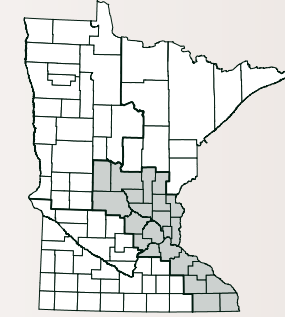


- Blackwater Lake (also known as the Cohasset Hot Pond), a bay on the Mississippi River that has had curly-leaf pondweed growth for many years, was treated with herbicide for the second year.
- Eurasian watermilfoil was confirmed in Sturgeon Lake (Pine County) in 2008. The local lake association applied for a DNR grant to treat the infestation in 2009, and received enough funding to cover the entire 10-acre treatment. The herbicide application took place in early July with good initial results.

### REGION 3 - CENTRAL New infestations



- Zebra mussels were discovered in Prior Lake in April. Surveys confirmed established populations in several locations. This was the first popular boating lake in the metro area to be confirmed with zebra mussels.
- Flowering rush was discovered in Lake Minnetonka in late June.

### Prevention activities

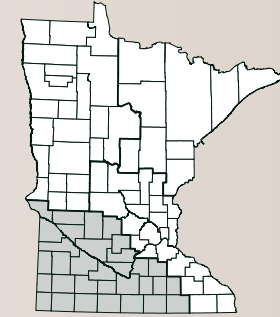
- Invasive species prevention was a primary theme at the Governor's Fishing Opener held at White Bear Lake in May.
- In response to the Prior Lake zebra mussel infestation, watercraft inspectors spent over 280 hours at the two accesses and completed over 1,400 inspections.
- Watercraft inspections increased by 10,000.

### Management activities

- Early finds of flowering rush in Lake Minnetonka were treated in an attempt to control and prevent its spread. Subsequently, multiple other locations of flowering rush were found around the lake.
- 60% of the lakes that received DNR grants supporting pilot projects to control curly-leaf pondweed or Eurasian watermilfoil on a lake-wide basis were located in this region.
- 74% of the lakes that received DNR grants supporting control of Eurasian watermilfoil on a partial-lake basis to reduce interference with recreation and risk of spread were located here.
- The U.S. Army Engineer Research and Development Center continued monitoring the efforts of herbicide treatments of Eurasian watermilfoil in Gray's and Phelp's bays on Lake Minnetonka. Results of these efforts are helping the DNR and its partners evaluate the efficacy and also the potential risks of bay-wide treatments.

- Technical assistance, surveys, and information were provided to area lakes with curly-leaf pondweed or Eurasian watermilfoil or both. The lakes included the 31 that received DNR grants supporting management of these invasive aquatic plants, as well as a number of other lakes that did not receive grants in 2009.
- The DNR did not find any Brazilian waterweed in Powderhorn Lake in 2009. The DNR is cautiously optimistic that actions taken when the invasive aquatic plant was discovered in 2007 may have eliminated the plant. The DNR will continue to monitor the lake.

### REGION 4 - SOUTH New infestations



- Eurasian watermilfoil was discovered on Lake Florida (Kandiyohi County) and in Little Mud Lake (Meeker County).

### Prevention activities

- Watercraft inspections continued with a slight increase from 4,131 in 2008 to 4,307 in 2009.
- Several new projects were completed as the result of invasive species prevention grants and partnerships: additional signs were posted at three public accesses, a kiosk at three accesses explains the importance of cleaning boats when entering and exiting the public access area, and invasive species information was included in a newsletter, brochures, and a Web site.

### Management activities

- Lake Benton completed its fifth year in the pilot program to control curly-leaf pondweed on a lake-wide basis. Starting in 2005, fluridone herbicide was applied yearly to reduce curly-leaf pondweed. In 2009, the herbicide was changed to endothall, which is more selective in targeting only the invasive species and ultimately promoting native plant growth. The program has been successful in reducing curly-leaf pondweed in biomass and the number of turions, but native plant growth has not yet re-established.
- The DNR worked with the Waterville Lakes Association and the city of Waterville to mechanically remove flowering rush from Sakatah Bay in Lake Sakatah.
- A Lake Vegetation Management Plan for Green Lake was completed in November. Local citizens and the DNR worked on a five-year plan.
- The Lake Florida Improvement Association applied for the Early Detection and Rapid Response Grant to treat Eurasian watermilfoil.

