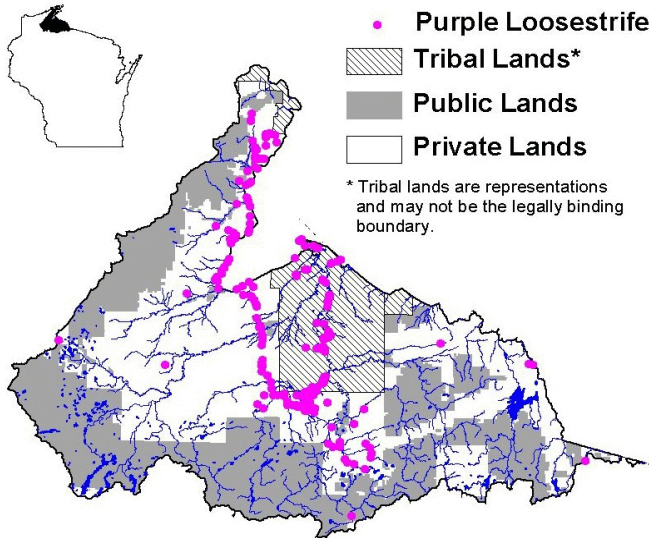




GLIFWC Multi-Agency Land and Water Education Grant: Program To Promote Purple Loosestrife Control

Focus Watershed



INTRODUCTION

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) is an organization exercising delegated authority from 11 federally recognized tribes in Minnesota, Wisconsin, and Michigan. These tribes retain hunting, fishing, and gathering rights in the territories ceded to the United States through various treaties. The exercise of these rights may be threatened by the degradation of native ecosystems by invasive non-native plants.

Purple loosestrife (*Lythrum salicaria*) is a perennial plant native to Europe. It arrived in eastern North America in the early 1800's via plants brought by settlers and seeds carried within livestock and the ballast holds of ships. In North America, purple loosestrife quickly spread westward displacing native wetland plant communities. It's current distribution covers much of the U.S. and Canada.

Purple loosestrife threatens the integrity of wetland habitats by out-competing native vegetation. The herbivores and pathogens that control loosestrife populations in European wetlands are absent in North America. This lack of natural controls combined with prolific seed production gives purple loosestrife a

substantial advantage over native vegetation. Diverse wetland plant communities can quickly be displaced by monotypic stands of purple loosestrife. The protection and restoration of wetland habitats are dependent on the effective control of purple loosestrife.

Recognizing the threat posed to local wetlands by purple loosestrife, GLIFWC staff initiated local control efforts in 1988 at Fish Creek Sloughs

near Ashland, Wisconsin. This program has grown to include the entire Bad River-Chequamegon Bay watershed and control efforts are coordinated with those of state, federal, and tribal resource agencies. While early efforts focused on public lands, subsequent inventories revealed significant populations of purple loosestrife on private lands within the watershed that would serve as source populations if left untreated.

Early attempts to assist private landowners with loosestrife control revealed that many were unaware of the negative ecological impacts posed by the attractive purple flowers growing in their ditches and wet meadows. To address this problem, GLIFWC undertook a program to develop and distribute educational materials that emphasize identification, ecological impacts, and control options for purple loosestrife.

OBJECTIVES

- (publish & distribute 10,000 copies of an informational brochure on purple loosestrife
- (publish & distribute 3,000 purple loosestrife locator cards to supplement distribution data

- (develop presentation materials on purple loosestrife ecology, impacts, and control options
- (compile distribution data from returned locator cards into GLIFWC's GIS database
- (publish & distribute 8,000 purple loosestrife control fact sheets
- (develop and publish an educational web page about purple loosestrife
- (encourage community involvement in loosestrife control via an "Adopt-A-Wetland" program
- (provide educational workshops for groups interested in purple loosestrife control
- (sponsor a purple loosestrife control conference at Lac Courte Oreilles community college for tribal conservation staff

ACCOMPLISHMENTS

- U** distributed over 6,000 purple loosestrife brochures
- U** developed and distributed over 7,000 loosestrife locator cards
- U** developed and distributed over 59,000 *Plants Out Of Place* brochures
- U** developed and distributed a purple loosestrife slide and poster presentation
- U** compiled data from 30 returned loosestrife locator cards
- U** developed and published a web site devoted to non-native invasive plant education (www.glifwc.org/epicenter)
- U** initiated a local "beetle cooperator program" to involve communities in local biological control efforts aimed at purple loosestrife control

