CLEAN BOATS CLEAN WATERS

Guidelines for Clean Boats, Clean Waters

MICHIGAN'S AQUATIC INVASIVE SPECIES VOLUNTEER PROGRAM

2006 EDITION

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CLEAN BOATS CLEAN WATERS

Welcome to the Clean Boats, Clean Waters Aquatic Invasives Volunteer Program!

Michigan's greatest natural asset, one of its clearly defining characteristics, is its abundant water resources—3,300 miles of shoreline on four of the five Great Lakes, 35,000 miles of navigable streams, more than 11,000 inland lakes and thousands of square miles of wetlands. No wonder the state has been known worldwide for many years as a "water wonderland." These watery wonders are home to hundreds of species of fish, waterfowl, plants and many other forms of life. The Clean Boats, Clean Waters: Aquatic Invasives Volunteer Program is for people who care about Michigan's waterways and who have a vision for their future.

Aquatic invasive species have long been recognized as a serious threat to the United States. According to Cornell University research, introduced species of animals, plants, and microbes cost the U.S. economy at least $148 billion a year. Invasive aquatic plants and animals jeopardize the future of Michigan waters.

With the arrival of aquatic invasive species, volunteers are needed now more than ever to help preserve and protect Michigan waters. Dozens of organizations, hundreds of teachers and thousands of students have participated in the Purple Loosestrife Project, inoculating infested Michigan wetlands with *Galerucella* beetles. Native plants have now returned to many of these wetlands. Fishing enthusiasts have joined Michigan's Angler Monitoring Network, reporting invasive species they find in the state's waters. Interested, alert Michigan citizens have helped track the spread of zebra mussels to more than 200 inland lakes.

The Clean Boats, Clean Waters program is an opportunity for volunteers to help stop the spread of aquatic invasive species across the state. Through this program, volunteers are trained to organize and conduct a watercraft inspection demonstration and education program in their community.

The mission of this program is to promote water resource stewardship by actively involving individuals in preventing the spread of harmful aquatic invasive species. To accomplish this goal, the program sponsors statewide training workshops and has developed resource handbooks, tool kits, and educational information. A statewide coordinator now organizes volunteer efforts.

Michigan realizes that volunteers are the keys to reaching hundreds of people recreating on the state's waters. Volunteers who instruct boaters on how to perform watercraft inspections can help prevent new invasions and help to maintain Michigan's valuable water resources. Thank you for taking the time to learn, act, and protect Michigan's waters from invasive species.

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Rusty Crayfish

Round Goby

Ruffe

Hydrilla

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Section 1:
What is the program all about?

PREVENTION AND CONTROL OF AQUATIC INVASIVE SPECIES IN MICHIGAN

Michigan's vast water resources are at great risk from invasion by nonindigenous species of plants and animals. Most of the state's rivers and streams, ponds and lakes, shorelines and wetlands provide hospitable habitat for native and invasive species alike. They are attractive and accessible for many human uses, making it all too easy for people to introduce an invasive species inadvertently as they enjoy the recreational opportunities of the water wonderland.

Invasive species can disrupt food webs, foul infrastructure and recreational equipment, spoil tourism and recreational experiences, devalue waterfront property, create public health hazards and wreak havoc for water-based businesses. The now infamous zebra mussel is an example; it has infested more than 225 of Michigan's inland lakes. Depending on the characteristics of the lake, zebra mussel infestation means it may now be more susceptible to blooms of blue green algae with toxic properties. Its native clams may be destroyed. Boaters' recreational equipment may be more easily damaged.

Aquatic invasive species are costly to control once they're in place and have established reproducing populations. Riparians have spent as much as $1,000 an acre in an attempt to keep Eurasian water-milfoil under control in the state's largest inland lake. Such species have so many ways of reproducing that they are virtually impossible to eradicate once they are well established in an environment that meets their requirements for food and shelter.

Prevention is Key

Therefore, the best defense for Michigan's aquatic ecosystems is a good preventive offense. Taking steps to protect them will also protect people's valuable property, whether it's an expensive watercraft or a waterfront home with a spectacular view.

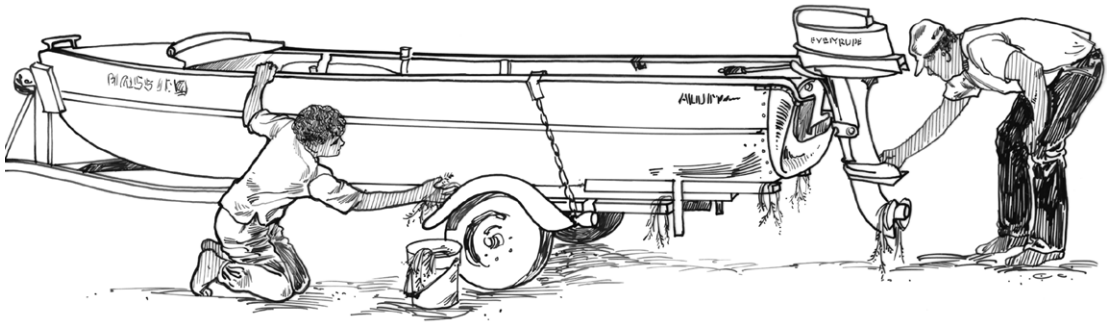
Preventing the introduction of invasive species may seem overwhelming, even impossible, because of the multitudes of potentially invasive plants and animals and the vast array of potentially affected resources. However, as political philosopher Edmund Burke is credited with saying, "No one could make a greater mistake than he who did nothing because he could only do a little," and most people can do a little. In this situation, the consequences of one careless action can be enormously destructive, and the consequences of one preventive action can be enormously constructive.

What can prevent new introductions of invasive species?

Fortunately, some of the best preventive, protective measures are simple, inexpensive and involve just a little time, energy, readily available materials and elbow grease. For example, if every boater spent a few minutes inspecting critical components of a watercraft and trailer and a little effort cleaning and drying the boat, that pathway of introduction would be significantly reduced.

Fortunately, research indicates that most of the owners of Michigan's 900,000+ licensed boats have some awareness of invasive species. The study also suggests that most boaters want to take the appropriate action, but may not do so because they're uncertain what to do and how to do it.

So the obvious solution is to educate boaters about the steps they can take to prevent damage to the ecosystem and to their valuable equipment. That's the purpose of Clean Boats, Clean Waters – to educate boaters about the steps they can take to prevent the introduction of invasive species and to protect their boats.



THE CLEAN BOATS, CLEAN WATERS AQUATIC INVASIVE SPECIES VOLUNTEER PROGRAM VISION

The Clean Boats, Clean Waters Aquatic Invasive Species Volunteer Program promotes healthy ecosystems and a healthy economy by actively involving individuals in preventing the spread of harmful aquatic invasive species that threaten Michigan's ecosystems. Citizen involvement in demonstrating watercraft inspections will increase public awareness about the threats of aquatic invasive species. Volunteers will serve to inform and educate the public about how people can help prevent the spread of invasive species by inspecting their watercraft and removing aquatic plants and animals from their boats and equipment before leaving an access site.

To accomplish these objectives, the volunteer program supports:

- Watercraft inspection demonstrations for aquatic invasive species.
- Communication with the public about the laws and issues surrounding the existence, spread, and effects of invasive species to Michigan's waters.
- Distribution of print materials such as watercraft checkpoint cards and Stop Aquatic Hitchhiker™ stickers.
- Collection of data to evaluate the potential spread of invasive species, public awareness of invasive species issues, and the effectiveness of the invasive species program.
- Response to technical inquiries from the public concerning invasive species.

FOUR REASONS TO CARE ABOUT AQUATIC INVASIVE SPECIES:

1. **Economics** – The costs of controlling invasive species in the United States increase every year. A typical consumer absorbs these costs through higher water and electric bills. A Cornell University study reports that invasive species on land and water already cost the United States $148 billion annually. The Great Lakes sport and commercial fishing industry, valued at almost $4.5 billion annually, is at risk due to the growing numbers of invaders such as the zebra mussel, spiny water flea, sea lamprey, ruffe, and round goby that prey on invertebrates of all sizes, top predator fish, as well as fish eggs and small fish. Large water users in the Great Lakes, including municipalities and industries, spent about $120 million from 1989 to 1994 to combat the spread of zebra mussels.

2. **Health** – Some invasive species may cause significant health problems. For example, a South American strain of human cholera bacteria was found in ballast water tanks of ships in the port of Mobile, Alabama, in 1991. Cholera strains also were found in oyster and fin/fish samples in Mobile Bay, resulting in a public health advisory to avoid handling or eating raw oysters or seafood. Temporary bans on commercial harvest may be put into effect when health concerns exist.

3. **Ecological** – The rapid spread of zebra mussels in the Great Lakes shows how profoundly an invasive species can alter the aquatic environment. These tiny mussels reproduce rapidly. Coupled with consumption of microscopic plants and animals, zebra mussels affect the aquatic food web, decimate native mussel/clam populations, and place valuable ecological communities' resources at risk.

4. **Recreational** – Invading species such as the sea lamprey, ruffe, and round goby can harm native fish such as lake trout, walleye, yellow perch and catfish. They threaten a national sport and commercial fishing industry that supports 81,000 jobs in the Great Lakes. Aquatic invasive plant species such as purple loosestrife and Eurasian water-milfoil quickly established themselves and have, in some cases, replaced native plants. The proliferation of these invasive plants impairs boating, swimming and fishing, navigation and flood control, and degrades water quality, as well as fish and wildlife habitat.

(List adapted from the Aquatic Nuisance Species Task Force and the Great Lakes Panel on Aquatic Nuisance Species.)

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Section 2:
Who are the people involved?

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Section 3:

What do volunteers need to know about aquatic invasive species management in Michigan?

MICHIGAN AQUATIC INVASIVE SPECIES

The species in the following table are present in Michigan waters and are considered invasive. Folders of resource material and references about eight of these are included in the back of this guide.

PLANTS

Common name	Latin name	Habitat	Information Resources
Curly-leaf pondweed	*Potamogeton crispus*	Aquatic	
Eurasian water-milfoil	*Myriophyllum spicatum*	Aquatic	Resource material in back of guide
European frogbit	*Hydrocharis morsus-ranae*	Aquatic	
Flowering rush	*Butomus umbellatus*	Aquatic, wetlands	
Phragmites	*Phragmites Australis*	Aquatic, wetlands	
Purple loosestrife	*Lythrum salicaria*	Aquatic, wetlands	Resource material in back of guide
Yellow water flag	*Iris pseudacorus*	Aquatic, wetlands	

ANIMALS

Common name	Latin name	Habitat	Information Resources
Alewife	*Alosa pseudoharengus*	Aquatic	
Grass carp	*Ctenopharyngodon idella*	Aquatic	
Silver carp	*Hypophthalmichthys molitrix*	Aquatic	
Bighead carp	*Hypophthalmichthys nobilis*	Aquatic	
Black carp	*Mylopharyngodon piceus*	Aquatic	
Fishhook waterflea	*Cercopagis pengoi*	Aquatic	Resource material in back of guide
Quagga mussel	*Dreissena bugensis*	Aquatic	
Rainbow smelt	*Osmerus mordax*	Aquatic	
Round goby	*Neogobius melanostomus*	Aquatic	Resource material in back of guide
Ruffe	*Gymnocephalus cernuus*	Aquatic	Resource material in back of guide
Rusty crayfish	*Orconectes rusticus*	Aquatic	Resource material in back of guide
Sea lamprey	*Petromyzon marinus*	Aquatic	
Spiny waterflea	*Bythotrephes cederstoemi*	Aquatic	Resource material in back of guide
Swimmer's itch[1]	*Schistosoma spp.*	Aquatic	
White perch	*Morone americana*	Aquatic	
Yellow perch parasite	*Heterosporis sp.*	Fish parasite	
Zebra mussel	*Dreissena polymorpha*	Aquatic	Resource material in back of guide

1 Native nuisance species.

MICHIGAN'S AQUATIC NUISANCE SPECIES STATE MANAGEMENT PLAN

Prevention and Control in Michigan Waters — Updated 2002

Michigan's waters are under assault from aquatic invasive species (AIS). AIS have long been recognized as a major problem in the Great Lakes. In 1996, Michigan was the second state in the United States to develop a state management plan to address AIS prevention and control – *Nonindigenous Aquatic Nuisance Species State Management Plan*.