### STATE INVASIVE SPECIES PLAN

The "Minnesota State Management Plan for Invasive Species" was completed in late 2009 by the Minnesota Invasive Species Advisory Council, co-chaired by the Minnesota Departments of Natural Resources and Agriculture. The plan provides a framework for addressing aquatic and terrestrial invasive species issues in Minnesota and includes strategies and actions to address the main invasive species issues. The plan reflects several years of work by many organizations from the local, state, tribal and federal government levels and non-governmental organizations. Its completion and federal approval should lead to significant federal funds to implement it.

### REVENUE AND EXPENDITURES

Funding for the Invasive Species Program includes a \$5 surcharge on watercraft registered in Minnesota and a \$2 surcharge on non-resident fishing licenses (which makes up the Invasive Species Account), appropriations from the general fund account, Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources, and local contributions. These funding sources generated \$5,081,000 for all invasive species prevention and management activities for the 2009 fiscal year.

Aquatic invasive species spending (\$3,807,000) for fiscal year 2009 is

shown in Figure 2. The Management/Control and Inspections/Enforcement categories account for 76% of aquatic invasive species spending. These two spending categories along with expenditures for Education/Public Awareness activities, reflect the importance the DNR places on efforts to prevent the spread of invasive species and to help manage the problems those species cause once they become established.

In addition, the Invasive Species Program received federal funds from the U.S. Fish and Wildlife Service and the U.S. Forest Service for a variety of research projects.

