Final Report

Gilmore Lake Education and Monitoring Project

Project AEPP-076-07

Submitted to the
Wisconsin Department of Natural Resources

By the

Gilmore Lake Association
P.O. Box 188
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Introduction

Gilmore Lake, a 389-acre groundwater drainage lake in northwestern Washburn County, is at risk of invasion by Eurasian Watermilfoil (EWM) as two nearby waters, Nancy Lake and the Minong Flowage, are heavily infested, and boaters frequently trailer their craft among area lakes. Gilmore Lake receives heavy recreational use from its lakeshore residents as well as visitors.

In recognition of the ecological, recreational, and economic threats posed by EWM, the Gilmore Lake Association (GLA) applied for and received a Wisconsin Department of Natural Resources (WDNR) Aquatic Invasive Species Education, Planning, and Prevention grant for the period April1-December 31, 2007. The grant was matched 50% in money and donations by the GLA. The objectives of this project were:

1. Education: To inform lake users of the threat posed by EWM and teach them procedures to prevent its introduction.
2. Boat Inspection: To prevent the introduction of EWM by boaters using the public landing.
3. Lake Monitoring: To thoroughly survey Gilmore Lake to enable the detection and control of any pre-existing colonies of EWM.

This report details the methods and results pertaining to these objectives. Because EWM is a continuing peril, the report concludes with recommendations and plans for future work pursuant to these objectives.

Education

Education of all lake users is the single best tool to prevent an EWM invasion. The boat inspection program has a strong educational component, but other educational efforts are required. To that end, The GLA's Milfoil Committee (Bill Doeden, Burt King, John Ney, Russ Robinson and Ron Tracy) undertook several actions as described in the project application. These include:

1. Mailings: An informational letter package was mailed to 147 Gilmore Lake property owners in late March, 2007. The package included a letter with solicitation for contributions of money and volunteer time (Attachment A) as well as the brochure, *The Facts on Eurasian Water-Milfoil.* The mailing produced 76 responses, with 17 individuals volunteering time and 63 providing a cash contribution. The total money contributed stands at $3,790. These funds will be dedicated to the EWM program, particularly to establish a cash reserve for control of EWM should it be detected in Gilmore Lake.

In addition, the Spring and Fall 2007 GLA newsletter contained articles about EWM and this project (Attachments B and C). Membership in the Gilmore Lake Association increased 27% in 2007.

2. Workshop: An EWM identification and boat inspection workshop was held in conjunction with the annual meeting of the Gilmore Lake Association June 23, 2007. Pamela Toshner, WDNR Northwest Regional Lake Management Coordinator, presented an overview of EWM biology, ecological impacts, and controls. Pam also trained the 45 attendees in EWM identification, using both illustrations and fresh material. Attendees were also informed of how to take samples of suspected EWM and bring them to the Milfoil Committee for initial confirmation.

Russ Robinson and John Ney then conducted a demonstration inspection of a weed-infested boat using CB/CW procedures. Twelve individuals signed up as potential volunteer inspectors.

3. Kiosk: An informational kiosk was constructed by Russ Robinson and Burt King and installed at the public boat landing in late April. The kiosk (Figure 1) is intended to supplement the AIS/EWM warning signs provided by the WDNR. It includes a two-sided 4'x4' board posted with boat inspection procedures, photos of local EWM infestations, and a contour map of Gilmore Lake highlighting areas of potential infestation. The kiosk was stocked as well with brochures about AIS in general and EWM in particular. The kiosk proved to be a source of interest to many landing users, particularly while waiting for their boats to be trailered into or out of the lake (personal observation).

Boat Inspection

Methods

GLA's Milfoil Committee members attended several WDNR-sponsored workshops to learn boat inspection procedures and EWM sampling and identification techniques so that they could train both paid and volunteer inspectors. These were:

Name	Workshop	Date	Location	Registration	Mileage
Ron Tracy	CB/CW	4/14/07	Wild Rose	$25	450
Russ Robinson & Burt King	CB/CW	4/21/07	Spooner	25	50
Russ Robinson, Burt King, John Ney	AIS	6/21/07	Cable	30	92

In addition, John Ney, along with two newly hired inspectors, attended a CB/CW boat inspection demonstration conducted by the Town of Barnes May 4, 2007.