In 2002, the Office of the Great Lakes convened an Aquatic Nuisance Species (ANS) Action Team, including the directors of the departments of Environmental Quality, Natural Resources and Agriculture, as well as representatives of other government agencies, academic institutions and stakeholder organizations, to update the existing plan and to coordinate responses to the problems associated with AIS. For a copy of the complete plan, visit www.deq.state.mi.us/documents/deq-ogl-ANSPlan2002.pdf. One recommendation of the ANS Action Team was the creation of an ANS Council, which was formed in 2002 to coordinate implementation of the updated plan.

This plan focuses on prevention as the key strategy for limiting the impacts of aquatic invasive species by controlling the initial introduction and subsequent transfer from one water body to another. However, prevention techniques alone are inadequate for limiting the negative impacts caused by aquatic invasive plants and animals. This plan also suggests that early detection, rapid response, control, mitigation, or eradication strategies must be considered. It incorporates information and education/outreach activities, research needs and policy and legislative initiatives as key components of the overall program. Prevention strategies rely heavily on information, education, and communication. Therefore, this plan includes the full range of those activities in order to implement an effective prevention program. The plan identifies four goals for information, education and communication.

- **Information and Education Goal I:** The prevention of the unintentional introduction and dispersal of aquatic nuisance species into, within and from Great Lakes waters through implementation of information/education (I/E) activities.
- **Information and Education Goal II:** Statewide coordination of information dissemination regarding aquatic nuisance species programs involving prevention, control, monitoring, research, education, policy and other related activities.
- **Information and Education Goal III:** The active involvement of Great Lakes regional policymakers and user groups in the promotion of aquatic nuisance prevention and control programs.
- **Information and Education Goal IV:** Provide adequate resources to implement Michigan's Information/Education Strategy for Aquatic Nuisance Prevention and Control.

The first objective of the plan's Information and Education Goal I is to "Ensure that all recreational boaters take action to prevent the introduction and dispersal of aquatic nuisance species."

The Plan recommends:

"Implement regional boat-wash demonstrations and/or inspections to show boaters how to prevent the spread of aquatic nuisance species on their boats. To impede the spread to inland waters, target areas where there is high traffic between Great Lakes basin and inland waters. Demonstrations should be conducted at public accesses or infested waters."

As Michigan moves ahead with implementation of actions to prevent and control aquatic invasive species, extra care to prevent new introductions is necessary. With a more robust global economy, it is anticipated that, without a new prevention program, new introductions are highly likely. For that reason, prevention actions at the national and regional level, as well as at the individual jurisdictional level, are critical. The growth potential of certain species in a new place, uninhibited by natural predation or disease, can be explosive and cause changes in Michigan's waters that are quick, permanent, and seriously detrimental to human, ecological, or economic health.

The highest prevention priority is the control of ballast water discharges. Ships practicing good ballast water management can greatly reduce the number of species traveling in ballast water from world ports. Barriers placed in tributaries can make it difficult for invasive species to enter the Great Lakes via natural dispersal. Actions such as checking and cleaning boats and fishing equipment can dramatically reduce the likelihood of lake-to-lake transfer of invasive species.

Several other potential transport mechanisms could also result in releases of AIS into the Great Lakes and inland state waters. Some of these vectors are: the transportation and rearing systems related to the aquaculture industry and commercial barge traffic; inter-Great Lake boating associated with research or management activities; scuba diving; the sale and distribution of fishing bait; the transfer and disposal of nonindigenous pets; plant nurseries; fish stocking activities and individual releases by anglers. Taking action at all levels to stop the introduction and spread of invasive species by all potential pathways will ultimately protect Michigan waters from further economic and environmental degradation.

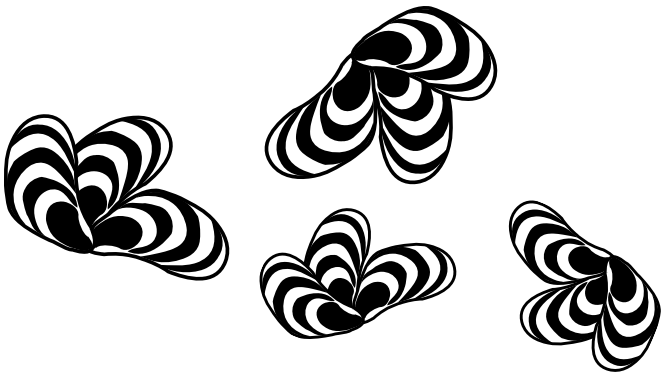
AQUATIC INVASIVE SPECIES LAWS

Federal Legislation

One important piece of national aquatic invasive species legislation is the National Invasive Species Act (NISA). For a summary of NISA, visit www.nemw.org/nisa_summary.htm. A great deal of national and international focus has been placed on ballast water because of its implication in numerous aquatic invasive species introductions worldwide. The U.S. Coast Guard is responsible for regulating ballast water management under NISA. Visit the Coast Guard Office of Operating and Environmental Standards Web site at www.uscg.mil/hq/g-m/mso/ans.htm for information on regulations and links to specific ballast water programs.

Also important are the federal noxious weed regulations that define noxious weeds and establish rules restricting their movement. The Federal Noxious Weed list includes aquatic species such as hydrilla, as well as a number of terrestrial species, but does not include the well-known Michigan invaders Eurasian water-milfoil and purple loosestrife. Listed species cannot be moved into or through the United States without a permit. To view the complete list and associated regulations, visit the Animal and Plant Health Inspection Service (APHIS) Web site at www.aphis.usda.gov/ppq/weeds.

The Lacey Act of 1990, later amended in 1998, prohibits importation of a list of designated species and other vertebrates, mollusks, and crustacea that are "injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States. The act declares importation or transportation of any live wildlife as injurious and prohibited, except as provided under the act. The zebra mussel is listed under this act. To view the act, visit www.fws.gov/invasives/Index.Lacey Act.html.



Michigan Laws

In 2005, Michigan established several invasive species laws creating lists of restricted and prohibited species, rules of possession, penalties for intentional introduction and releases, and a permit program. The new laws also established an Invasive Species Advisory Council including the directors of the departments of Natural Resources (DNR), Environmental Quality (DEQ) and Agriculture (MDA). The council is responsible for reviewing and updating these lists, as well as several other duties. The lists and rules of possession are included at the end of this section and can also be found on the Internet at www.legislature.mi.gov/documents/2005-2006/publicact/pdf/2005-PA-0077.pdf.

The DNR is responsible for enforcement for plants and animals. The Department of Agriculture is responsible for enforcement related to insects. Michigan's rules of possession and penalties apply to those who intentionally or knowingly introduce a prohibited or restricted species. To view the description of penalties, visit www.legislature.mi.gov/documents/2005-2006/publicact/pdf/2005-PA-0076.pdf.

Michigan also has laws and rules pertaining to aquatic plant control. A permit from the Department of Environmental Quality is required for the application of chemicals to any plant that is growing in standing water at the time of the application. Manual removal of Eurasian water-milfoil, curly leaf pondweed, purple loosestrife or other invasive aquatic plants does not require a permit. In addition, anyone cutting plants of any species must remove them. A permit is not required for the use of biological control such as Eurasian water-milfoil weevils.

Local Ordinances

Local weed ordinances may also exist. Contact your local municipality or government to find out more information for your area.

Michigan Aquatic Invasive Species Laws

Michigan Public Acts 70–74 of 2005 define the following as prohibited and restricted aquatic fish and plant species and describe the rules of possession:

Prohibited and Restricted Species

"Prohibited fish species" means any of the following or the eggs thereof:

- Bighead carp *(Hypophthalmichthys nobilis)* or a hybrid or genetically engineered variant thereof.
- Bitterling *(Rhodeus sericeus)* or a hybrid or genetically engineered variant thereof.
- Black carp *(Mylopharyngodon piceus)* or a hybrid or genetically engineered variant thereof.
- Grass carp *(Ctenopharyngodon idellus)* or a hybrid or genetically engineered variant thereof.
- Ide *(Leuciscus idus)* or a hybrid or genetically engineered variant thereof.
- Japanese weatherfish *(Misgurnus anguillicaudatus)* or a hybrid or genetically engineered variant thereof.
- Rudd *(Scardinius erythrophthalamus)* or a hybrid or genetically engineered variant thereof.
- Silver carp *(Hypophthalmichthys molitrix)* or a hybrid or genetically engineered variant thereof.
- A fish of the snakehead family (family *Channidae*) or a genetically engineered variant thereof.
- Tench *(Tinca tinca)* or a hybrid or genetically engineered variant thereof.

"Prohibited aquatic plant species" means any of the following or fragments or seeds thereof:

- African oxygen weed *(Lagarosiphon major)* or a hybrid or genetically engineered variant thereof.
- Brazilian elodea *(Egeria densa)* or a hybrid or genetically engineered variant thereof.
- European frogbit *(Hydrocharis morsus-ranae)* or a hybrid or genetically engineered variant thereof.
- Giant hogweed *(Heracleum mantegazzianum)* or a hybrid or genetically engineered variant thereof.
- Giant salvinia *(Salvinia molesta, auriculata, biloba,* or *herzogii)* or a hybrid or genetically engineered variant thereof.
- Hydrilla *(Hydrilla verticillata)* or a hybrid or genetically engineered variant thereof.
- Japanese knotweed *(Fallopia japonica)* or a hybrid or genetically engineered variant thereof.
- Parrot's feather *(Myriophyllum aquaticum)* or a hybrid or genetically engineered variant thereof.
- Water chestnut *(Trapa natans)* or a hybrid or genetically engineered variant thereof.
- Yellow flag iris *(Iris pseudacorus)* or a hybrid or genetically engineered variant thereof.
- Yellow floating heart *(Nymphoides peltata)* or a hybrid or genetically engineered variant thereof.

"Restricted aquatic plant species" means any of the following or fragments or seeds thereof:

- Curly leaf pondweed *(Potamogeton crispus)* or a hybrid or genetically engineered variant thereof.
- Eurasian water-milfoil *(Myriophyllum spicatum)* or a hybrid or genetically engineered variant thereof.
- Flowering rush *(Butomus umbellatus)* or a hybrid or genetically engineered variant thereof.
- Phragmites or common reed *(Phragmites australis)* or a hybrid or genetically engineered variant thereof.
- Purple loosestrife *(Lythrum salicaria)* or a hybrid or genetically engineered variant thereof, except for cultivars developed and recognized to be sterile and approved by the director of agriculture under section 16a of the insect pest and plant disease act, 1931 PA 189, MCL 286.216a.

Rules of Possession

(1) A person shall not knowingly possess a live organism if the organism is a prohibited species or restricted species, except under one or more of the following circumstances:

(a) The person intends to present a specimen of the prohibited species or restricted species, for identification or similar purposes, to a person who is a certified applicator or registered applicator under part 83, to a public or private institution of higher education, or to the department or any other state, local, or federal agency with responsibility for the environment or natural resources.

(b) The person has been presented with a specimen of a prohibited species or restricted species for identification or similar purposes under subdivision (a).

(c) The person possesses the prohibited species or restricted species in conjunction with otherwise lawful activity to eradicate or control the prohibited species or restricted species.

(d) If the prohibited species or restricted species is not an insect species, the possession is pursuant to a permit issued for education or research purposes by the department under section 41306. If the prohibited species or restricted species is an insect species, the possession is pursuant to a permit issued for education or research purposes by the Department of Agriculture under section 41306 or by the United States Department of Agriculture.

(2) A person described in subsection (1)(b) or (c) shall notify the Department of Natural Resources, the Department of Agriculture, or the Department of Environmental Quality if the prohibited species or restricted species was found at a location where it was not previously known to be present.

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Section 4:
Where are the invasives?

