



2008

# INVASIVE SPECIES CALENDAR

PRODUCED BY THE MINNESOTA INVASIVE SPECIES ADVISORY COUNCIL



# INVASIVE SPECIES THREATS TO MINNESOTA

Invasive species are non-native plants, animals, and pathogens that cause environmental damage, economic loss, or harm to human health. These pests displace native species, harm habitats, and degrade natural, managed, and agricultural landscapes.

Minnesota is presently battling a number of invasive pests including plumeless thistle, Eurasian ruffe, and European starling shown in this calendar. There are also many new invasive species that could arrive and cause problems. The list of potential invaders includes potato cyst nematode, hydrilla, and viral hemorrhagic septicemia.

In addition to harming the recreational value of our natural resources, invasive pests pose serious economic threats to major Minnesota industries such as agriculture, tourism, and forestry. Nationwide, some estimates peg the economic damage of invasive pests at more than \$100 billion a year.

Public awareness and action are the keys to preventing the spread of invasive species. Please use the information in this calendar to help inform Minnesotans about the invasive species problem and what they can do to take action in the challenge to reduce invasive species spread and harm.

# MINNESOTA INVASIVE SPECIES ADVISORY COUNCIL

This calendar was produced and distributed by the Minnesota Invasive Species Advisory Council (MISAC). MISAC is a statewide entity formed in response to Presidential Executive Order 13112 on invasive species and the national Invasive Species Management Plan that encouraged states to plan and take action on invasive species.

The purposes of MISAC are:

- to facilitate statewide coordination and cooperation on invasive species—including the review of information concerning the current status, management, and spread of terrestrial and aquatic invasive insect, plant, animal, and pathogen species into and within Minnesota;
- to work cooperatively to prevent new introductions, identify and locate invasive species;
- to contain established introductions; to manage invasions and take other actions in order to minimize invasive species impacts within Minnesota; and
- to address these and other existing needs by maximizing available resources.

MISAC's co-chairs, from the Minnesota departments of Agriculture and Natural Resources, represent the state agencies that are responsible for coordinating the management of invasive species in the state. In addition, the Council includes these members: Bailey Nurseries, Leech Lake Band of Ojibwe, Minneapolis Park and Recreation Board, Minnesota Association of County Agricultural Inspectors, Minnesota Board of Water and Soil Resources, Minnesota Crop Improvement Association, Minnesota Department of Transportation, Minnesota Forestry Association, Minnesota Golf Course Superintendents' Association, Minnesota Native Plant Society, Minnesota Nursery and Landscape Association, Minnesota Sea Grant, Minnesota Shade Tree Advisory Committee, The Nature Conservancy, Superior National Forest, USDA–Animal and Plant Health Inspection Service, USDA–Natural Resources Conservation Service, U.S. Fish and Wildlife Service, U.S. Forest Service, University of Minnesota–College of Food, Agricultural and Natural Resource Sciences.



UNIVERSITY OF MINNESOTA

# HELP REPORT LOCATIONS OF INVASIVE SPECIES

One of the keys for a rapid response to invasive species is the early identification of new occurrences. Please help report occurrences of invasive species in Minnesota at the following:

- MISAC Web site at: [www.mda.state.mn.us/misac](http://www.mda.state.mn.us/misac) and click on "Reporting Invasive Species."
- "Arrest the Pest" Hotline at: (651) 201-MOTH (metro) or 1-888-545-MOTH (toll free). Please call the hotline to report suspicious pest species arriving on plants or articles from foreign countries or other states and for the latest updates on invasive species such as the gypsy moth, soybean rust, sudden oak death, Asian longhorned beetle, emerald ash borer, bark beetles, and other destructive insect, plant, and disease pest species.
- DNR Invasive Species Program at: (651) 259-5100 (metro) or 1-888-MINNDNR (elsewhere) to report invasive aquatic plants or wild animals such as Eurasian watermilfoil, zebra mussels, Asian carp, round goby, non-native deer, and mute swans.
- Or as specified for individual species in the invasive species calendar.