U provided presentations and technical assistance to groups seeking help with loosestrife control

U coordinated and moderated a session on non-native invasive plant management at the Great Lakes Regional meeting of the Native American Fish & Wildlife Society meeting at the Lac Courte Oreilles lodge and casino

PROGRAM OVERVIEW

A suite of educational materials were developed or purchased to reach a broad range of audiences. This material includes brochures, hand outs, slide and poster presentations, videos, games, and a comprehensive web site. GLIFWC distributes educational materials to the public primarily via cooperating state, federal, county, and tribal resource management agencies throughout the upper Great Lakes region. Additional outreach is provided via the *Exotic Plant Information Center* web site (www.glifwc.org/epicenter), newspaper articles, and presentations at local events.

PRODUCTS AND ACTIVITIES

Brochures

- *Purple Loosestrife: What You Should Know, What You Can Do* Developed by the Ontario Federation of Anglers and Hunters, GLIFWC purchased 10,000 copies of the existing brochure and added the GLIFWC logo and contact information to the back panel. This brochure includes information on natural history, identification, ecological impacts, and control options for purple loosestrife.
- *Plants Out Of Place* NRCS EQIP funds were used to leverage additional contributions, as well as editorial assistance from several county, state, federal, and tribal agencies, non-government organizations, and private companies. *Plants Out Of Place* provides general information on the ecological, social, and economic impacts of invasive non-native plants in general and how they spread across the landscape. The

reverse side highlights several invasive plants of concern (including purple loosestrife) in the upper Great Lakes and provides suggestions for slowing their spread and contacts for more information. *Plants Out Of Place* received a warm welcome from resource professionals working to spread the word about exotic plants. A second printing is planned for summer 2001.

Locator Card Insert

GLIFWC developed a business reply postcard as an insert to the purple loosestrife brochure for the purpose of soliciting additional distribution and abundance data. The postcard provides a picture to aid with identification and a set of attributes to fill out describing the location and abundance of purple loosestrife populations. Thirty postcards have been returned and added to GLIFWC's GIS database for purple loosestrife.

Hand Outs

Four handouts were developed to target specific audiences at local events about exotic plant issues:

- *What is Growing in Your Garden?* identifies 35 alternative names for purple loosestrife cultivars and includes a summary of Wisconsin's statute outlawing possession, cultivation, and sale of purple loosestrife.
- *Newest Weeds on the Block: Exotic Plants in the Upper Midwest* provides general information on emerging problem species, internet resources, and brief summaries on select species.
- *Not in MY Garden* provides a general introduction to exotic plants, directed towards hobby gardeners, and includes a list of invasive exotic plants commonly planted for gardening and landscape purposes.
- *The Biological Solution* describes biological control

techniques and provides information on GLIFWC's "Beetle Cooperator Program" to encourage community-based participation in local loosestrife control efforts.

Slide Show and Poster Presentation

A slide presentation titled *What You Should Know About Purple Loosestrife* was developed to inform a general audience about the identification, natural history, ecological impacts, and control of purple loosestrife. Ten copies of the slide show were distributed to cooperating agencies and an online version was published on the EPICenter web site. A poster presentation about purple loosestrife was developed for use at county fairs, visitor centers, and similar events using much of the same information and photographs.

Videos

Two videos were purchased from Cornell University for use in training control crews, biological control workshops, and as "loaners" for individuals or agencies interested in pursuing biological control of purple loosestrife.

- *Restoring The Balance: Biological Control of Purple Loosestrife* describes the origins and ecological impacts of purple loosestrife in North America, historical control efforts, and general information on biological control techniques.



- *Rearing of Biological Control Agents for Purple Loosestrife* provides detailed instructions for rearing biological control agents, the materials required, and release guidelines for successful control.

Games

Three youth activities were developed in response to a request from the Ashland County 4-H Board and implemented at the 1999, Ashland County Fair.

- *The Wetland Web* is an interactive game that teaches how organisms within a wetland community are interconnected, and how purple loosestrife impacts each of them.
- *The Wetland Invasion Game* is designed to teach how purple loosestrife displaces native plants and animals in a wetland system.
- *Biodiversity Bags* is a simple activity for all ages designed to teach how purple loosestrife displaces native plants and animals in a wetland community.