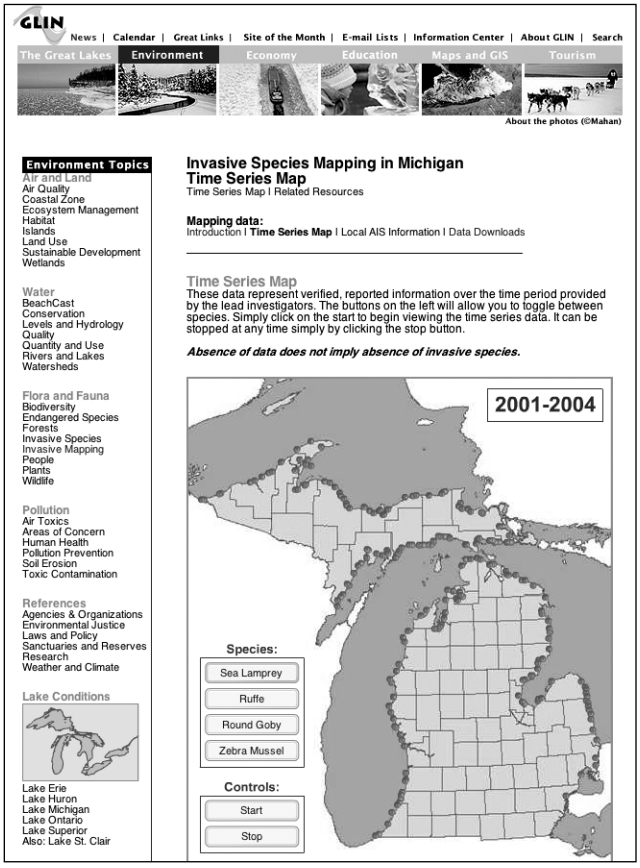
Tracking infestations of aquatic invasive species is an enormous undertaking, especially with limited financial resources. A few of Michigan's invasions have been documented by scientific research or government agencies, but most infestations are reported by informed, concerned volunteers. In this section you'll find the infestation information that was available when this handbook was published.

ONLINE DATABASE OF AIS IN MICHIGAN

In 2004, the Great Lakes Commission produced a spatial database of key aquatic invasive species (AIS) invasions within the state of Michigan, presented on a series of web pages at www.great-lakes.net/envt/flora-fauna/invasive/mapping.html

The webpages:

- Portray infestations of the following species in Michigan:
  - Sea lamprey
  - Round goby
  - Ruffe
  - Purple loosestrife
  - Zebra mussel
- Provide time series maps of sea lamprey, ruffe, round goby and zebra mussel infestations between 2001 and 2004.
- Show county and watershed infestation information about sea lamprey, ruffe, round goby, zebra mussel, quagga mussel and purple loosestrife.
- Present species data for the previously mentioned species and abstracts for spiny waterflea and Eurasian water-milfoil.



www.great-lakes.net/envt/flora-fauna/invasive/timeseries.html

ZEBRA MUSSEL PRESENCE IN MICHIGAN'S INLAND LAKES

Michigan Sea Grant collects reports of zebra mussel infestation in the state's inland lakes and makes them accessible online. The list is updated at the end of each calendar year. If you find zebra mussels in a previously unreported lake, please note the location and take/send an alcohol-preserved specimen to the nearest Sea Grant Extension office (see Section 2) for confirmation. See: www.miseagrant.umich.edu/ais/lakes.html

COUNTY	LAKE NAME	COUNTY	LAKE NAME	COUNTY	LAKE NAME
Alcona	Alcona Pond	Cass	Christianna	Grand Traverse	Green
Alcona	Cedar	Cass	Diamond	Grand Traverse	Silver
Allegan	Allegan	Cass	Donnell	Grand Traverse	Spider
Allegan	Hutchins	Cass	Eagle	Hillsdale	Baw Beese
Allegan	Green	Cass	Finch	Hillsdale	Bird
Allegan	Miller	Cass	Fish	Hillsdale	Hemlock
Alpena	Beaver	Cass	Indian	Hillsdale	Long
Alpena	Four Mile	Cass	Juno	Ingham	Lansing
Alpena	Long	Cass	Long	Ionia	Morrison
Alpena	Seven Mile	Cass	Magician	Iosco	Cooke
Antrim	Bellaire	Cass	Twin North	Iosco	Foote
Antrim	Birch	Cass	Twin South	Iosco	Long
Antrim	Clam	Charlevoix	Marion	Iosco	Van Ettan
Antrim	Six Mile	Charlevoix	Walloon	Iron	Fortune Pond
Antrim	Torch	Cheboygan	Burt	Jackson	Ackerson
Barry	Gun	Cheboygan	Douglas	Jackson	Big Portage
Barry	Payne	Cheboygan	Mullet	Jackson	Clark
Benzie	Bass	Clare	Crooked	Jackson	Columbia
Benzie	Crystal	Clare	Long	Jackson	Lime
Benzie	Herring	Clare	Sand	Jackson	Pleasant
Benzie	Loon	Clare	Windover	Jackson	Vineyard
Benzie	Otter	Crawford	Margarethe	Jackson	Wampler
Benzie	Platte	Dickinson	Antoine	Kalamazoo	Gull
Berrien	Paw Paw	Eaton	Mud	Kalamazoo	Indian
Branch	Coldwater	Emmett	Crooked	Kalamazoo	Long
Branch	Craig	Emmett	Paradise	Kalkaska	Pickerel
Branch	Lake of the Woods	Emmett	Pickerel	Kent	Blue
Branch	Marble	Genesee	Fenton	Kent	Dean
Branch	Matteson	Genesee	Holloway	Kent	Lincoln
Branch	Messenger	Genesee	Mott	Lapeer	Nepessing
Branch	Morrison	Genesee	Ponemah	Lenawee	Devil's
Branch	North	Genesee	Silver	Lenawee	Evans
Branch	Randall	Gladwin	Pratt	Lenawee	Sand
Branch	South	Gladwin	Secord (Titta)	Livingston	Bruin
Branch	Union	Gladwin	Smallwood (Titta)	Livingston	Blind
Calhoun	Duck	Gladwin	Wixom	Livingston	Chemung
Cass	Baldwin	Grand Traverse	Arbutus	Livingston	East Crooked
Cass	Big Fish	Grand Traverse	Duck	Livingston	Halfmoon
Cass	Birch	Grand Traverse	Fife	Livingston	Orr

Zebra Mussel Presence in Michigan's Inland Lakes (Continued)

COUNTY	LAKE NAME
Livingston	Patterson
Livingston	Runyan
Livingston	Rush
Livingston	Sandy Bottom
Livingston	School
Livingston	Strawberry
Livingston	Watson
Livingston	Zukey
Luce	Twin Lake
Manistee	Bear
Manistee	Tippy
Mason	Ford
Mason	Gunn
Mason	Hackert
Mason	Hamlin
Mecosta	Bergess
Mecosta	Blue
Mecosta	Horsehead
Mecosta	Mecosta
Mecosta	Round
Midland	Sanford (Titta)
Montcalm	Derby
Montcalm	Spring
Montcalm	Turk
Montcalm	Whitefish
Montcalm	West
Montmorency	Ess
Muskegon	Big Blue
Oakland	Angelus
Oakland	Bald Eagle
Oakland	Big
Oakland	Brendle
Oakland	Bush
Oakland	Cass
Oakland	Cedar (Stringy)
Oakland	Cedar Island
Oakland	Clear (Stringy)
Oakland	Commerce
Oakland	Crescent
Oakland	Crystal
Oakland	Duck
Oakland	Elizabeth
Oakland	Green
Oakland	Greens
Oakland	Highland
Oakland	Kent
Oakland	Lakeville
Oakland	Long (Stringy)
Oakland	Loon
Oakland	Lotus
Oakland	Lower Pettibone
Oakland	Lower Straits
Oakland	Lower Trout
Oakland	Maceday
Oakland	Middle Straits
Oakland	Moore
Oakland	Oakland
Oakland	Orchard
Oakland	Orion
Oakland	Otter
Oakland	Oxbow
Oakland	Pine
Oakland	Pettibone
Oakland	Pontiac
Oakland	Proud
Oakland	Schoolhouse
Oakland	Silver
Oakland	Squaw (Stringy)
Oakland	Stony Creek Imp
Oakland	Sylvan
Oakland	Tan (Stringy)
Oakland	Union
Oakland	Upper Straits
Oakland	VanNorman
Oakland	Voorheis
Oakland	Walled
Oakland	Walnut
Oakland	Watkins
Oakland	Whipple
Oakland	White
Oakland	Wolverine
Oakland	Woodhull
Oceana	McLaren
Oceana	Silver
Osceola	Big
Otsego	Bradford
Presque Isle	Esau
Presque Isle	Grand
Roscommon	Higgins
Roscommon	Houghton
Roscommon	St. Helen
St. Joseph	Corey
St. Joseph	Fisher
St. Joseph	Klinger
St. Joseph	Palmer
St. Joseph	Prairie River
St. Joseph	Sturgeon
St. Joseph	Wahbememe
Van Buren	Bear
Van Buren	Banksons
Van Buren	Cedar
Van Buren	Gravel
Van Buren	Lake of the Woods
Van Buren	Saddle
Washtenaw	Barton Pond
Washtenaw	Base Line
Washtenaw	Ford
Washtenaw	Gallagher
Washtenaw	Halfmoon
Washtenaw	Independence
Washtenaw	Portage
Washtenaw	Whitmore
Washtenaw	Strawberry
Washtenaw	Tamarack
Washtenaw	Whiteford
Wayne	Belleville

MICHIGAN LAKES INFESTED WITH EURASIAN WATER-MILFOIL 2006

As of early 2007, the following lakes were reported as infested with Eurasian water-milfoil:

COUNTY	LAKE NAME	COUNTY	LAKE NAME	COUNTY	LAKE NAME
Alcona	Cedar Lake	Cheboygan	Mullett Lake	Genesee	Lake Ponemah
Alcona	Vaughn Lake	Clare	Arnold Lake	Genesee	Lake Shinanguag
Allegan	Grebe Lake	Clare	Bertha Lake	Genesee	Softwater Lake
Allegan	Hutchins Lake	Clare	Blue Gill Lake	Genesee	Squaw Lake
Allegan	Lower Scott Lake	Clare	Budd Lake	Gladwin	Lake Contos
Allegan	Miner Lake	Clare	Cranberry Lake	Gladwin	Lake Lancelot
Allegan	Minkler Lake	Clare	Crooked Lake	Gladwin	Lake Lander
Allegan	Monterey Lake	Clare	Eight Point Lake	Gladwin	Lake Lochbrae
Allegan	Osterhout Lake	Clare	Five Lakes	Gladwin	Pratt Lake
Allegan	Selkirk Lake	Clare	Lake George	Gladwin	Secord Lake
Antrim	Bass Lake	Clare	Lake of the Pines	Gladwin	Smallwood Lake
Barry	Algonquin Lake	Clare	Lily Lake	Gladwin	Lake Twenty
Barry	Barlow Lake	Clare	Little Long Lake	Gladwin	Wiggins Lake
Barry	Bristol Lake	Clare	Long Lake	Gladwin	Wixom Lake
Barry	Cobb Lake	Clare	Perch Lake	Gogebic	Bass Lake
Barry	Duncan Lake	Clare	Shamrock Lake	Gogebic	Clearwater Lake
Barry	Fawn Lake	Clare	Shingle Lake	Gogebic	Duck Lake
Barry	Fine Lake	Clare	Springwood Lakes	Gogebic	Langford Lake
Barry	Guernsey Lake	Clare	Sutherland Lake	Gogebic	Pomeroy Lake
Barry	Gun Lake	Clinton	Lake Geneva	Grand Traverse	Arbutus Lake
Barry	Jordan Lake	Clinton	Park Lake	Grand Traverse	Fife Lake
Barry	Payne Lake	Clinton	Lake Victoria	Grand Traverse	Long Lake
Barry	Pine Lake	Crawford	Lake Margrethe	Hillsdale	Lake Bel Air
Barry	Podunk Lake	Dickinson	Lake Antoine	Hillsdale	Boot Lake
Barry	Stewart Lake	Dickinson	Bass Lake	Hillsdale	Crystal Lake
Barry	Turner Lake	Dickinson	Browns Lake	Hillsdale	Fourth Lake
Barry	Upper Crooked Lake	Dickinson	Carney Lake	Hillsdale	Lake Leann
Barry	Wall Lake	Dickinson	Cowboy Lake	Hillsdale	Perch Lake
Branch	Coldwater Lake	Dickinson	Gene's Pond	Hillsdale	Lake Somerset
Branch	Lake George	Dickinson	Hamilton Lake	Ingham	Hawk Island Lake
Branch	Lake Lavine	Dickinson	Hanbury Lake	Ingham	Lake of the Hills
Branch	Marble Lake	Dickinson	Lake Mary	Ingham	Lake Lansing
Branch	Messenger/Hodunk Chain of Lakes	Dickinson	Norway Lake	Ionia	Long Lake
Branch	Union Lake	Dickinson	Sawyer Lake	Ionia	Morrison Lake
Calhoun	Beacon Lake	Eaton	Pine Lake	Ionia	Woodard Lake
Calhoun	Goguac Lake	Genesee	Byram Lake	Iosco	Little Long Lake
Calhoun	Laird Lake	Genesee	Crooked Lake	Iosco	Loon Lake
Calhoun	Lyon Lake	Genesee	Lake Fenton	Iosco	Van Etten Lake
Calhoun	St. Marys Lake	Genesee	Griffin Lake	Iosco	West Londo Lake
Cass	Dewey Lake	Genesee	Lobdell Lake	Iron	Ice Lake
Cass	Little Fish Lake	Genesee	Loon Lake	Isabella	Camelot Lake
Cass	Pleasant Lake	Genesee	Mckane Lake	Isabella	Halls Lake
Charlevoix	Lake Charlevoix	Genesee	Myers Lake	Isabella	Lake of the Hills
Cheboygan	Burt Lake	Genesee	Pine Lake	Isabella	Ojibwa Lakes