# INFORMATION SOURCES

In addition to this calendar, MISAC's Web site can provide much information about invasive species, particularly those in Minnesota. This Web site is a gateway to invasive species information including many invasive species profiles, contact information for invasive species experts in Minnesota, and links to other related Web sites.

MISAC Web site  
[www.mda.state.mn.us/misac](http://www.mda.state.mn.us/misac)

The Web sites or pages of several MISAC members also have information about invasive species:

DNR Web pages  
[www.dnr.state.mn.us/invasives](http://www.dnr.state.mn.us/invasives)

MDA Web pages  
[www.mda.state.mn.us/plants](http://www.mda.state.mn.us/plants)

Minnesota Sea Grant  
[www.seagrant.umn.edu/ais](http://www.seagrant.umn.edu/ais)

National Invasive Species Information Center  
[www.invasivespeciesinfo.gov](http://www.invasivespeciesinfo.gov)

USDA-APHIS  
[www.aphis.usda.gov](http://www.aphis.usda.gov)

U.S. Fish and Wildlife Service  
[www.fws.gov/midwest/fisheries/topic-ans.htm](http://www.fws.gov/midwest/fisheries/topic-ans.htm)

USDA-Forest Service  
[www.fs.fed.us/invasivespecies](http://www.fs.fed.us/invasivespecies)

On the back of the calendar, we have included contact information for six agencies with invasive species responsibilities in Minnesota. These agencies, as well as other MISAC members, can provide informational products such as brochures, species identification cards, and videos related to invasive species.

COVER PHOTO: PETER M. DZIUK, MDA

**MINNESOTA INVASIVE SPECIES REPORTING FORM**

Observation Date: \_\_\_\_\_ Association: \_\_\_\_\_  
Observer's Name: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Address: \_\_\_\_\_ Email: \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_  
**Species and Location Information**  
Common Name: \_\_\_\_\_ Scientific (if known): \_\_\_\_\_  
Locality Name (lake or twosp): \_\_\_\_\_ County: \_\_\_\_\_ Zip: \_\_\_\_\_  
Site Address (if any): \_\_\_\_\_  
Property Ownership (i.e. Private, county, state, federal, etc.): \_\_\_\_\_  
If known, provide one or both of the following location methods:  
Legal Description: Twp \_\_\_\_\_ Range \_\_\_\_\_ Sec \_\_\_\_\_ 1/4 Sec \_\_\_\_\_ 1/4 1/4 Sec \_\_\_\_\_  
GPS: X Coordinate (Lat./Easting) \_\_\_\_\_  
Y Coordinate (Long./Northing): \_\_\_\_\_  
Verbal Directions (if Legal Description or GPS information is unavailable): \_\_\_\_\_  
\_\_\_\_\_, nearest intersection, distances, compass direction, and rough outline of \_\_\_\_\_

# REED CANARY GRASS

PHOTO: DOUG NORRIS, MN DNR



PHOTO: WELBY  
SMITH, MN DNR

**Keys to ID:** It grows from 2 to 6 feet tall on erect hairless stems; leaves are up to 10 inches long and  $\frac{3}{4}$ -inch wide. It has a clear membranous ligule where the leaf meets the stem. Flower spikes (left) are green to purple, changing to brown over time.

2008

# JANUARY

**REED CANARY GRASS**  
*Phalaris arundinacea*

**Species:** A cool-season perennial grass.

**Origin:** It is believed that reed canary grass has some origins in the United States, but aggressive, non-native strains were introduced into the U.S. from Eurasia as early as the 1800s.

**Impacts:** It forms dense monocultures excluding all other plants.

**Status:** Reed canary grass occurs widely in Minnesota and is commonly found in other northern tier states. It is considered a weed in many other countries.

**Where to look:** It thrives in areas with moist organic soils such as wet prairies, stream banks, marshes, fens, and sedge meadows in full sun, but can also become established in drier upland habitats and spoil piles.

**Regulatory classification (agency):** It is not regulated in Minnesota.

**Means of spread:** It spreads vegetatively through rhizomes and rhizome fragments and produces approximately 600 seeds per inflorescence. Although many of these seeds may not be viable, a dense seed bank is quickly established. People can spread seed attached to clothing or vehicles. Water will distribute seeds and root fragments. Reed canary grass is still planted for forage and erosion control. A variegated form of reed canary grass is commonly planted as a landscape plant.