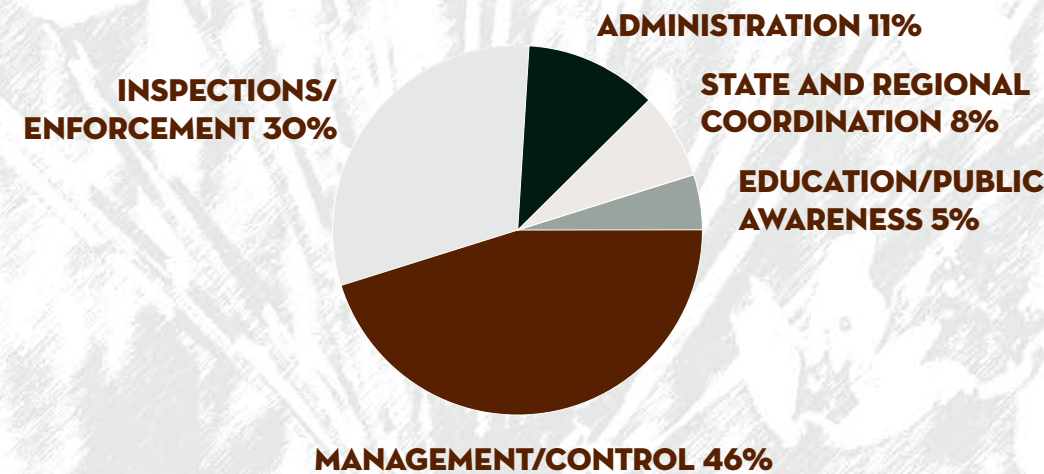


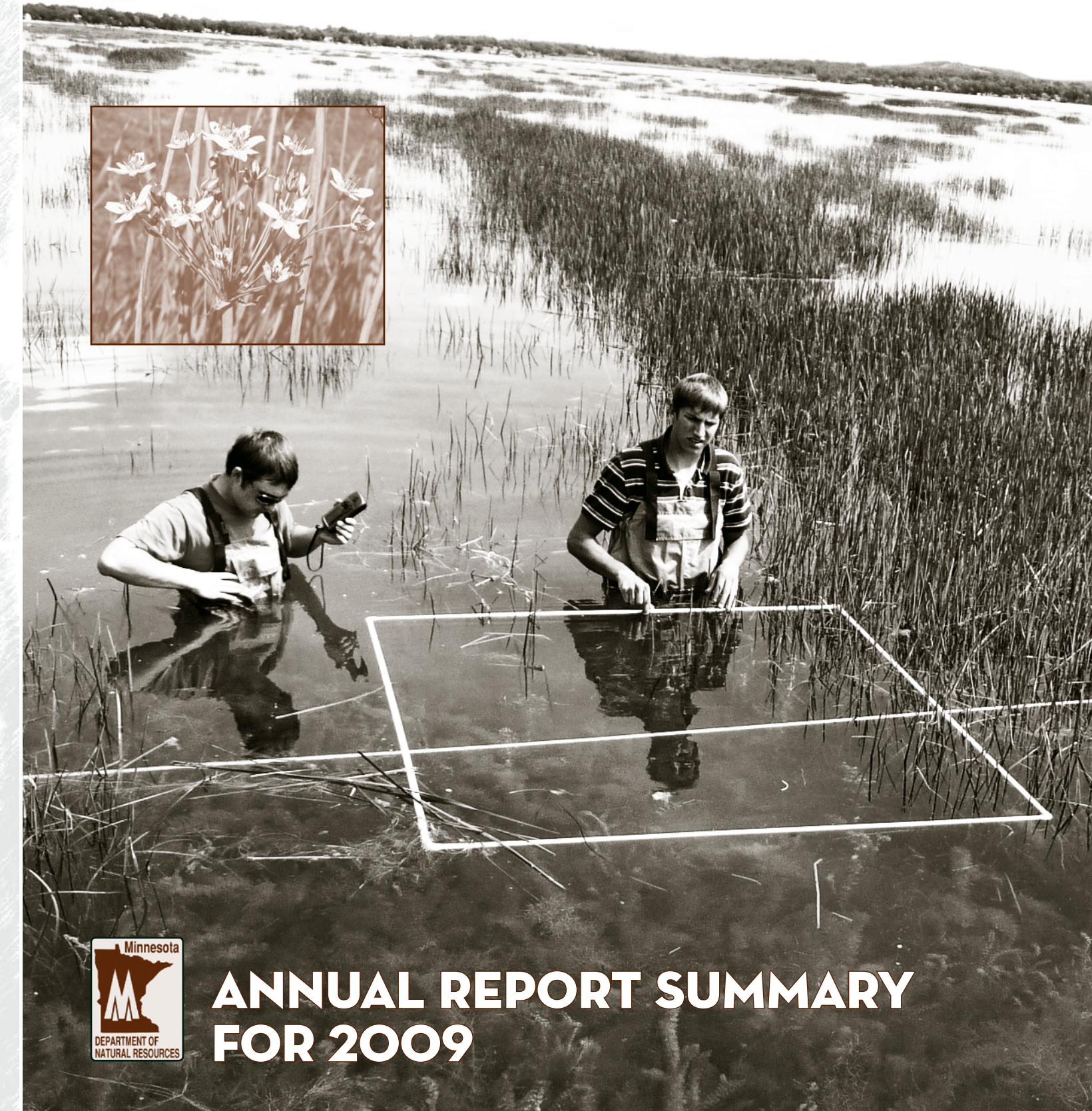
Figure 2. Aquatic Invasive Species Program spending from the Invasive Species Account and General Fund in FY09 by major categories.

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Cost to print this Annual Report Summary was \$560.00 for 1,000 copies.

# INVASIVE SPECIES OF AQUATIC PLANTS & WILD ANIMALS IN MINNESOTA



## ANNUAL REPORT SUMMARY FOR 2009

## THE PROBLEM

Invasive species have the potential to cause serious problems in Minnesota. Evidence from numerous locations in North America and from around the world demonstrates that these non-native species are a threat to the state's natural resources and local economies that depend on natural resources.

## STATUS OF INVASIVE SPECIES IN MINNESOTA: 2009

### AQUATIC PLANTS

**Eurasian watermilfoil** was discovered in 12 additional water bodies during 2009. The total number of milfoil infested water bodies is 232.

**Purple loosestrife** was found in 15 new sites in 2009, bringing the total number of known infestations to 2,394.

**Curly-leaf pondweed** is known to occur in 759 lakes in 70 Minnesota counties.

**Flowering rush** was found in three additional locations—Lake Minnetonka and Minnehaha Creek in Hennepin County and Sauk Lake in Todd County.

**Brazilian waterweed** was found in Powderhorn Lake in Minneapolis in 2007 and was treated with an herbicide. No plants were found here in 2008 or 2009.

### WILD ANIMALS

**Zebra mussels** were discovered in eight new inland lakes in 2009 (see Regional Updates for more information). They are currently found in 16 inland lakes, isolated areas of Lake Superior, the Mississippi River from Crow Wing County to the Iowa border, the St. Croix River from Stillwater downstream, Pelican Brook, and the Zumbro River downstream from Lake Zumbro (Figure 1).



