

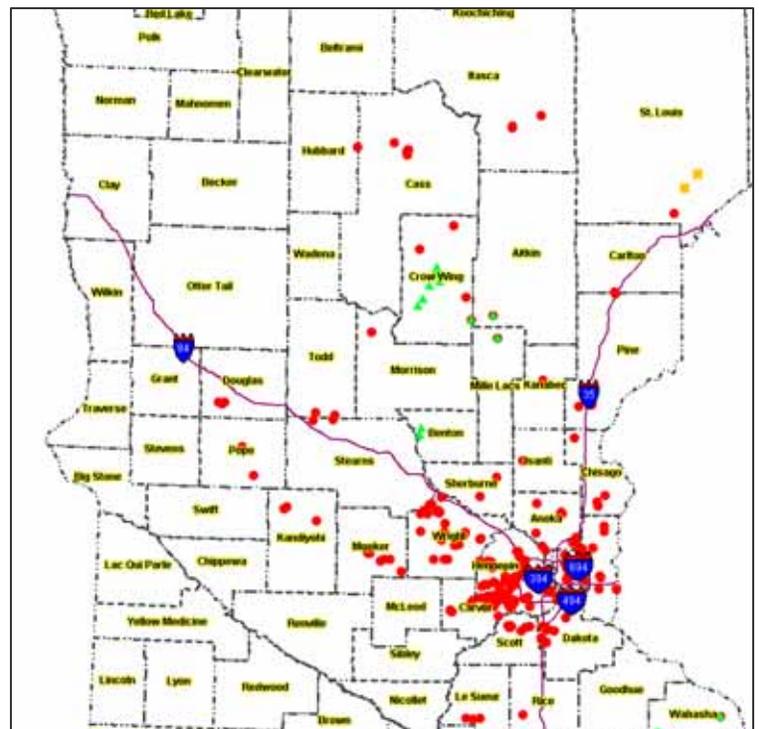
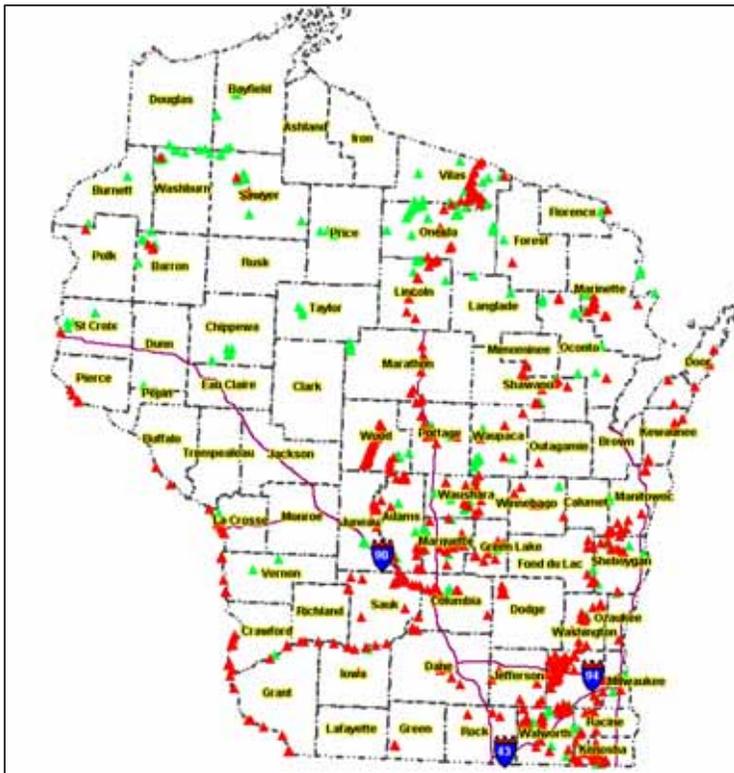
# A Summary of Eurasian Watermilfoil and Zebra Mussel Spread in Minnesota and Wisconsin

As of 2006, over 435 lakes in Wisconsin and 190 lakes in Minnesota have been infested with Eurasian Watermilfoil. Zebra mussels have spread to 100 Wisconsin lakes. In Minnesota 56 boat accesses are open to Zebra mussel infested waters. Aquatic Invasive Species are moving rapidly between lakes in the states with the promise of long term impacts to ecology, recreation, and property values.