Boat inspectors were hired via ads placed in the *Northwoods Shopper* and paid $8/hr. Two individuals, James Hoyt and Kathryn Moravitz, were employed for weekend boat inspections, with Hoyt conducting all paid inspections after mid-June. A third person (Frank Megrey) worked as a paid inspector for a total of 8 hours in June. The weekend inspection schedule included five 4-hour periods: Friday p.m., and Saturday and Sunday, both a.m. and p.m. for a total of 20 hours per weekend. Hours were adjusted in the

attempt to coincide with peak usage periods; however, this resulted in a mid-day gap in coverage Saturdays and Sundays. Paid inspectors worked weekends and holidays from early May through Labor Day (Table 1).

Volunteer inspectors were used to supplement paid inspectors during the extended July 4 and Labor Day holiday periods. Nine volunteers worked a total of 41 hours as boat inspectors (Table 1). Both volunteer and paid inspectors were trained by John Ney . The performance of boat inspectors was monitored on a daily basis by one or more members of the Milfoil Committee.

All inspectors followed a consistent and rigorous procedure of inspection and communication as detailed in CB/CW instructions. They distributed AIS informational materials provided in CB/CW kits and recorded data on the WDNR Watercraft Daily Work Diary form.

Results

Daily diary worksheets were entered into the Aquatic Invasive Species section of the Surface Water Integrated Monitoring System (SWIMS) database and are not included in this report in lieu of summary statistics. A total of 557 boat inspections were conducted involving 1,191 boaters at the Gilmore Lake public landing in 409 hours of contact inspection time (Table 2). Fishing boats comprised more than three-quarters of all watercraft inspected. Inspectors found vegetation on only 9 boats entering the lake; none of that vegetation was EWM. The majority of boaters claimed prior knowledge about EWM.No boaters refused inspection.

The weekend pattern of boat traffic was not surprising over the spring-summer inspection period, with peak activity on holiday weekends (Figure 2). However, the daily pattern of inspections indicated that the mid-day period (10a.m.-2p.m) warranted inspection effort in the future (Figure 3).

Lake Monitoring

Monitoring for EWM was conducted by boat one day per month, May through September around the shallow perimeter of the lake and in offshore waters <15' deep.
The two-person crew received EWM identification and sampling training at workshops listed above and followed *Aquatic Invasive Species Monitoring Procedures* (Laura Herman, Citizens Lake Monitoring Program 2006). Survey of the nearshore area was done by visual inspection of littoral vegetation as the boat moved at low speed. Offshore monitoring of vegetated areas was performed at 30 stations using a two-headed rake attached to a rope. Stations were chosen for their potential to host EWM and were distributed throughout the lake (Figure 4). The rake was thrown 2-3 times per station per trip. Retrieved vegetation was visually inspected for the presence of EWM.

No EWM was found during the 2007 lake monitoring season. Gilmore Lake has abundant aquatic vegetation at many locations. The native northern milfoil, coontail, elodea and broadleaf pondweed were consistent components of the rake collections.

Grant Administration and Services

Volunteers, including grant administrators, recorded a total of 308 hours on this project in 2007 (Table 3). Grant administration included attendance at CB/CW and AIS workshops, training and supervising inspectors, and the June 23 workshop as well as data entry and report preparation. Details of volunteer effort are listed on the Donated Volunteer Labor worksheets, which will be submitted with the grant payment request.

Recommendations and Future Plans

1. The GLA will apply for an AIS EPP grant for 2008. This will essentially be a renewal application.

2. The GLA will continue its efforts to raise funds for a cash reserve for immediate use if and when EWM is discovered in Gilmore Lake.

3. Obviously, not all boats that used our public landing during the spring-summer season were inspected. Members of the Milfoil Committee drove past the landing frequently. We concluded that weekday usage was highly erratic; some days, no boats were trailered in. It is not practical to monitor the landing with paid or volunteer inspectors on weekdays (except those near holidays). However, the mid-day period on Saturdays and Sundays consistently received high usage. We will endeavor to add inspectors to cover that time period in 2008.

4. Because we cannot inspect every entering boat, education remains a priority. We were encouraged that most boaters claimed to know about EWM and its prevention, but we will continue our educational efforts in 2008. It would also be most helpful if the proposed statewide rule is adopted to ban vehicle transportation of any aquatic vegetation.

5. In order to ensure that we are prepared to respond if EWM is detected in the lake, a rapid response protocol will be developed and implemented.