Eurasian Water-milfoil in Michigan Lakes (Continued)

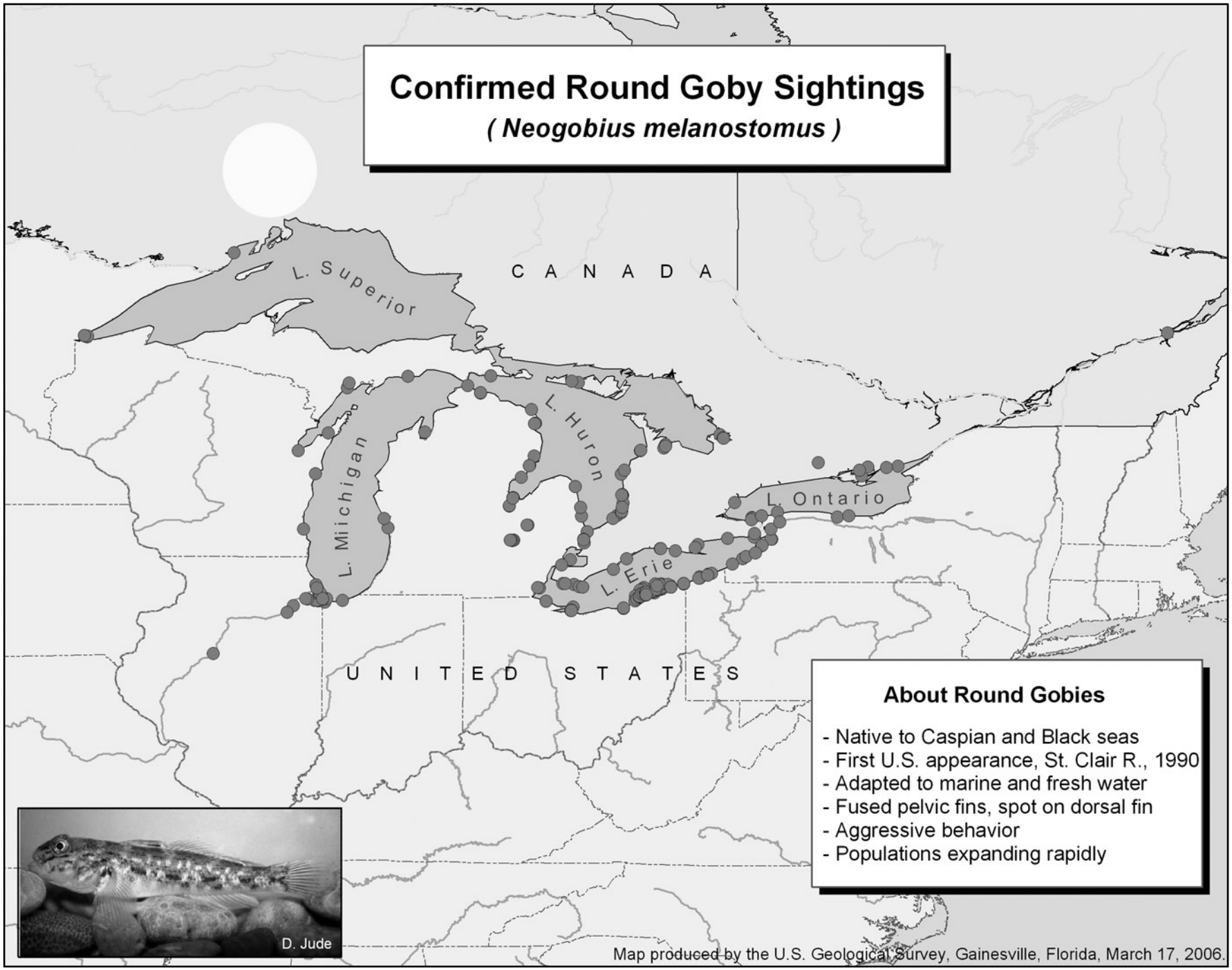
COUNTY	LAKE NAME
Jackson	Clear Lake
Jackson	Lake Columbia
Jackson	Crispell Lake
Jackson	Michigan Center Lake
Jackson	Mirror Lake
Jackson	Round Lake
Kalamazoo	Eagle Lake
Kalamazoo	Gourdneck Lake
Kalamazoo	Indian Lake
Kalamazoo	Little Asylum Lake
Kalamazoo	Long Lake
Kalamazoo	Sherman Lake
Kalamazoo	Sunset Lake
Kalamazoo	West Lake
Kalkaska	Manistee Lake
Kalkaska	Price Lake
Kent	Bass Lake
Kent	Lake Bella Vista
Kent	Big Brower Lake
Kent	Big Crooked Lake
Kent	Big Myers Lake
Kent	Big Pine Island Lake
Kent	Bostwick Lake
Kent	Camp Lake
Kent	Campau / Kettle Lakes
Kent	Cowan Lake
Kent	Degraaf Pond
Kent	Echo Lake
Kent	Fisk Lake
Kent	Green Ridge Ponds
Kent	Little Brower Lake
Kent	Little Myers Lake
Kent	Little Pine Island Lake
Kent	Mead Lake
Kent	Middleboro Lake
Kent	Millennium Park Lakes
Kent	Perch Lake
Kent	Pine Lake
Kent	Porter Lake
Kent	Reeds Lake
Kent	Round Lake
Kent	Silver Lake
Kent	Tall Pines Lake
Kent	Westboro Lake
Kent	Woodbeck Chain of Lakes
Lake	Big Star Lake
Lake	Harper Lake
Lake	Idlewild Lake
Lapeer	Barnes Lake
Lapeer	D-Bar-A Scout Ranch Lakes
Lapeer	Hemingway Lake
Lapeer	Merritt Lake
Lapeer	Lake Metamora
Lenawee	Dewey Lake
Livingston	Baseline Lake
Livingston	Beach Lake
Livingston	Bennett Lake
Livingston	Bitten Lake
Livingston	Brighton Lake
Livingston	Brophy Lake and Ponds
Livingston	Bullard Lake
Livingston	Cedar Lake
Livingston	Lake Chemung
Livingston	Clark Lake
Livingston	Coon Lake
Livingston	Earl Lake
Livingston	Faussett Lake
Livingston	Fonda Lake
Livingston	Grand Beach Lake
Livingston	Hiland / Mickey Carl Lakes
Livingston	Lake of the Pines
Livingston	Little Crooked Lake
Livingston	Long Lake
Livingston	Lake Moraine
Livingston	Pardee Lake
Livingston	Pleasant Lake
Livingston	Portage Lake
Livingston	Putnam Lake
Livingston	Round Lake
Livingston	Runyan Lake
Livingston	Rush Lake
Livingston	Ryan Lake
Livingston	Lake Serene
Livingston	Lake Shannon
Livingston	Silver Fox Lake
Livingston	Strawberry Lake
Livingston	Thompson Lake
Livingston	Lake Tyrone
Livingston	Whitmore Lake
Livingston	Winans Lake
Livingston	Woodland Lake
Livingston	Zukey Lake
Mackinac	Millecoquins Lake
Macomb	Shelby Lake
Macomb	Spring Lake
Macomb	Stony Creek Lake
Macomb	Lake Tranquility
Manistee	Bear Lake
Manistee	Manistee Lake
Mason	Bass Lake
Mason	Hamlin Lake
Mason	Long Lake
Mason	Pleiness Lake
Mecosta	Brady Lake
Mecosta	Chippewa Lake
Mecosta	Morley Mill Pond
Mecosta	Round / Blue / Mecosta Lakes
Mecosta	School Section Lake
Midland	Sanford Lake
Missaukee	Crooked Lake
Missaukee	Lake Missaukee
Missaukee	Sapphire Lake
Montcalm	Baldwin Lake
Montcalm	Big Whitefish Lake
Montcalm	Clifford Lake
Montcalm	Como Lake
Montcalm	Cowden Lake
Montcalm	Derby Lake
Montcalm	Dickerson Lake
Montcalm	Duck Lake
Montcalm	Fourth Lake
Montcalm	Indian Lake
Montcalm	Little Whitefish Lake
Montcalm	Montcalm Lake
Montcalm	Muskellunge Lake
Montcalm	Rainbow / Middle Lakes
Montcalm	Rock Lake
Montcalm	Lake Stanton
Montcalm	Townline Lake
Montcalm	Winfield Lake
Muskegon	Bear Lake
Muskegon	Big Blue Lake
Muskegon	Middle Lake
Muskegon	Mona Lake
Muskegon	Muskegon Lake
Muskegon	North Lake
Muskegon	West Lake
Muskegon	White Lake
Newaygo	Baptist Lake
Newaygo	Brooks Lake
Newaygo	Crystal Lake

Eurasian water-milfoil in Michigan Lakes (Continued)

COUNTY	LAKE NAME
Newaygo	Diamond Lake
Newaygo	Emerald-Sylvan Lake
Newaygo	Englewright Lake
Newaygo	Hess Lake
Newaygo	Kimball / Pickerel Lakes
Newaygo	Ryerson Lake
Newaygo	Sand Lake
Oakland	Andover and Dutton Ponds
Oakland	Big Lake
Oakland	Lake Braemar
Oakland	Brendel / Neva Lakes
Oakland	Bridle Lake
Oakland	Buckhorn Lake
Oakland	Carroll Lake
Oakland	Cass Lake
Oakland	Clarkston Mill Ponds
Oakland	Cedar Island Lake
Oakland	Chalmers Lake
Oakland	Charlick Lake
Oakland	Childs Lake
Oakland	Clark Lake
Oakland	Cranberry Lake
Oakland	Davisburg Mill Pond
Oakland	Dixie Lake
Oakland	Duck Lake
Oakland	Eagle Lake
Oakland	Echo Lake
Oakland	Eliza Lake
Oakland	Fish Lake
Oakland	Flanders Lake
Oakland	Gilbert Lake
Oakland	Green / Grass Lake
Oakland	Green Lake
Oakland	Greens Lake
Oakland	Hawthorne Lake
Oakland	Highland Lake
Oakland	Holiday Lake
Oakland	Huntoon Lake
Oakland	Indianwood Lake
Oakland	Island Lake
Oakland	Kellogg Lake
Oakland	Kent Lake
Oakland	Knoblock Lake
Oakland	Little Walters Lake
Oakland	Loon Lake
Oakland	Lotus Lake
Oakland	Lake Louise
Oakland	Manitou Lake
Oakland	Lake Marion
Oakland	Meadow Lake
Oakland	Lake Mickelson
Oakland	Miller Lake
Oakland	Mirror Lake
Oakland	Moore Lake
Oakland	Morgan Lake
Oakland	Lake Oakland
Oakland	Lake Ona
Oakland	Lakeville
Oakland	Orange Lake
Oakland	Orchard Lake
Oakland	Lake Orion
Oakland	Oxbow Lake
Oakland	Perry Lake
Oakland	Pine Lake
Oakland	Pleasant Lake
Oakland	Pontiac Lake
Oakland	Round Lake
Oakland	Schoolhouse Lake
Oakland	Sears Lake
Oakland	Lake Sherwood
Oakland	Shore Hill Lake
Oakland	Silver Lake
Oakland	Simpson Lake
Oakland	South Commerce Lake
Oakland	Square Lake
Oakland	Susin Lake
Oakland	Sylvan & Otter Lakes
Oakland	Taggett Lake
Oakland	Tipsico Lake
Oakland	Tull Lakes
Oakland	Turtle Lake
Oakland	Upper Lake Sherwood
Oakland	Upper Long Lake
Oakland	Van Norman Lake
Oakland	Voorheis Lake
Oakland	Wabeek Lake
Oakland	Walled Lake
Oakland	Walnut Lake
Oakland	Walters Lake
Oakland	Waumegah Lake
Oakland	White Lake
Oakland	Williams Lake
Oakland	Willow Lake
Oakland	Wing Lake
Oakland	Wolverine Lake
Oakland	Woodhull Lake
Oakland	Woodpecker Lake
Oakland	Woodruff Lake
Oceana	Pentwater Lake
Oceana	Silver Lake
Oceana	Upper Silver Lake
Ogemaw	Bush Lake
Ogemaw	Clear Lake
Ogemaw	Hardwood Lake
Ogemaw	North Dease Lake
Ogemaw	Lake Ogemaw
Ogemaw	Rose Lake
Ogemaw	South Dease Lake
Osceola	Hicks Lake
Osceola	Hogback Lake
Osceola	Lake Miramichi
Osceola	Rose Lake
Osceola	Saddlebag Lake
Osceola	Tiff Lake
Otsego	Long Lake
Otsego	Lake Louise
Ottawa	Pigeon Lake
Ottawa	Spencer Lake
Ottawa	Spring Lake
Presque Isle	Lake Nettie
Roscommon	Higgins Lake
Roscommon	Houghton Lake
Roscommon	Lake James
Roscommon	Lake St. Helen
Saginaw	Haithco Lake
Saint Joseph	Clear Lake
Saint Joseph	Fish Lake
Saint Joseph	Klinger Lake
Saint Joseph	Omena Lake
Saint Joseph	Palmer & Long Lakes
Saint Joseph	Lake Templene
Shiawassee	Scenic Lake
Tuscola	Lake Evergreen
Van Buren	Ackley Lake
Van Buren	Bankson Lake
Van Buren	Big Crooked Lake
Van Buren	Brownwood Lake
Van Buren	Cedar Lake
Van Buren	Lake Cora
Van Buren	Gravel Lake
Van Buren	Keeler Lake
Van Buren	Little Crooked Lake
Van Buren	Maple Lake
Van Buren	Mill Lake
Van Buren	Muskrat Lake
Van Buren	North Lake
Van Buren	Reynolds Lake
Van Buren	Round Lake
Van Buren	Saddle Lake
Van Buren	School Section Lake
Van Buren	Three Legged Lake
Washtenaw	Horseshoe Lake
Washtenaw	North Lake
Washtenaw	Stonevalley Lake
Washtenaw	Sugar Loaf Lake
Washtenaw	Sunset Lake
Washtenaw	Sutton Lake / Pond
Wayne	Belle Isle Lakes / Canals
Wexford	Lake Gitchegumee
Wexford	Lake Mitchell

