timing:** Apply during the bud to middle flowering stage.

**Caution:** Use product labeled for aquatic use if potential exists for solution to contact surface waters. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Overspray or drift to desirable plants should be avoided since even minute quantities of the spray may cause severe injury to plants.



\*Active ingredient (a.i.)



## MANAGEMENT OF INVASIVE PLANTS IN WISCONSIN PURPLE LOOSESTRIFE



Herbicide information is based on label rates and reports by researchers and land managers. Products known to provide effective control or in common use are included. Those that do not provide sufficient control or lack information for effectiveness on target species have been omitted.

References to pesticide products in this publication are for your convenience and not an endorsement of one product instead of a similar product. You are responsible for using pesticides in accordance with the label directions. *Read the label before any application.*

**UW**  
**Extension**  
Cooperative Extension

This series of fact sheets was created in cooperation with University of Wisconsin-Extension Team Horticulture.

This material is based upon work supported by the Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture, under Award No. 2009-45060-06000.

**Copyright** © 2013 by the Board of Regents of the University of Wisconsin System doing business as the division of Cooperative Extension of the University of Wisconsin-Extension. All rights reserved. Send copyright inquiries to: Cooperative Extension Publishing, 432 N. Lake St., Rm. 227, Madison, WI 53706, pubs@uwex.edu.

**Authors:** Brendon Panke is an associate research specialist and Mark Renz is an assistant professor of agronomy, College of Agricultural and Life Sciences, University of Wisconsin-Madison, and Cooperative Extension, University of Wisconsin-Extension. Cooperative Extension publications are subject to peer review.

**University of Wisconsin-Extension, Cooperative Extension**, in cooperation with the U.S. Department of Agriculture and Wisconsin counties, publishes this information to further the purpose of the May 8 and June 30, 1914, Acts of Congress. An EEO/AA employer, the University of Wisconsin-Extension, Cooperative Extension provides equal opportunities in employment and programming, including Title IX and ADA requirements. If you need this information in an alternative format, contact Equal Opportunity and Diversity Programs, University of Wisconsin-Extension, 432 N. Lake St., Rm. 501, Madison, WI 53706, diversity@uwex.edu, phone: (608) 262-0277, fax: (608) 262-8404, TTY: 711 Wisconsin Relay.

**This publication is available** from your county UW-Extension office ([www.uwex.edu/ces/cty](http://www.uwex.edu/ces/cty)) or from Cooperative Extension Publishing. To order, call toll-free: 1-877-947-7827 (WIS-PUBS) or visit our website: [learningstore.uwex.edu](http://learningstore.uwex.edu).

**Management of invasive plants in Wisconsin: Purple loosestrife (A3924-22)**

I-3-13

Document Content(s)

2013 purple loosestrife ltr to FERC.PDF.....1-1  
2013 Purple loosestrife Ex 1.PDF.....2-2  
2013 Purple loosestrife Ex 2.PDF.....3-4  
2013 Purple loosestrife Ex 3.PDF.....5-9