6. We recommend modifying the Watercraft Diary Worksheet so the data collected are more focused on EWM prevention. Suggested modifications are:

a) reduce or eliminate the collection of "horsepower" data.
b) reduce "prior knowledge" columns from 7 to 1.
c) the "waterbody name" for the last place the boat was used should be required.
d) require identification of the county and state along with the "waterbody name".
e) include columns for livewell and bilge inspection.

Acknowledgements

We are grateful for advice from Jane Malischke, Environmental Grant Specialist, concerning the financing of this project and Pam Toshner, Northwest Lake Management Coordinator for her support in all phases, especially leading our workshop.

Table 1. Boat Inspection Contact Hours.

Month	Paid	Volunteer	Total
May	84	-------	80
June	92	6(8)*	98(100)
July	96	22(27)	118(124)
August	84	------	84
September	20	5 (8)	25
Totals	**376****	**33(43)**	**409(413)**

***( ) hours when two volunteers were present
**** Total paid hours =384,including training on 5/5/07

Table 2. Boat Inspection Summary.

Month	Inspections	Boaters
May	128	289
June	149	274
July	142	299
August	90	234
September	48	95
Totals	**557**	**1191**

Table 3. Summary of Volunteer Effort (hours).

Category	Grant	Actual
Workshop/Training/Supervision	60	96
Volunteer Inspectors	50	64*
EWM Monitoring	80	40
Kiosk Construction	20	24
Mailing	10	0**
Report Prep/Data Entry	5	39
Other: 6/23 Workshop Attendance (45 people@ 1hr. each)	0	45
Totals	**225**	**308**

***** Includes training hours.
** Actual mailing in late March preceded April 1 grant starting date.

Figure 1. Gilmore Lake Kiosk

Figure 2. Gilmore Lake.

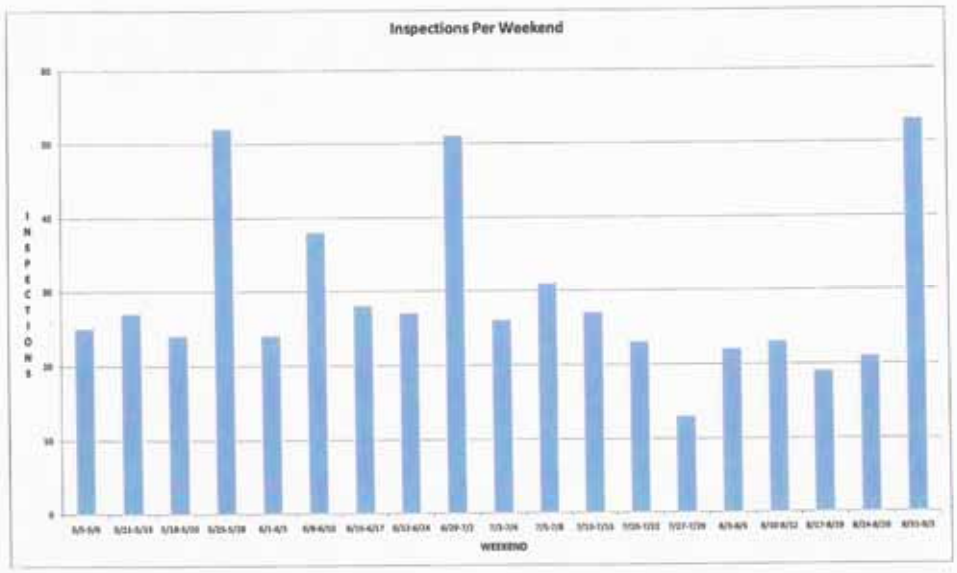


Figure 3. Gilmore Lake.