Web Site

A comprehensive web site devoted to purple loosestrife was initially published on GLIFWC's web site in June, 1999 (www.glifwc.org/epicenter). The web site continues to be improved as additional non-native invasive plants are added to the site. Using the initial loosestrife page as a template, each species account will be organized into 7 basic sections that provide information for a broad range of knowledge levels:

- Species Accounts:
 - Identification
 - Natural History
 - Distribution
 - Impacts
 - Control
 - Photos
 - Links
- Internet Map Server
 - Purple Loosestrife Distribution
- Bibliographic References
- Slide Library
- Educational Resources
- Internet Resources
- Funding Resources

GLIFWC's internet map server compiles distribution and control data into a regional GIS database and makes it available via the internet (www.glifwc-maps.org). The interactive mapping application facilitates regional coordination of purple loosestrife control efforts between state, federal, and tribal staff, as well as the local efforts of volunteers, lake associations, and private landowners. The internet map site assists land managers and volunteers in their loosestrife control efforts by identifying the known distribution of purple loosestrife, existing biological control sites, and suitable sites for future releases of biological controls.

Newspaper Articles

Several articles have been published to raise awareness of purple loosestrife and other exotic plant issues in local newspapers as well as GLIFWC's *Masinaigan* newsletter. Media coverage has included general information on purple loosestrife, biological control, announcements for educational programs and workshops, and notification of GLIFWC control crew activities.

Outreach

Over 900 people attended slide presentations, workshops, and educational booths in Ashland and Bayfield counties. Most of the presentations consisted of the slide show *What You Should Know About Purple Loosestrife* followed by a 15 minute discussion period. A purple loosestrife display was also set up at many of the engagements and purple loosestrife brochures were made available for participants to take with them. A biological control workshop was conducted in Ashland, however, sunny weekend weather limited attendance to 2 individuals. Educational activities for children on the impact of purple loosestrife were designed and implemented for the Ashland County Fair at the request of the Ashland County 4-H Board.

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*** PURPLE LOOSESTRIFE ***

Invasive purple loosestrife threatens wetlands GLIFWC website used in loosestrife control effort

By Miles Falek
GLIFWC Wildlife Biologist

Oshkosh, Wis.—Purple loosestrife is a perennial herb native to Europe that has become established in many North American wetlands. Purple loosestrife can be identified by its large purple flowering spike which blooms from mid-July through mid-September.

Loosestrife reproduces primarily from seed, but mature plants will also develop from adventitious roots and root fragments. Most soils exposed to direct sunlight provide the best germination sites for the water-shed root of purple loosestrife.

Within its native European range, purple loosestrife comprises a minor component of wetland communities. In contrast, North American loosestrife populations are invasive, and once established, can quickly form dense stands that displace native plant species.

Researchers have hypothesized that purple loosestrife is so successful in North America because: 1) the plant is a natural enemy of native plants; 2) it has no natural predators; and 3) it can tolerate a wide range of environmental conditions.

The GLIFWC website (www.glifwc.org/epicenter) provides information on purple loosestrife, biological control, and educational programs and workshops. The website also provides information on the GLIFWC control crew activities.

Towards this end, GLIFWC is disseminating information, reporting purple loosestrife control efforts. The web site can be viewed at www.glifwc.org/epicenter.

In the future, GLIFWC will be updating this website to include information on additional species that are being controlled.

COORDINATION

Professional Conferences

GLIFWC staff were invited to several professional conferences over the course of this grant to share knowledge and expertise with other conservation agency staff:

- *Noxious Weed Workshop* - Hiawatha National Forest
- *Building On Leopold's Legacy* - Wis. Acad. Arts & Letters
- *Great Lakes Nonindigenous Invasive Species Workshop* - EPA, Great Lakes Commission
- *Managing Non-native Invasive Plants* - Native American Fish & Wildlife Society
- *Plants Out Of Place* - Invasive Plant Assoc. of Wisconsin

Attendance at these conferences has contributed significantly to effective multi-agency collaboration on raising public awareness of exotic plant issues.