Figure 1. Zebra mussel infested rivers and lakes in Minnesota as of November 2009.

No new **New Zealand mudsnail** infested waters were discovered in 2009.

**Spiny waterfleas** were discovered in Lake Mille Lacs and continue to spread along Minnesota-Canada border waters.



**Chinese and banded mystery snails** are being reported in Minnesota waters—more than 90 occurrences of the Chinese mystery snail and 60 occurrences of the banded mystery snail have been reported.

**Faucet snails** are currently found in three lakes including Winnibigoshish (Cass County), Upper Twin (Hubbard County) and Lower Twin (Wadena County), in the Shell River (Wadena County), and the Mississippi River near La Crosse, Wisconsin.

**Mute swans** were found at 12 locations in 2009. A total of 14 birds were reported in the wild.

## THE RESPONSE

To address the problems caused by invasive species, the 1991 Minnesota Legislature directed the Department of Natural Resources (DNR) to establish the Invasive Species Program and to implement actions to monitor and manage invasive species of aquatic plants and wild animals.

## PROGRAM GOAL HIGHLIGHTS

### 1. PREVENT INTRODUCTIONS OF NEW INVASIVE SPECIES INTO MINNESOTA

Keeping new invasive species out of Minnesota is a high priority for the environment and the state's economy. New introductions are costly to manage and may become perpetual problems.

#### Regulations

State statutes now allow the designation of infested waters via DNR Commissioner's Order instead of rulemaking. New waters were assigned through three orders. Outdated permanent rules that listed infested waters were repealed through the process for eliminating obsolete rules.

#### Education

Education efforts explain the risks posed by invasive species and the steps that people and businesses can take to prevent new introductions. New education efforts, including training sessions, presentations, and informational materials, were offered to the public and bait dealers to help raise awareness about aquatic invasive species.

### 2. PREVENT THE SPREAD OF INVASIVE SPECIES WITHIN MINNESOTA

Efforts to prevent the spread of invasive species within Minnesota are focused on people and their habits. After an invasive species becomes established in our lakes

and rivers, a primary means for its spread to other waters is the unintentional transport on boats, trailers, and other recreational equipment. Prevention grants were provided to local entities to build partnerships and encourage local projects.

#### Watercraft inspections

In 2009, 80 watercraft inspectors worked through the summer to check boats and provide information to the public. Inspections began in late April and continued through mid-October in order to reach waterfowl hunters. Within this 25-week period, watercraft inspectors logged 42,000 inspection hours, inspected 66,000 watercraft, and distributed more than 9,300 Invasive Alert Tags. In addition, inspections were conducted at 48 fishing tournaments.

The Watercraft Inspection Program also worked cooperatively with eight lake associations and citizen groups to increase inspection hours in their areas. These citizen groups funded additional hours of inspection at their accesses and often matched them with DNR grants. The Invasive Species Program also provided training, equipment, and supervision. The Lake Minnetonka Conservation District (LMCD) worked with the Invasive Species Program for the eighth year. Inspectors spent an additional 1,563 hours on nine



Lake Minnetonka accesses because of the funding provided by the LMCD.

#### Enforcement

Conservation officers spent 4,843 hours enforcing the invasive species laws and rules. Statewide, there were 57 civil citations, two criminal citations, and 16 written warnings issued to individuals for violation of invasive species laws. Conservation officers assisted with training local authorities in Hubbard County. This training was given to meet the training requirement that peace officers need in order to issue civil citations.

### 3. REDUCE THE IMPACTS CAUSED BY INVASIVE SPECIES

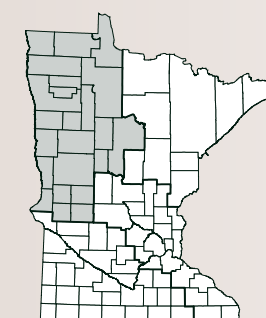
#### Grant program for control of aquatic invasive plants

The DNR increased funding for its pilot project grant program for lake-wide control of curly-leaf pondweed or Eurasian watermilfoil. Grants totaling \$536,000 were given to 26 lakes under this program for control efforts or for the collection of pre-treatment data. In addition, \$135,000 in grants was given to 25 lakes to control nuisance populations of Eurasian watermilfoil and flowering rush. New in 2009, grants were offered for management of new, small populations of Eurasian watermilfoil and flowering rush. These Early Detection and Rapid Response grants were awarded to three lakes totaling \$4,500.