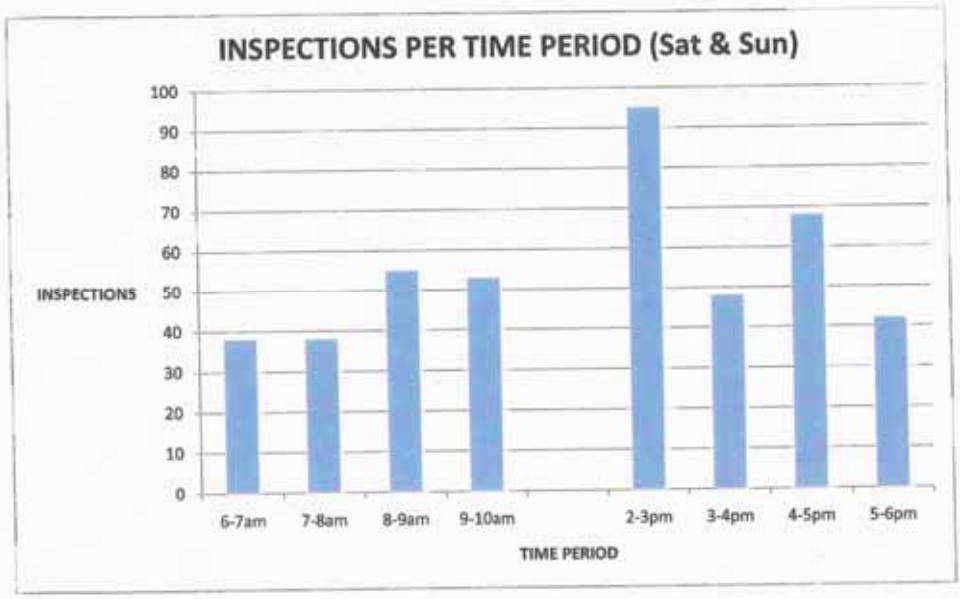
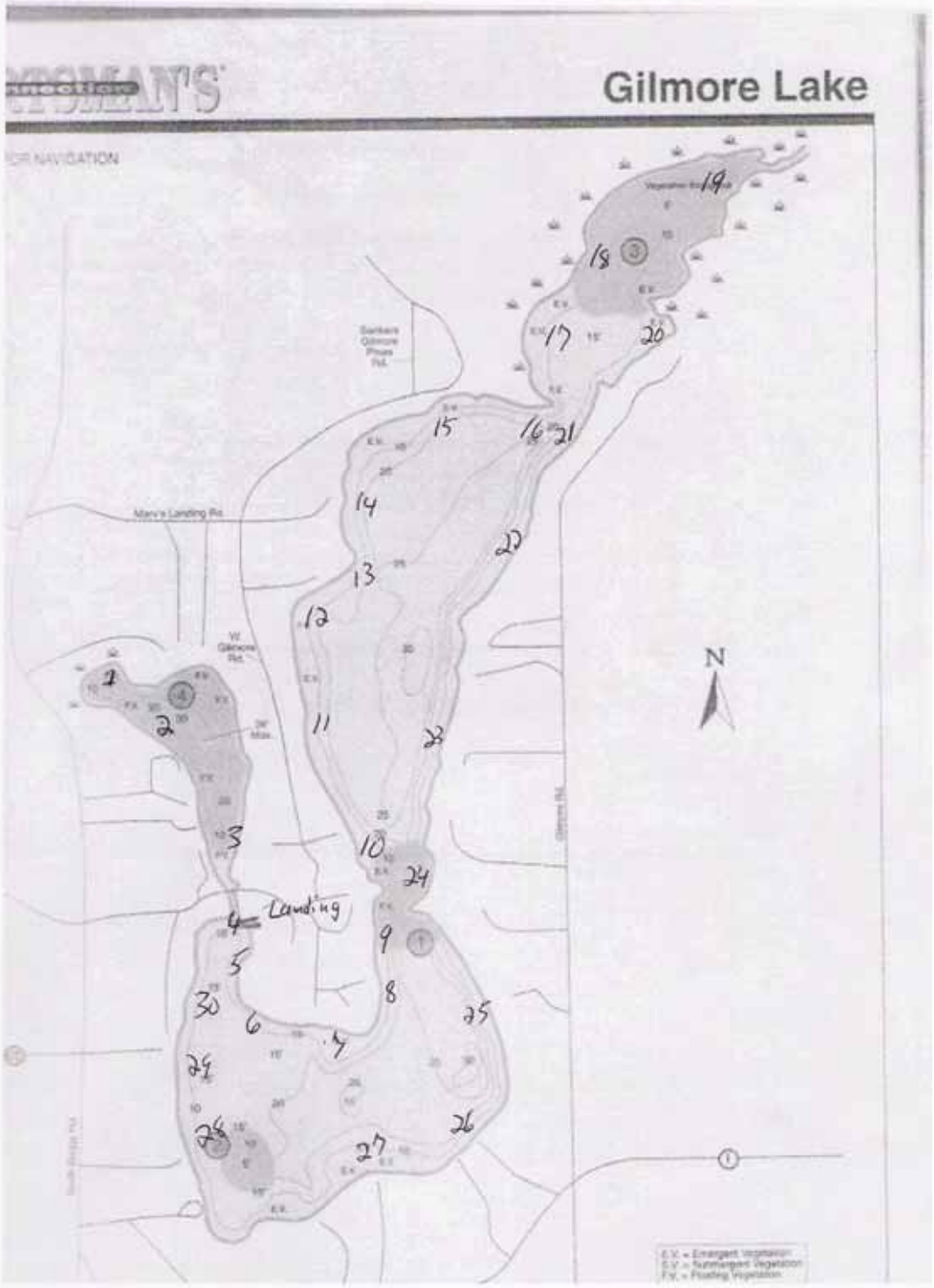