Confirmed Round Goby Sightings

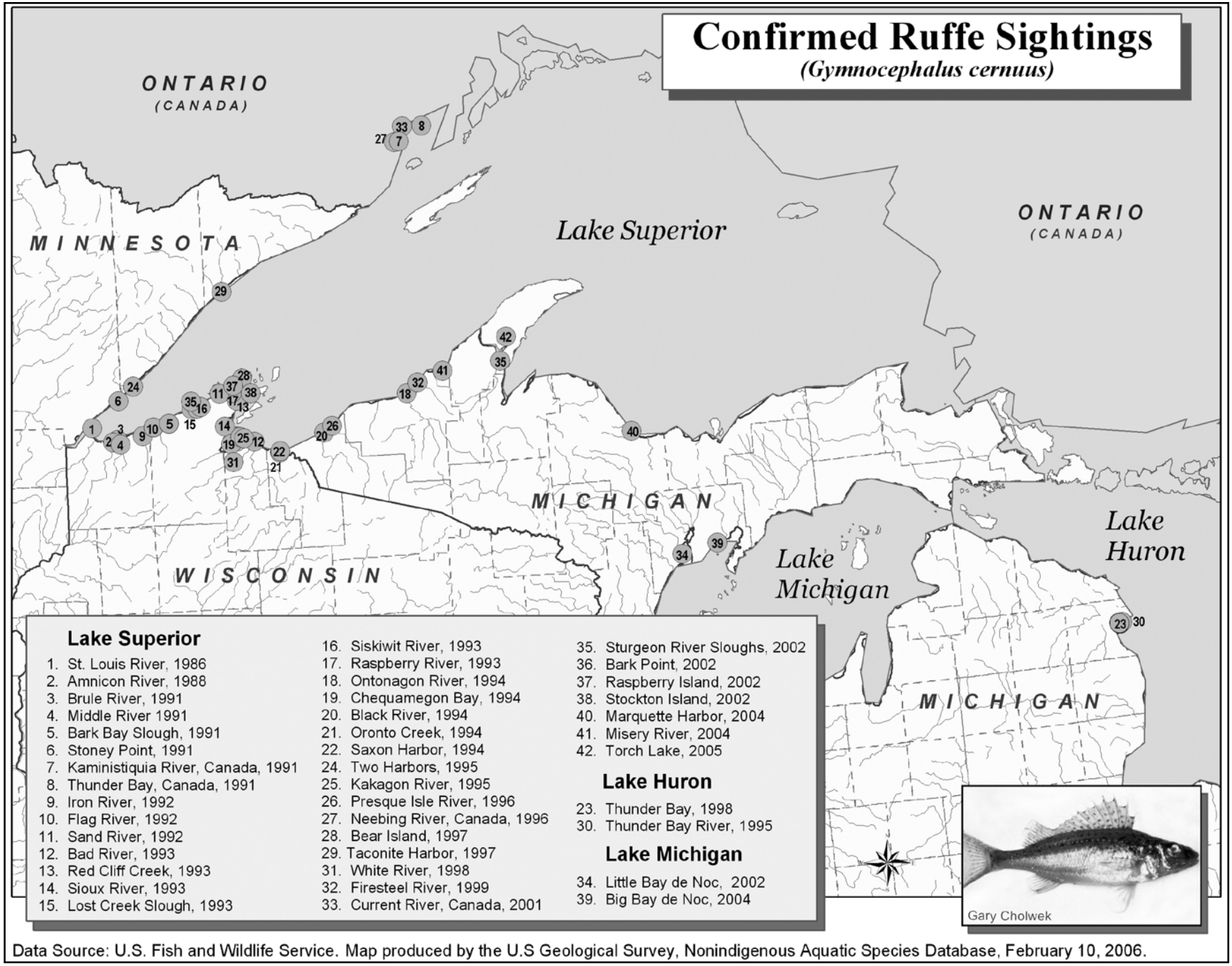
(Neogobius melanostomus)



About Round Gobies

- Native to Caspian and Black seas
- First U.S. appearance, St. Clair R., 1990
- Adapted to marine and fresh water
- Fused pelvic fins, spot on dorsal fin
- Aggressive behavior
- Populations expanding rapidly

Map produced by the U.S. Geological Survey, Gainesville, Florida, March 17, 2006.



Data Source: U.S. Fish and Wildlife Service. Map produced by the U.S Geological Survey, Nonindigenous Aquatic Species Database, February 10, 2006.

CLEAN BOATS CLEAN WATERS

Section 5:
How can volunteers organize an AIS watercraft education program?

The Clean Boats, Clean Waters program is an opportunity for volunteers to assist in the management and control of invasive species. Through Clean Boats, Clean Waters, volunteers are trained to organize and conduct watercraft inspection demonstrations. Trained volunteers educate boaters about how and where invasive species are most likely to hitch a ride into bodies of water and cause damage to their equipment. By showing boaters how to perform boat and trailer checks and distributing informational material, volunteers can make a difference in helping prevent the spread of invasive species and damage to recreational equipment.

This volunteer program demonstrates that people are willing to go beyond what is required if they understand the needs and benefits, and that they can be applied close to home.

GETTING STARTED

Recreational boating can be a significant corridor for the spread of invasive species between bodies of water in Michigan. This pathway is a concern because of the more than 900,000 registered boaters moving around Michigan's 11,000 lakes. Watercraft inspection demonstrations at boat landings are designed to increase public awareness about invasive species and to assist boaters in taking preventive steps to avoid further spreading of troublesome species and damage to their equipment.

Attending a Clean Boats, Clean Waters training workshop provides you with all the tools you need to start such a volunteer watercraft inspection demonstration program in your community. Developing an effective program requires patience, time, and an eye for organizing a working schedule.

A group that consists of a volunteer coordinator and a committee of several people is the best way to distribute the tasks equally and prevent volunteer burnout. When planning a volunteer watercraft program, consider these five Ws:

WHOM will you recruit for the watercraft education team?

Adult and youth volunteers can be recruited through lake association newsletters, local schools, 4-H, or scouting groups. Many service organizations are looking for community involvement opportunities. We recommend at least two people at the landing. Ideally, an adult should work with a youth volunteer. Boaters are very cooperative when a young person is giving the message: "Clean Boats, Clean Waters, please."

WHAT are the duties of a watercraft educator?

Before you organize a team, decide what skills and tasks volunteers need for effective interaction with the public at boat landings. Generally, educators perform three duties:

1. demonstrate how to visually check boats and recreational equipment for any hitchhiking plants or animals;
2. demonstrate where and how to clean recreational equipment and other prevention steps boaters need to take every time they leave the water;
3. distribute educational materials.

Additional duties may include recording data on the Watercraft Information Report (see Section 6) or keeping track of supplies.

Here are some specific skills to consider:

A Clean Boats, Clean Waters volunteer is…

- caring – wants people to enjoy water recreation and wants Michigan to be free of aquatic invasive species;
- congenial – interested in meeting new people and helping them;
- informed – understands the problems caused by aquatic invasive species;
- a good communicator – able to explain the problem and demonstrate inspection and cleaning techniques;
- flexible – willing to volunteer on some weekends and holidays;
- physically able to inspect watercraft and trailers;
- reliable – ready, willing and able to make and keep a commitment to the program during boating season;
- accurate – able to record information for program organizers.

To identify the watercraft education team at a boat landing, all volunteers should wear Clean Boats, Clean Waters T-shirts. Volunteers need to wear this T-shirt to signify that they are working on a specific program-Clean Boats, Clean Waters- and not harassing boaters at the landings. Two T-shirts are included in each of the resource kits.

In addition, 20 Clean Boats, Clean Waters logo stickers are included in the resource kit to use when the weather is inclement and short-sleeve T-shirts just won't work. Just peel off the protective backing on the logo, and place the sticker on your sweatshirt or coat. No matter what the weather, boaters will be able to identify the watercraft education team at a glance.

WHEN is the best time to volunteer at a boat landing?

When recruiting volunteers, be specific about the amount of time you want them to work. A volunteer is more likely to agree to a three-hour shift once or twice a month rather than an open invitation to volunteer all summer on weekends and holidays. Volunteers will readily step up if they know the expectations and how much time is realistically needed.

To get the most "bang for your buck," become acquainted with the activity on your lake and when the lake is the busiest. Are the weekends a flurry of activity from Friday night at 4 p.m. until 8 p.m. Sunday? Or is Saturday morning from 6 a.m. until 10 a.m. the active time at the landings? Usually, holiday weekends during the summer are the busiest times at launch sites. Anglers are usually up and on the lake by dawn and always out on opening day of fishing season. Recreational boaters usually use the lake in the afternoon, and sunny, warm days draw lots of people to the lake! Become aware of fishing tournaments and special lake events that draw many boats to the landings. Remember, the boat landing is often the first place an aquatic invasive species enters the system.

WHERE will the watercraft inspection demonstrations take place?

It is important to find out who owns the boat landing before you begin to schedule work shifts for your volunteers. The landing may be owned and maintained by one of several entities: the federal government, state, township, lake association, or a private business or individual. To check ownership, you might need to contact several organizations.

Department of Natural Resources (DNR)-owned and leased boat landings are identified on the DNR Web site at www.mcgi.state.mi.us/MRBIS/findlocation.asp. County zoning offices, township and city halls are other potential sources.

You may need to obtain a permit for your event/activity (see Section 7). If you are thinking about installing signage or posting material, find out what the owner requires. If you have limited volunteer resources and many public landings, determine which landings receive the most boat traffic. Think about which landing is most likely to be the first place a hitchhiking invasive will appear.

WHY is this volunteer program necessary?

Be prepared to answer this question. Often lake owners are frustrated with the public trust doctrine that mandates public use of all waters in Michigan. Lake owners feel it is unfair that they bear the brunt of the cost of managing aquatic invasive species. However, any proactive steps in preventing an infestation are more cost-effective than waiting for an infestation to occur.