## REGIONAL UPDATES

### REGION 1 - NORTHWEST New infestations

- Zebra mussels were discovered near Alexandria in Lake Le Homme Dieu, Carlos and Geneva lakes as well as near Pelican Rapids in Pelican Lake and Lake Lizzie, downstream of Pelican Lake.



- Flowering rush was discovered in Sauk Lake near Sauk Centre.
- Faucet snails were discovered in Lake Winnibigoshish, its connected waters, Upper and Lower Twin lakes, and the Shell River below Lower Twin Lake.
- Eurasian watermilfoil was verified in two additional lakes—Town Line and Washburn—in Cass County.

#### Prevention activities

- Newly infested lakes were designated as infested waters, signs were posted on public boat access points
- Enforcement was increased around the infested lakes; watercraft inspections increased from 5,146 in 2008 to 7,954 in 2009.
- Contact was made with several private dock removal companies to discuss proper movement of equipment
- Grants totaling more than \$25,000 were provided to area associations for local prevention and awareness activities.
- The Union-Sarah Lake Improvement District was granted a permit to pump water out of the milfoil infested lake for flood control. Screening and pumping upgrades were required.

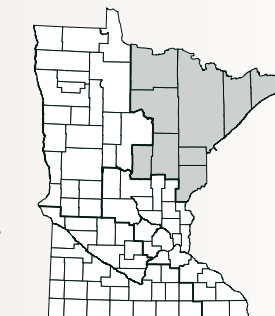
#### Management activities

- On Leech Lake, Eurasian watermilfoil was chemically treated in ten harbors to reduce the risk of spread to new lakes.
- Technical assistance, surveys, and information were provided to lake groups with curly-leaf pondweed and Eurasian watermilfoil infested lakes including Washburn and Town Line lakes (Cass County). Upper Cormorant (Becker County), Blueberry (Wadena County), and Margaret lakes (Cass County) were included in the pilot program to evaluate lake-wide treatment of curly-leaf pondweed or Eurasian watermilfoil. Washburn Lake was chemically treated for Eurasian watermilfoil in year one of its infestation.

- The DNR continued to work closely with the Pelican River Watershed District, the city of Detroit Lakes, area lake associations, and riparian owners to find ways to minimize the impacts of flowering rush. Lake-scale efforts to control the plant were implemented again in 2009. Small-scale efforts such as hand removal, harvesting, and chemical applications took place at the city beach.

### REGION 2 - NORTHEAST New infestations

- Zebra mussels were discovered in Pike Lake in St. Louis County near Duluth.
- Spiny waterfleas were discovered in Mille Lacs Lake in August.
- Eurasian watermilfoil was confirmed in Chub Lake (Carlton County) and Louise Mine pit near Crosby.



#### Prevention activities

- Enforcement efforts were increased on Mille Lacs Lake to educate the public about and to enforce invasive species laws. More than 1,100 hours of watercraft inspection were completed.
- At a sailing regatta near Brainerd, a watercraft inspector stopped a participant with an anchor that had attached zebra mussels from entering a non-infested waterbody.
- The Pelican Lakes Community Aquatic Invasive Species Task Force along with Minnesota Waters and the DNR sponsored four aquatic species seminars to train lake professionals.
- DNR conservation officers and invasive species staff trained bait dealers who applied for licenses to harvest minnows from Mille Lacs Lake. The dealers were taught how to tag nets, clean equipment, and properly dispose of water used to transport bait.

#### Management activities

- Dixon Lake (Itasca County) and Lower Cullen Lake (Crow Wing County) were added to the pilot program to control curly-leaf pondweed on a lake-wide basis. Both lakes were treated in late spring.

REGIONAL UPDATES continued →

For a copy of the complete report, call (651) 259-5100 or visit [http://www.mndnr.gov/pubs\\_invasives.html](http://www.mndnr.gov/pubs_invasives.html).

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Photos  
Cover: Flowering rush survey on Detroit Lake - MNDNR  
Cover Inset: Flowering rush - Peter Dziuk  
Above right: Zebra mussels attached to a native mussel - MNDNR