Figure 4. Gilmore Lake EWM Sampling Stations, 2007



Project AEPP-076-07

ATTACHMENT A: INFORMATION LETTER

March 26, 2007

To: Gilmore Lake Property Owners

From: The Gilmore Lake Association's Eurasian Water Milfoil Committee

The purpose of this letter is to ensure that you are informed of the threat posed to Gilmore Lake by Eurasian water milfoil (EWM) and to ask for your help in addressing it. Without question, it's hard to imagine that a plant could represent a threat to a nearly 400 acre lake**,** but our neighbors on Nancy Lake and the Minong Flowage know first hand just how much of an issue Eurasian water milfoil can be. As a result of their experiences and those of lake property owners throughout the state, we know that Eurasian water milfoil can:

- **cover the surface of your lakefront with a thick, impenetrable mat of weeds**
- **make boating, swimming and fishing nearly impossible in parts of our lake**
- **require chemical treatment at a cost of $1000 per treated acre of lake surface**
- **cause property values to drop by an estimated 15%**

These are not guesses about what may happen if Gilmore Lake becomes heavily infested; they are fact-based outcomes that property owners on contaminated lakes throughout Wisconsin and Minnesota are currently facing.

Eurasian water milfoil can literally take over a lake. Because it grows faster than native aquatic plants and forms a thick mat at the surface, it shadows other plants and impedes their growth. The accompanying disappearance of native aquatic plants negatively affects fish and wildlife that depend on them. Since EWM grows mostly in depths up to 12 feet, it can have a dramatic impact on shorelines and shallower parts of the lake. The mats that form can prevent boat access to deeper water and impair recreational use of the lakefront. One of the ways it grows and spreads is by fragmentation. This can occur when EWM dies or is cut by a boat prop. The fragments can re-root or even be carried on boats and trailers to another lake which then becomes contaminated with EWM. Once it becomes established in a lake, it is extremely difficult to control, often requiring chemical treatment of the lake. This treatment, while effective, only lasts for a few years and the cost is only partially covered by the DNR. Nancy Lake, for example, treats 3-5 acres every year, at a cost of approximately $1000 per acre.

It's clear from the evidence at hand that we must try to prevent EWM from becoming established in our lake. To that end, the Gilmore Lake Association has formed a committee that has developed a plan to try and address this threat but**….. we need your help to protect our lake and our investments.**

The plan the committee has developed is designed to:

- reduce the opportunity for EWM to be introduced into the lake
- detect EWM in its early stages, if it does get in
- rapidly implement controls to minimize its spread if it's detected

To help defray the cost of this effort, we've applied for and received a DNR grant. The grant will cover $3300 of an anticipated project cost of $6600. We will need to make up the remaining $3300 through a combination of dues, donations, volunteer time and materials. Since most of the DNR funds are not paid out until the successful completion of the project, we will need to have some additional funds upfront to cover the ongoing cost of the project until the grant funds are dispersed.

So how can you help?

1. Join the lake association – your annual $20 dues will help fund this work
2. Make a cash donation – we'll need a $5000 reserve even with grant funding
3. Volunteer – you don't need to live here full time to make a valuable contribution (help is needed with boat inspections, lake monitoring, record keeping, reporting, etc.)
4. Inspect your watercraft and that of your guests to be sure they are free of weeds before launch.

Please join us in this effort to protect our lake and our investments by identifying your level of commitment on the attached form.

If you have any questions, please don't hesitate to contact John or Bill.