Many lakefront property owners have been or are investing in control options at their own expense. Educating boaters can help to prevent the reintroduction of invasive species such as Eurasian water-milfoil into the lake. Preventing aquatic invasive species is a better management option than the expensive alternatives. For example, treating Eurasian water milfoil infestations with chemicals costs an average of $325 to $450 per acre per treatment. Eurasian water milfoil can grow two inches per day and can fragment into hundreds of new plants within hours, so it would not take long for Eurasian water-milfoil to cover hundreds of acres. If this does not impress you, contact members of a lake organization struggling with an invasive species. They can tell you firsthand the tremendous impact that one invasive species caused in their community. Remember, a little prevention is worth a lot of cure.

MATERIALS

Developing a Clean Boats, Clean Waters volunteer watercraft education program does not require a lot of money. By attending a training workshop, you will receive all that you need to start: educational materials, data collection forms, and two T-shirts. Boat landings can be very busy during the summer, and you may need more materials. Please refer to the Aquatic Invasive Species Publication List in Section 8 of this handbook. This list explains what publications are available, how to order more publications, and how to print some information from Web site links.

Resource Kit Contents

Amount	Item
1	Stop Exotics, Clean Your Boat DVD
2	Clean Boats, Clean Waters T-shirts
20	Clean Boats, Clean Waters stickers
100	Stop Aquatic Hitchhikers™ stickers
100	Watercraft checkpoint stickers
100	Eurasian water-milfoil cards
50	Round goby cards
100	Zebra mussel cards
50	Spiny waterflea and fishhook waterflea cards
50	Ruffe cards
50	Rusty crayfish cards
50	Hydrilla Hunt cards
50	The Facts on Eurasian Water-milfoil fact sheet

Materials to Have When Working at a Boat Launch:

You don't need to take all your materials to the boat landing. It's better to sort through the materials and decide what educational information is best suited for your area. The Clean Boats, Clean Waters program provides one plastic container in which to store all the educational materials in the resource kit. We recommend one resource kit for every landing you are monitoring. By using multiple plastic resource kits, each volunteer team can have all the materials they need and have them protected from the weather.

Key items to distribute to all boaters are the Watercraft Checkpoints card and Stop Aquatic Hitchhiker™ sticker. These will guide you and the boater in inspecting the appropriate places and describe the prevention steps that boaters need to take every time they leave the water.

Select other materials to take to the boat launch based on which aquatic invasive is most threatening in your area. Perhaps Eurasian water-milfoil is really a pressing issue for your lake; then it makes sense to give boaters *The Facts on Eurasian Water-milfoil* fact sheet and an identification card.

Resist the temptation to give the boater one of every card in the resource kit, because boaters will often discard them. It's best to start by handing out a little information and have additional material available if the boaters want to learn more about a particular invasive species.

Additional boat launch items to consider:

- Clipboard and pencil.
- Copy of the boat landing script (see Section 5).
- Watercraft Information Report (see Section 6 and the pocket of the handbook)
- Check Points Illustration (see Section 5 and the handbook pocket).
- Listing of lakes infested with zebra mussels and EWM
- Stop Aquatic Hitchhikers stickers.
- Selected watch cards and brochures (see Section 8).
- Cell phone and local contact phone numbers for emergencies.
- Digital camera.

WATERCRAFT INSPECTION DEMONSTRATION TIPS

An effective volunteer watercraft team is prepared to raise boater awareness and to encourage and demonstrate the steps necessary to avoid spreading invasive species and damage to recreational equipment. On very rare occasions, you may be uncomfortable about a situation or person. **Always** back away from a potentially dangerous or violent situation. **Never** encourage confrontation, no matter how strongly you might feel about the subject. Remember, volunteers are not enforcers of rules and should never jeopardize their own safety. If you are suspicious of someone (for example, a loiterer or someone who is not intending to go boating), do not hesitate to leave the launch site. You are better to be safe than sorry. If you feel that a boat launch site is unsafe in any way, please notify the organization you are working for. Use the following DO and DON'T lists to prepare your boat landing message.

The DO List

- Wear the Clean Boats, Clean Waters T-shirt to promote the message. This message gives credibility to the program and to the efforts that volunteers are making across the state.
- Always introduce yourself and mention the organization you are working for and why you are at the landing.
- Approach boat owners only before they are on the ramp.
- Always ask if the boater would mind answering a few questions.
- Be polite and courteous to all boaters you encounter.
- Listen to a boater's concerns. Remember that you are encouraging boaters to become interested in invasive species.
- Make sure boaters know that they can make a difference!

The DON'T List

- Don't begin asking questions upon approaching boaters, because they might be confused about who you are and why they should give you their time.
- Don't delay boaters or cause a backup.
- Never preach to a boater; your mission is to educate, not alienate.
- If the boater is reluctant to cooperate, hand out educational material and record whatever information you can.

BOAT LANDING MESSAGE

Getting out and speaking to the public can be intimidating. Volunteers can feel a little anxious and nervous. The following prepared script will help volunteers practice and role-play before their first boater shows up at the landing. Practicing with other folks will give volunteers the confidence it takes to greet a boater. If volunteers really want to watch a "pro," they just need to ask a few kids to get involved. Are kids intimidated? Usually not!

The following prepared script is only one sample of the many methods of addressing boaters at landings and performing watercraft inspection demonstrations. Each volunteer should develop his or her own style and learn how to adapt in a variety of boat landing experiences. Approach boaters only before they are on the ramp, and use the Watercraft Information Report to record the information about the boat and boater (see Section 6). At times you may have only 30 seconds to talk to the boater; other times, long lines at landings may provide you with lots of time to talk. Remember, if the boater is not interested, just hand out a checkpoint card and sticker and record whatever information you can.

No matter what style you use to approach boaters, any watercraft inspection demonstration process should include these points:

1. Tell them who you are, who you represent, and why you are there.
2. Ask if they have a short time to answer some questions.
3. Collect information on the Watercraft Information Report form.
4. Ask if they are familiar with Eurasian water-milfoil or zebra mussels. Briefly explain about these invasive species.
5. Ask if they will let you demonstrate how to inspect their boat and equipment.
6. Talk while inspecting, and point out watercraft checkpoints. If they do not want to assist you in the inspection, continue to talk about invasive species as you inspect.
7. Give your final message, the prevention steps:
   - Inspect and remove any visible mud, plants, fish, or animals before transporting equipment.
   - Drain water from equipment before transporting.
   - Dispose of unwanted bait in the trash, not in the water.
   - Spray, rinse, or dry equipment to remove or kill invasive species.
8. Give them the watercraft checkpoint card, a Stop Aquatic Hitchhikers™ sticker and other appropriate educational materials.
9. Thank them for their time and cooperation.

Sample Script

As the vehicle approaches, write down the state the vehicle is from and type of watercraft. Introduce yourself:

Good Morning/Afternoon. I am from _____. We are working with state agencies and local groups to talk with boaters about invasive species and help them check their boats for Eurasian water-milfoil and zebra mussels. We are trying to keep Eurasian water-milfoil, zebra mussels and other harmful invasive species from spreading from lake to lake. We also want to help boaters prevent damage that invasive species can cause their recreational equipment. I have a few quick questions I would like to ask you, and then I would like to walk around your watercraft with you and point out a few places where these species can attach to boats and trailers.

Hand out informational brochures or watch cards.

Ask the questions and record on the Watercraft Information Report:

1. What was the last body of water your boat was on? Print the name in the blank.
2. Did you use your boat during the past 5 days?
3. Did you take prevention steps (clean boat, trailer, and equipment)?
4. Have you ever heard of Eurasian water-milfoil, zebra mussels or other invasive species?

   If YES, check all categories from which they got information.

   ___ PSA ___ Publication

   ___ Newspaper/Media ___ Signs

   ___ Presentation or Display ___ Other

   If NO, explain that invasive plants and animals overtake the lake's ecological community and that state agencies are attempting to prevent their spread from lake to lake. Always explain to the boater that invasives are the reason that volunteers are out at the launches, trying to raise public awareness about how invasives spread and why they are so terrible for Michigan lakes and rivers.

5. Are you familiar with the problems caused by Eurasian water-milfoil?

   Eurasian water-milfoil grows in dense surface mats that shade out native plants, block fish movement, entangle boat motor propellers, and interfere with swimming and many other types of water recreation. Eurasian water-milfoil out-competes native vegetation needed by fish and wildlife. This underwater plant can grow very rapidly—up to 2" per day—and can reach lengths of 20 feet. Refer to pamphlets, brochures, and other handouts for more information to provide on EWM.

   If you know that the lake has zebra mussels or Eurasian water-milfoil, share this information with boaters.

6. Are you familiar with the problems caused by zebra mussels?

   Zebra mussels compete with other aquatic organisms for food. They reduce the amount of plankton in the water that fish feed on; they kill native clams by colonizing on their shells; and they clog intake pipes at water utilities and industries. In addition, zebra mussels can attach in huge numbers to any hard surface, such as the bottom of your boat if it was moored in the lake and to piers and docks. They can also damage your boat's bilge and live well. They reproduce quickly—one female can produce up to one million eggs per summer.

   Refer to pamphlets, brochures and other handouts for more information to provide on zebra mussels.

   Perform a watercraft check, (using checkpoint illustration):

   If you would walk around your boat with me, I can show you some areas to look for invasive hitchhikers.

   Make sure you talk aloud as you inspect; it helps reinforce the Clean Boats, Clean Waters behavior. Talk to boaters about inspecting and cleaning their watercraft and about draining the water from their boat—such as the bilge, bait buckets and live wells—before they leave the access.

   Water is another way invasives can move from lake to lake so it is always a good idea to drain your water. Vegetation can be found on motor boats, the motor/prop, anchors, bunks, rollers, the trailer axle, lights/wiring; for jet skis, it can be found in the intake grate and propeller; and for sailboats, it can be found in the centerboards. Check your anchor and anchor line to see if any plants are clinging to it.

   Some aquatic invasives, such as zebra mussels, are also found on the motor/prop, on the sides and bottom of boat below the waterline, on the anchor, and clinging to vegetation. It is a good idea to drain water from the motor, live well, bait well, bait bucket, bilge, and transom wells. Always inspect the hull and sides of your boat for aquatic invasives; if it feels gritty or sandy, it may be that new zebra mussels are attached.

   An extra precaution that you can take to eliminate other aquatic invasives is to wash your boat with warm tap water or take your boat through a car wash or dry your boat and equipment in the sun for five days before entering another lake.

   Leave boaters with a final message: Clean Boats, Clean Waters

Please make it a habit to:

- Inspect and remove any visible mud, plants, fish, or animals before transporting equipment.
- Drain water from your equipment (boat, motor, trailer, live wells) before transporting.
- Dispose of unwanted bait in the trash, not in the water.
- Spray, rinse, or dry equipment to remove or kill invasive species.

Give boaters the Stop Aquatic Hitchhikers™ sticker and help them place it on the handle side of the trailer winch post. Remind boaters to follow the precautions listed on the Stop Aquatic Hitchhikers™ sticker every time they leave a body of water. Also give boaters the Watercraft Checkpoints card.

Thank the boaters for their time and cooperation.

POTENTIAL SCENARIOS AND QUESTIONS

"Why are you out here wasting resources when the plant is going to come anyway?"

Even the most educated people will ask this question. Just be prepared mentally for such viewpoints and think about why you are out there and what you will say in reply. Expect the unexpected. Here are some suggested responses:

Even if we cannot keep the plants out completely, we can prevent a lot of widespread damage. Prevention also gives us time to adopt new control methods as they are developed in the future. The longer we keep invasives out of a lake, the longer we put off the enormous costs of management and property devaluation.

If lakefront property owners are investing tens of thousands of dollars or more for control, boater education can help keep invasive plants and animals from being re-introduced into the lake.

"Aren't all plants bad anyway?"

It is important to clear up this misconception! This is what you can say:

Native plants are essential lifelines for an aquatic ecosystem, providing the basis for all life within it. The problem lies with invasive (non-native) plants that have no natural inhibitors and therefore out-compete native plants, lowering the water body's aquatic diversity.

"I don't have time for this... I know all about it already!"

This remark is fairly common. If boaters do not wish to help you with the survey, you must respect their rights and let them be. In such a situation, the suggested action would be to offer them a sticker and checkpoint card and wish them a nice day.