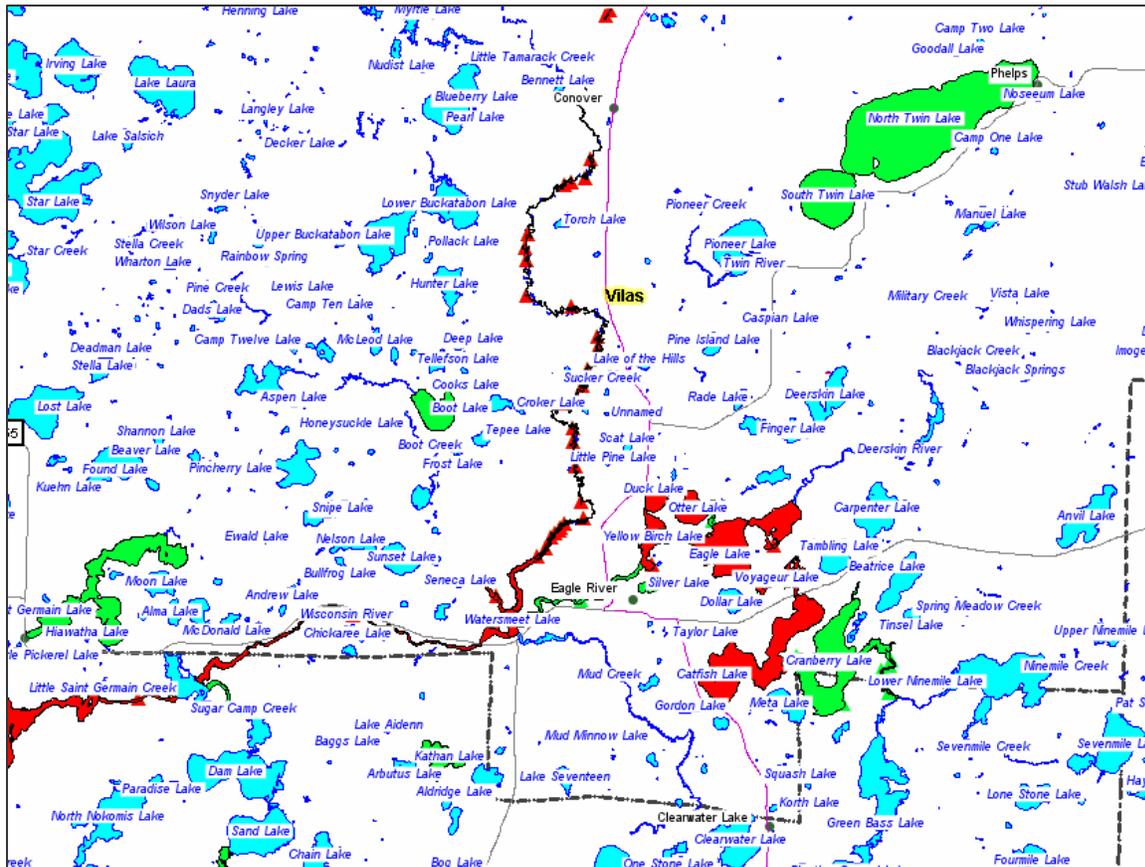
Eurasian watermilfoil is a fast growing, aquatic invasive species that takes over native plants, grows at depths of up to 35 feet, and forms dense mats at the surface. It often severely impacts recreational use of a lake. Once a lake has been infested, only regular and costly control treatments with herbicides have shown to have some effect.

The Wisconsin map show water bodies with Eurasian watermilfoil infestations prior to 1997 as red triangles. Infested waters between 1997 and 2005 are represented as green triangles. It's clear that its spreading from the southeast to the northwest.

The Minnesota map reflects the “trampoline” effect of Lake Minnetonka becoming initially infested in 1987 with boaters trafficking AIS to other parts of the state.



This map shows that established and newly infested waters are located along roadways. This evidence and reports of milfoil initially propagating a lake near the boat launches point to transportation by boats and trailers traveling between water bodies as the key vectors.



A study done at Lake St. Clair, Michigan boat launches in 2001 documented key vectors contributing to Aquatic Invasive Species spread. (Overland Dispersal of Aquatic Invasive Species: A Risk Assessment of Transient Recreational Boating). This report found that the primary method for Zebra mussel spread was from adult mussels clinging to aquatic plants. It is estimated that from one boat launch 170 inland lakes would have exposures to transported AIS (macrophytes and zebra mussels).

## Zebra mussels and Quagga mussels have numerous negative impacts on a lake:

- **Rapid reproduction.** A single Zebra mussel can produce 600,000 offspring in one season. These mussels will cling to virtually any surface.
- **Razor sharp shells.** Both living and dead shells washed up on shore have caused deep cuts on swimmers.
- **Fouling of infrastructure.** Boat water intakes, outboards, docks, and lifts. Over 50 million is spent in the Great Lakes area annually to clean infrastructure damage.
- **Removal of food chain base.** Filtering one liter of water per day will have long term impacts to fisheries.
- **Concentrating levels of botulism bacteria from sediment.** Record numbers loons and other migratory birds are dieing due to Type E Botulism from ingesting Quagga mussels in Lake Michigan.
- **Promoting growth of AIS weeds.** Clarifying water creates conditions for Eurasian milfoil, and Curlyleaf pondweed to thrive at greater depths in a lake.