John Ney, Eurasian Water Milfoil Committee Co-chair
Email: jney@vt.edu

Bill Doeden, Eurasian Water Milfoil Committee Co-chair
Phone: 630-907-9414
Email: wgdoeden@comcast.net

Thank you for your consideration of this important effort and please plan to attend the Gilmore Lake Association's meeting on June 23, 2007 for more information.

Jim Holmes
President
The Gilmore Lake Association

Name_____ Lake Address_____

Primary Phone_____ Email_____

Please check all that apply

_____ enclosed is $20 (annual dues) for membership in the Gilmore Lake Association

_____ enclosed is a donation to help support the Eurasian water milfoil project

_____ I'm interested in volunteering, put my name on the contact list

Please return this form and any check or money order* (payable to the Gilmore Lake Association) to:

The Gilmore Lake Association
P.O. Box 188
Minong, WI 54859

* please do not send cash

Attachment B. From Spring 2009
Gilmore Lake Association
Newsletter

Eurasion Watermilfoil Boat Monitoring Program

The Gilmore Lake Association Eurasion Watermilfoil Committee is establishing a boat monitoring program to be conducted at the launch ramp this summer. The committee has recently received a grant from the Wisconsin Department of Natural Resources to assist in this effort.

We would like to involve 4-6 people to provide paid WEEKEND coverage at the launch ramp and prefer to find interested candidates from around the Gilmore Lake area. The grant stipend will pay $8/hr. and schedules will be established based on the number of people hired and the time they have available.

The committee would also like to encourage lake property owners who are interested in volunteering time to assist with WEEKDAY monitoring of boats at the launch ramp. This effort would help provide more complete coverage of the monitoring program beyond the amount allowed in the grant budget.

If you are interested in learning more about the stipends available from the grant program or are willing to volunteer at least 15 hours to help in this effort please contact Russ Robinson at (715)466-4152 or email russrobinson@centurytel.net.

Attachment G From Fall 2007 GLA Newsletter

THE MILFOIL WAR - YEAR 1

Report submitted by John Ney

Our effort to prevent the establishment of Eurasian watermilfoil (EWM) in Gilmore Lake enjoyed a successful first year. The solicitation for donations to combat EWM raised $3,790. These contributions allowed the Association to receive a DNR matching Aquatic Invasive Species (AIS) grant. Funds were used to hire boat inspectors for our landing, monitor the lake for the presence of EWM, and educate lake users about this threat.

Paid boat inspectors, supplemented by our volunteers, worked every weekend from the May 5 fishing opener through Labor Day. A total of 557 boats were inspected. Only nine of these had aquatic vegetation on the boat/trailer when about to enter the water; none of the vegetation proved to be EWM, despite its abundance in Nancy lake and the Minong Flowage. Lake monitoring was conducted monthly, May through September, at 30 sites throughout the lake (including Little Gilmore) where EWM could take root. Happily, no evidence of this invasive was found, although the look-alike native northern milfoil was abundant.

The key to long-term success against EWM is education, which proceeded on several fronts. An information kiosk ws built and installed at the landing. Inspectors also instructed boaters about prevention of EWM and its consequences if introduced. The Gilmore Lake Association (GLA) annual meeting/picnic in June included a presentation by Pam Toshner, DNR Lake Management Coordinator, on identification, prevention and impacts of EWM. This was followed by a demonstration boat inspection. Thanks to the GLA Milfoil Committee (Burt King, Bill Doeden, John Ney, Russ Robinson and Ron Tracy) as well as numerous volunteers, including Tom Bergemann, Jim Brandt, Bud and Lois Casey, Howard Guttschow, Cherl Hillsdale and Barb Robinson.

Although our first-year battle against EWM was successful, the war will likely never end. The GLA will apply for another DNR grant for 2008 to continue inspection, monitoring and education. Please volunteer to help with boat inspections, if only for a few hours. Howerver, we must be prepared for the possibility that pioneer colonies of EWM will some day be found in Gilmore Lake, as they were in the St. Crois flowage this past summer. Rapid response will be essential to control its spread, and that will be expensive. To that end, we hope to raise a dedicated "war chest" of $5,000 over the next few years in preparation for a potential invasion. Eurasian watermilfoil can be a scourge, a minor irritant or a non-problem. With our combined effort and diligence, Gilmore Lake will remain unimpaired by EWM.