"Why did it take Michigan so long to do something about invasive species?"

There is no good answer to this question because it's a very good point. Here is how you can respond:

In the past, environmental problems have often become established and have sometimes reached a crisis before we did anything about them. In this case, we have learned from other states and are trying to take action before these species spread to more of our sensitive environments. Instead of focusing on what could have been done, we are trying to focus energies on the present and future. We have also become aware of species such as Hydrilla that could invade Michigan waterways and be very damaging to the ecology and economy of our state. We're trying to prevent their introduction and avoid those costs.

OH NO, YOU FOUND SOMETHING!

Aquatic invasive species can hide in the most mysterious places, and even the most diligent volunteer may not detect a hitchhiker. Catching the invasive on a watercraft before it enters a lake is the most effective means of preventing an explosion of the troublesome species. The following information provides you with specific instructions on how to collect a sample from a watercraft during the inspection process.

Submitting a sample from a watercraft inspection:

If you think you have found an invasive species on a watercraft, request a sample from the owner and follow the procedures. Ask the boater which body of water the boat was on last, and record that information on the Watercraft Information Report. Recommend that the boater take the boat to a car wash and have the watercraft washed down before it is launched.

Take a sample if:

- You think you have found an invasive species from a body of water that is not currently listed as infested.
- You think you have found an invasive species on a boat entering a body of water not known to be infested with that species.

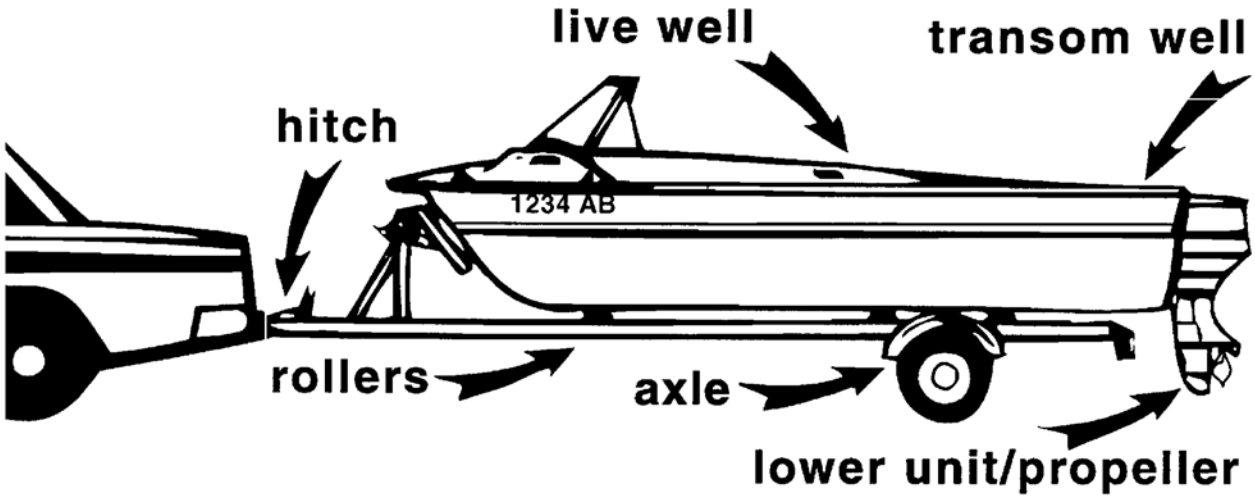
Steps to follow:

- Put the sample in a plastic bag and keep it in a cool place (a cooler in your car or refrigerator at home). Send the specimen to the local Sea Grant office for identification. See Section 2 of this handbook for locations and phone numbers.
- Use a permanent marker and record the following information on the plastic bag:
  a. Date
  b. Body of water
  c. Description of where the sample was found—on a boat, brought in by an angler caught on fishing line, etc. Be sure to provide the specific location on the lake where the specimen was found to assist in any follow-up work effort.

Remember if you find "something," don't give up; there are a variety of control and management options to address invasive species on your lake. Early detection is the key to controlling the situation!

CLEAN BOATS CLEAN WATERS

WATERCRAFT CHECK POINTS



- ☐ Anchor
- ☐ Axle
- ☐ Bait bucket
- ☐ Bunks
- ☐ Bow line
- ☐ Fishing line
- ☐ Floor
- ☐ Hull
- ☐ Intake pipe
- ☐ Ladder
- ☐ Landing net
- ☐ License plate
- ☐ Motor
- ☐ Wheels
- ☐ Live well
- ☐ Lights/wiring
- ☐ Rollers
- ☐ Prop
- ☐ Spare tire
- ☐ Tackle
- ☐ Tow rope
- ☐ Trailer
- ☐ Transducer
- ☐ Transom well
- ☐ Trolling motor

CLEAN BOATS
CLEAN **WATERS**

Section 6:
How can volunteers share their information?

KEEPING RECORDS

Volunteer watercraft education teams may wonder why it's important to keep track of the boaters who visit boat landings. Some teams may feel that their presence is all that is needed to assist boaters in checking their recreational equipment for invasive species.

The Clean Boats, Clean Waters program strongly encourages teams to use the reporting form in this section to record the following information:

- what state the visiting vehicle is from,
- what type of recreational watercraft is being used,
- what body of water the boat was on last and when,
- whether the boater has taken prevention steps,
- whether the boater allows inspection,
- whether plants or animals are on the boat entering or leaving the water body,
- whether the boater has prior knowledge of invasive species,
- whether the boater accepts informational material, and
- how many people listened to the message.

This information will be entered into a statewide database.

What are the advantages of keeping records about volunteer watercraft inspection education programs?

1. With limited state resources, it makes sense for each volunteer team to track its own data.
2. Collecting data helps the team discover traveling patterns of boaters who visit the lake.
3. The data could also be useful for local ordinance reviews that pertain to the boat landing or water body use.
4. Most importantly, by recording and sharing consistent information, the program can gain valuable insight about the public's knowledge of invasive species and the traveling patterns of aquatic invasives. In this way, volunteer teams assist lake managers with invasive species prevention and control and quantify the impacts that volunteers are having on invasive species. Having this information helps justify the continued need to support invasive species programs.

See: Watercraft Information Report Form on next page

Working with the Watercraft Information Report Form

The report form is fairly straightforward, but here are a few guidelines to assist you in collecting and recording the correct information.

- In the "Prevent" column, check whether or not the boater says they have taken preventive actions, such as power washing or drying the boat.
- In the "Inspect" column, check whether or not the boater allows you to inspect the watercraft.
- In the "AIS" section, check "W" if the boat or trailer has weeds hanging off it as the boaters are coming in or going out. Also note whether invasive animals are present and check "A" if they are. Record this information before you ask them to remove plants or animals. This information will help show whether boaters are removing vegetation before coming to new waters.
- The "Prior Knowledge" section allows you to indicate where boaters previously obtained information about aquatic invasives (if they have never heard about them, you don't have to check anything). If boaters have a Stop Aquatic Hitchhikers™ decal, you might want to ask them where they got it.
- Use the "Materials" column to check whether or not you gave informational/educational materials to the boater/user.
- The "Number of People Contacted" entry does not necessarily equal the number of people on the boat. Count only the people who actually listened to you. Also, you can use this section if you talk to people at the landing, anglers for example, who aren't boating. You won't have boat information from them, but you can still count them as contacts.

It's important to have one person collect and keep all of your team's reports for the season. By September 15, send all of the reports to the Clean Boats, Clean Waters coordinator:

Clean Boats, Clean Waters
c/o Michigan Sea Grant
334 Natural Resources Building
Michigan State University
East Lansing, MI 48824-1222

Best of luck in your watercraft inspection education program, and remember to make sure boaters know that they can make a difference!

Sharing Information and Networking Opportunities

Everyone who attends a Clean Boats, Clean Waters training workshop is entered into a volunteer database. Each participant's name, address, and contact information is collected during the workshop and used to facilitate future communication from program leaders to participants and among participants. Contact information provided will only be used for this program and will not be otherwise distributed.

CLEAN BOATS
CLEAN **WATERS**

Clean Boats, Clean Waters

Watercraft Information Report

Notice: Information requested on this form will be used to track and evaluate public awareness and education efforts for watercraft inspection. Personal information, including names of staff or volunteers, is not intended to be used for other purposes but may be made available to requesters.

PLEASE PRINT

Team Name: Volunteer Name: (Last) (First)

Waterbody Name: Landing Location: (County) (Twp., City, Village)

Date	State		Watercraft Information									Boater Information														
			PWC	Pontoon	Fishing	Pleasure	Sailboat	Kayak/ Canoe	Other	Last Used		Prevent		Inspect		AIS		Prior Knowledge						Mat'ls		Contacts
Time	MI	Other								Date	Location	Y	N	Y	N	A	W	PSA	News	Display	Pub	Sign	Other	Y	N	
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Comments, Notes:
Questions Boaters Ask: (use back of this page)

Questions: (517) 353-9723

CLEAN BOATS
CLEAN WATERS

Section 7:
How can volunteers take care of boat landings?

BOAT LANDING INVENTORY

The Clean Boats, Clean Waters program offers an excellent opportunity for volunteers to help care for boating access sites. Among the contributions volunteers can make are:

- inventory the site;
- report to the owner on its status;
- post a sign about invasive species;
- display information about invasive species;
- report to the CBCW program on site usage.

Use the information in this section to guide you in those activities.

Conduct an inventory of information about the landing(s) you plan to use. PLEASE PRINT

Water Body Name: _____

Boat Landing Location (Road, Street, Drive): _____

_____

County: _____

Township, City, Village: _____

Boat Landing Owner: _____

Ramp Type:

__ Concrete Slab
__ Concrete Plank
__ Other _____
__ Asphalt
__ Gravel
__ Dirt

Parking Lot Type:

__ Concrete
__ Asphalt
__ Gravel
__ Dirt
__ Other

Number of Parking Spaces: _____ Disability Spaces: _____

Type of Information Display:

__ Kiosk
__ Information Center (glass-enclosed)
__ Other
__ None

Place to leave brochures? ___ Yes ___ No

Is an Aquatic Invasive Species sign posted and visible from the landing?

__ Green and white
__ Yellow and black
__ Other

Sign's distance from the landing: _____
Overall facility condition: _____

After you have inventoried the site, decide which efforts are most needed at that location, and discuss them with the landing's owner. You should always get permission before making any changes at the landing site.

How can we share the findings from our inventory?

Contact the landing's owner and ask for some time to explain the Clean Boats, Clean Waters program and get the necessary permission to use the launch site for your team's work. (See the DNR Permit Application at the end of this section.) At that time, you can also discuss your findings and any ideas you have for improvements/changes. Also, please send a copy of the inventory to the Clean Boats, Clean Waters coordinator, along with the results of your discussion with the site's owner.

Boat Landing Ownership and Maintenance

Whoever owns or operates a boat landing is responsible for its maintenance.

How can I find out who owns the boat landing?

It is important to know who owns the landing and who to contact. Ownership of boat landings can be determined through a variety of methods. Plat maps are one useful source, as are searches at the register of deeds office for the county in which the landing is located. Department of Natural Resources (DNR)–owned and leased boat landings are identified on the DNR Web site – www.mcgi.state.mi.us/MRBIS/findlocation.asp

How are state, county, village, or city parks regulated?

State-owned parks with boat landings are regulated under Public Act 451 of 1994. County, village, and cities that own parks with boat landings usually operate such parks and boat landings under local ordinances or have agreements with the State of Michigan for operational standards (such as Grant-in-Aid or Michigan Natural Resources Trust Fund).

Boat Landing Sign

Michigan has developed this sign about invasive species for use at boating access sites. If you find one of these at the site you will be using, make a note of it on your inventory form. If you find another type of sign there, also note that in the appropriate place on the inventory. If the boat landing has no sign about invasive species, you can request one of these signs by contacting the Michigan Office of the Great Lakes at (517) 335-4056.

Displaying and Distributing Information

If the landing has a message board or kiosk, volunteers may be able to display and/or distribute information about invasive species and contact numbers to use if a questionable plant or animal is found. The boat landing may be the first opportunity for volunteers to educate boaters. The Clean Boats, Clean Waters team cannot be there for every boater, but it can often offer educational information at any time.