Northwoods Weed Initiative

An ad hoc forum called the "Northwoods Weed Initiative" (NWI) has met regularly since the fall of 1998 to share information, coordinate activities, and discuss future collaborations to address the threats of invasive non-native plants in northern Wisconsin and Michigan. Participants include:

- Chequamegon-Nicolet National Forest

- GLIFWC
- Lac Courte Oreilles Band
- Natural Resources Conservation Service
- Ottawa National Forest
- PRI-RU-TA RC & D
- The Nature Conservancy
- WI DNR

NWI recognizes the inherent problems associated with managing invasive exotic plants (i.e. labor intensive, cross jurisdictional boundaries, etc.) and strives to address these obstacles by working together in a coordinated manner. A recent accomplishment of this effort was the publication of the brochure/poster *Plants Out Of Place*.

PROGRAM IMPACTS

The implementation of GLIFWC's multi-agency land and water education grant program to promote purple loosestrife control has far exceeded initial expectations thanks in part to President Clinton's 1999 Executive Order on Invasive Species. The Executive Order helped to focus attention on this important issue at a time when resources for this rapidly emerging conservation dilemma were scarce. With the help of NRCS EQIP funds, GLIFWC was able to respond to the increased demand for educational materials on invasive non-native plants threatening natural habitats within the Upper Great Lakes region.

The slide presentation *What You Should Know About Purple Loosestrife* proved to be an effective educational tool. In general, most audiences initially had little knowledge of invasive non-native plants. Most participants were able to recognize

The "Plants Out Of Place" posters are extremely popular at the Forest Service field offices. Our customers find them very helpful for identifying weeds that they may have on their properties or in natural areas where they recreate. Having a prepared purple loosestrife slide show makes it much easier for me to accept invitations to give public talks on the species, since all the preparation work - including the research - has been done. In this way I am able to reach more people.

**Mariquita Sheehan, Plant Ecologist
Chequamegon-Nicolet National Forest**

Wisconsin's Adopt-A-Lake program encourages youth and adults to learn and work together on Wisconsin's 15,051 inland lakes. There are many issues that threaten a healthy and productive lake, but one of the top issues are aquatic exotics. The Adopt-A-Lake program greatly benefited from the material, technical support and personnel supported with NRCS EQIP funds. As the Adopt-A-Lake coordinator, I am very fortunate to be a recipient of the outstanding products that were designed and distributed through GLIFWC.

**Laura Felda, Adopt-A-Lake Coordinator
Wisconsin Lakes Partnership**

purple loosestrife as a familiar roadside or garden flower, however few attendees were able to name it correctly or identify it as an invasive exotic. When informed of the invasive nature of many exotic plants and their impacts on native ecosystems, participants were generally enthusiastic to learn and help out wherever possible.

Presentations were typically followed by several relevant questions. Citizens were especially interested in non-chemical control options for purple loosestrife and were eager to learn more details about the use of *Galerucella* beetles for biological control. Attendees were also eager to share what they had learned, often taking extra brochures to pass on to friends and neighbors.

Purple loosestrife is still commonly found in flower gardens throughout northern Wisconsin and Michigan. An attempt was made to raise awareness within the gardening community, however, only a small portion was reached. After learning how loosestrife threatens native wetland communities, most gardeners seemed willing to cease growing the plant and to encourage neighbors and friends to do likewise. Many people simply were not familiar with the threats purple loosestrife poses, or were unaware that plants growing in their yards could escape from cultivation to the detriment of nearby native plant communities.

The success and recognition of GLIFWC's educational program is also indicated by:

- increased requests for technical assistance to control loosestrife on private lands
- increased requests for educational materials
- referrals from cooperating agencies
- over 3,100 web site visits
- featured in the nationally televised production of "Plants Out Of Place", an educational program documenting the impacts of exotic plants across the U.S.

REMAINING NEEDS

Human activities are responsible for the vast majority of new introductions of invasive non-native plants. Unfortunately, the general public is largely unaware of the negative ecological impacts caused by invasive weeds and the role humans play in their spread. Purple loosestrife is just one species among scores of invasive non-native plants that degrade native habitats. Educational materials for other problem species are needed to raise awareness of their impacts. This is especially true for unregulated invasive species that continue to be sold and cultivated for gardening and landscaping purposes. An intensive effort to target the gardening community about the ecological impacts of several popular species could substantially influence the composition of wild plant and animal communities in the future.

Landowner Participation in GLIFWC's Purple Loosestrife Control Program