Launch Regulations

The Michigan Department of Natural Resources encourages free boat launching as part of its responsibility for public access to the state's waters. However, a reasonable launch fee may be charged under authority of Public Act 451 of 1994 for the purpose of operating and maintaining a boat access site owned or operated by DNR and other access providers. Excessive, unjustified, or unreasonable boat launching fees restrict or prohibit public boating access and use of navigable waters in the state.

What is the public trust doctrine?

The Michigan Constitution establishes a state-administered public trust for navigable waters of the state. Under the public trust doctrine, the state holds the water of navigable bodies of water in trust for all its citizens and has an obligation to protect public rights in navigable waters.

What is the relationship of the public trust doctrine to local regulations?

The public trust doctrine plays a substantial role in any decision relating to the public's access to and use of public waterways. The doctrine provides that the government holds all navigable waters in trust for the benefit of, and unrestricted use by, the public as a whole. This doctrine essentially creates a property right for the public as a whole in the waterways within a state. Access and use of waters may be restricted only under the police powers of the state for the protection and conservation of the public health, safety, and welfare, including environmental conservation and recreational purposes. Any regulation of the use of waterways must be reasonable in respect to the public interest being protected.

Local government units may not enact any ordinance or regulation that in any manner excludes any boat from the free use of the waters of this state or that pertains to the use, operation, or equipment of boats or that governs any activity regulated by the Michigan Waterways Commission.

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

USE PERMIT

Issued under authority of Act 451, P.A. 1994 as amended. Subject to the provisions of the law and the conditions herein contained, permission is hereby granted to the person named to use State-owned land described for the purpose indicated.

ISSUING UNIT		PERMIT NUMBER
PARKS AND RECRATION BUREAU		04-01
PERMIT ISSUED	PERMIT EXPIRES	BUILDING INVENTORY NUMBER
6/1/2004		

NAME OF PERMITTEE	PERMITTEE'S TELEPHONE NUMBER	PERMITTEE'S S.S. / FEDERAL I.D. NUMBER
NAME OF VOLUNTEER GROUP	231 000 0000	

STREET ADDRESS	APPLICATION/REVIEW FEE	TOTAL CHARGES FOR LAND USE	PERFORMANCE BOND AMOUNT
P.O. BOX OR STREET ADDRESS	$	$	$

CITY	STATE	ZIP CODE	PAY IN INSTALLMENTS OF
CITY	MI	48999	$ per beginning

DESCRIPTION OF STATE OWNED LAND

Clam Lake BAS (north side), Lake Bellaire BAS (east Side); Torch Lake BAS at Eastport (north side)

AUTHORIZED LAND USE

Provide boat washing and public education regarding aquatic nuisance species at three DNR-owned boating access sites (BAS).

SPECIAL CONDITIONS AND/OR PENALTIES NOT CITED BELOW

1. Permittee is shall not impede public use of the ramp nor interfere with public use in any way.
2. Permittee will insure that wash water does not enter the lake.
3. Permittee understands that public participation is strictly voluntary and permittee will not "pressure" boaters to participate in the program.
4. Permittee will vacate the BAS is and when space is needed for recreational boater use and parking.
5. Violation of any conditions is cause of the revocation of this permit.

DEPARTMENT REPRESENTATIVE TO CONTACT RELATIVE TO OPERATIONS UNDER THIS PERMIT (*PAY ANY INSTALLMENTS AT THIS ADDRESS)*

NAME OF REPRESENTATIVE	DEPARTMENT LOCATION/OFFICE	TELEPHONE NUMBER
Harold Herta, PRD Resource Mgt. Section	Mason Building, Lansing	517 335 5695

STREET ADDRESS	CITY	STATE	ZIP CODE
P.O. Box 30257	LANSING	MI	48909 7757

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS AND REQUIREMENTS:

Hereinafter the Department of Natural Resources shall be referred to as Department.

1. Unless sooner terminated, this permit shall expire on the date indicated above.
2. Payment in the amount specified above shall be made prior to use of land indicated above or in installments as indicated above.
3. Permittee shall maintain the area under permit in a clean and sightly condition.
4. Requests for permit renewals should be made to the Department Representative 30 days prior to the expiration date of this permit. Such requests will be considered only when all stipulations in the original permit have been complied with.
5. The rights accruing under this permit shall not be assigned or transferred without the written consent of the Department Representative.
6. Permittee shall not commit, cause, or allow to be committed any waste of, or injury to, said premises or any part thereof, nor use the same except for the purpose indicated.
7. Temporary improvements necessary for the efficient utilization of the said premises may be made as indicated.
8. Improvements made by the permittee on said premises and not removed within 30 days after cancellation or expiration of this permit, and when such removal shall be requested by the Department Representative shall become attached and remain a part of the premises.
9. The Department reserves the right:
   a.) to dispose of any portion of the premises herein described during the term of this permit. If possible, proper notice of sale or disposition will be given permittee. However, failure to notify permittee will not affect this right.
   b.) to lease said premises for exploration and production of any or all minerals, including coal, gas, oil, sand, gravel, etc.
   c.) to grant rights-of-way and easements of any kind and nature over and across said premises, and to grant or exercise all other rights and privileges of every kind and nature not herein specifically granted.
10. LIABILITY. Grantee hereby releases, waives, discharges and covenants not to sue the State of Michigan, its departments, officers, employees and agents, from any and all liability to Grantee, its officers, employees and agents, for all losses, injury, death or damage, and any claims or demands thereto, on account of injury to person or property, or resulting in death of Grantee, its officers, employees or agents, in reference to the activities authorized by this permit.
11. INDEMNIFICATION. Grantee hereby covenants and agrees to indemnify and save harmless, the State of Michigan, its departments, officers, employees and agents, from any and all claims and demands, for all loss, injury, death or damage, that any person or entity may have or make, in any manner, arising out of any occurrence related to (1) issuance of this permit; (2) the activities authorized by this permit; and (3) the use or occupancy of the premises which are the subject of this permit by the Grantee, its employees, contractors, or its authorized representatives.
12. Permittee and occupants are responsible for the payment of all utility bills including water, electricity, gas, etc.
13. Permittee agrees to comply with all requirements herein, and, if for any reason permittee violates or neglects to fulfill such requirements, this permit shall terminate and permittee shall forfeit all rights and payments made hereunder. Should permittee remain in possession of said premises after cancellation or expiration of this permit, said permittee shall be considered as tenant or tenants holding over without permission and may be evicted from said premises.

I have read the terms and conditions contained in this permit. I agree to abide by same, and assume all the obligations contained herein.	Approved By
Permittee's Signature / Date	Department Representative's Signature / Date

DISTRIBUTION: *Permittee & Lansing Office - 1 Signed Original Each*
Unit Manager, District, Field Hdqtrs. - 1 Signed Photocopy Each

PR 1138E (Rev. 11/03/2004)

CLEAN BOATS
CLEAN WATERS

Section 8:
Where can volunteers get more information and materials?

AQUATIC INVASIVE SPECIES WEB SITE LINKS

Aquatic Nuisance Species Task Force (ANSTF)
www.anstaskforce.gov

Aquatic Plant Management Society (APMS)
www.apms.org

Center for Aquatic Plants, University of Florida
http://aquat1.ifas.ufl.edu

Cornell University Department of Natural Resources: Biological Control of Non Indigenous Plant Species
www.invasiveplants.net

EPA Office of Water
www.epa.gov/water

Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW)
www.fws.gov/ficmnew

Great Lakes Indian Fish and Wildlife Commission's (GLIFWC) Exotic Plant Information Center
www.glifwc.org/invasives

Great Lakes Information Network (GLIN)
www.great-lakes.net

Invasive Plant Association of Wisconsin
www.ipaw.org

Listed Noxious Weeds and Invasive Non-Native plants - Eastern Region, USDA-Forest Service
www.fs.fed.us/r9/wildlife/range/weed/index.php

Maine Department of Environmental Protection Invasive Aquatic Species Program
www.state.me.us/dep/blwq/topic/invasives

Michigan Department of Environmental Quality
www.michigan.gov/deqaquaticinvasives

Michigan Department of Natural Resources
www.michigan.gov/dnr/0,1607,7-153-10364_18958-54177--,00.html

Michigan Invasive Plant Council
http://forestry.msu.edu/mipc

Michigan Sea Grant
www.miseagrant.umich.edu/ais

Minnesota Department of Natural Resources
www.dnr.state.mn.us/invasives

Minnesota Sea Grant
www.seagrant.umn.edu/exotics

National Sea Grant Network Exotic Species Graphics Library
www.sgnis.org/publicat/slide/catalog1.htm

North American Lake Management Society (NALMS)
www.nalms.org

Natural Resources Conservation Service, USDA
www.plants.usda.gov

Plant Conservation Alliance's Alien Plant Working Group
www.nps.gov/plants/alien

PLANTS Database Natural Resources Conservation Service, USDA
www.plants.usda.gov

Purple Loosestrife Project-Michigan State University
www.miseagrant.umich.edu/pp

Swimmer's itch
http://dnr.wi.gov/org/water/fhp/lakes/swimitch.htm

USDA National Invasive Species Information Center, Aquatic Species
www.invasivespeciesinfo.gov/aquatics/main.shtml

USGS Water Resources
http://water.usgs.gov

Washington State Department of Ecology
www.ecy.wa.gov/programs/eap/lakes/aquaticplants

WDNR Invasive Species
http://dnr.wi.gov/invasives

Wisconsin Sea Grant
www.seagrant.wisc.edu

Wildland Invasive Species Team
http://tncweeds.ucdavis.edu/esadocs.html

Wisconsin State Herbarium
www.botany.wisc.edu/herbarium

AQUATIC INVASIVE SPECIES PUBLICATIONS

When pdf files are indicated, feel free to download and print your own copy of the publications.

General Publications

Pub #	Title
MICHU 05-715	Clean Boats, Clean Waters AIS Volunteer Program (brochure)
MICHU 05-407	Great Lakes Unwanted Aquatic Invasive Species – Poster Series Presents key facts about aquatic invasive species in the Great Lakes. Colorful illustrations, photos and graphics help people understand why invasive species are a problem and what can be done. Individual 12" x 18" posters portray ruffe, goby, waterfleas, zebra mussel, sea lamprey, purple loosestrife and Eurasian water-milfoil, while a 24" x 31" poster presents all seven species.

Watch Cards

Sea Grant ID cards that include "What you can do" steps and contact information to report new sightings.

MICHU-98-500	Zebra Mussel Watch
MICHU-98-500	Ruffe Watch
MICHU-98-505	Round Goby Watch
MICHU-98-507	Purple Loosestrife Watch
MICHU-02-500	Eurasian Water-milfoil Watch
MICHU-04-500	Rusty Crayfish Watch
MICHU-03-501	Spiny and Fishhook Waterflea Watch
MICHU-03-500	European Frogbit Watch
MICHU-03-502	Bighead and Silver Carp Watch
MICHU-04-501	Hydrilla Hunt

You can order these cards from Michigan Sea Grant's bookstore at www.miseagrant.com

OTHER PUBLICATIONS

Many of the following publications are available from Web sites; links are provided below.

General Aquatic Invasive Species Information

Ballast Water Management: Preventing and Controlling the Spread of Aquatic Nuisance Species
www.uscg.mil/d1/units/msoprov/archive/bwm%20brochure.html

Stop Ballast Water Invasions
www.iisgcp.org/products/iisg0201.pdf

Aquatic Invasive Plants

The Facts on Eurasian Water-milfoil (fact sheet)

Heading Off Hydrilla
www.miseagrant.umich.edu/downloads/ais/hydrillafactsheet.pdf

Zebra Mussels

Zebra Mussels in North America: The Invasion and Its Implications
www.sgnis.org/publicat/snyder.htm

Boaters: Take Action against Zebra Mussels
www.seagrant.umn.edu/exotics/ZMBoaters.pdf

Zebra Mussels: Questions and Answers for Inland Lake Managers
www.iisgcp.org/products/iisg0120.pdf

Other Invasive Aquatic Animals

Round Gobies Invade North America
www.iisgcp.org/products/marsjude.pdf

Ruffe: A New Threat to Our Fisheries
www.seagrant.umn.edu/exotics/ruffe.html

Rusty Crayfish: A Nasty Invader
http://sgnis.org/publicat/gund1999.htm

Spiny Water Flea, *Bythotrephes cederstroemi:* Another Unwelcome Newcomer to the Great Lakes
www.sgnis.org/publicat/bergdj92.htm

Daphnia lumholtzi: The Next Great Lakes Exotic?
www.iisgcp.org/products/iisg9910.pdf