**How can people help?**

- Maintain a dense native plant community to help prevent reed canary grass from becoming established.
- Clean all vehicles and clothing after driving through areas with reed canary grass.
- Avoid planting in or near wetlands and natural areas.

**Further/Management information:**

Contact Minnesota DNR or visit <http://tncweeds.ucdavis.edu/>

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# VIRAL HEMORRHAGIC SEPTICEMIA (VHS)



**Symptoms:** Diseased fish show widespread hemorrhages (bleeding) on the body surface (eyes, skin, and fins) and in the internal organs (e.g., liver, intestine, and swim bladders). Sick fish will often be listless, swim in circles, or are observed just below the water's surface. Confirming VHS infection requires laboratory tests.

2008

# FEBRUARY

## VIRAL HEMORRHAGIC SEPTICEMIA (VHS)

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

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3	4	5	6	7	8	9
10	11	12 Lincoln's Birthday	13	14 Valentine's Day	15	16
17	18 Presidents' Day	19	20	21	22 Washington's Birthday	23
24	25	26	27	28	29	

NATIONAL INVASIVE WEED AWARENESS WEEK  
FEBRUARY 24-MARCH 1

**Species:** A rhabdovirus that affects fish.

**Origin:** Arrival in the Great Lakes may have been in migrating fish from the Atlantic Coast, or via ballast water from ships.

**Impacts:** VHS can cause large fish kills, may lead to long-term reductions in some fish populations, and severe losses for the aquaculture industry. Up to 50 different fish species can be affected.

**Status:** VHS is not known to be in Minnesota. It was confirmed in Lake Ontario and Lake St. Clair in 2005; caused large-scale mortalities in lakes St. Clair, Erie, Huron, Ontario, and Michigan in 2006; and was discovered in Wisconsin in 2007.

**Regulatory classification (agency):**

A federal order under the Animal Health Protection Act restricts the transport of infected fish (USDA-APHIS).

**Means of spread:**

- Natural movement of diseased fish—virus particles shed in fish fluids can be infective up to 14 days in water.
- Moving or stocking diseased fish.
- Transporting virus-infected water in ballast, bilges, livewells, and bait containers.

**How can people help?** Don't move live fish or water between water bodies.

**If you catch a suspected diseased fish or observe a fish kill:**

- Place the fish you caught in a plastic bag, quickly keep it cool, not frozen.
- Call the local DNR Fisheries office or DNR Pathology Lab at (651) 259-5096 for instructions; report the water body, date, fish species, and number of dead or dying fish.

**Further information:** Contact Ling Shen, DNR Pathology Lab at (651) 259-5138 or John Huber, DNR Fisheries at (507) 796-6691.

# DALMATIAN TOADFLAX

**Keys to ID:** Both leaves and stems are waxy; leaves are heart-shaped, 1 to 3 inches long with clasping bases. Flowers are bright yellow with orange markings and elongate spurs and occur in simple racemes on the stems; flowering occurs from mid-summer to early fall. It grows up to 4 feet tall.



PHOTOS: PETER M. DZIUK, MDA



2008

# MARCH

**DALMATIAN TOADFLAX**  
*Linnaria dalmatica*

**Species:** A short-lived, herbaceous perennial in the figwort family (Scrophulariaceae).

**Origin:** Native to central Europe and eastern to central Asia, it was originally introduced to North America as an ornamental.

**Impacts:** Dalmatian toadflax forms colonies by root sprouts. It rapidly colonizes disturbed or cultivated sites and outcompetes desirable plant species and decreases plant diversity. It also significantly reduces crop yields and stresses native plant communities.

**Status:** It has been reported from one or two counties in Minnesota, but there are no known infestations.

**Where to look:** It is typically found in disturbed sites such as roadsides, railroads, clear cuts, fence lines, and pastures. It prefers dry sites with coarse well-drained soil.

**Regulatory classification (agency):** It is not regulated in Minnesota. It is classified as a noxious weed or weed seed in 22 states and three Canadian provinces.

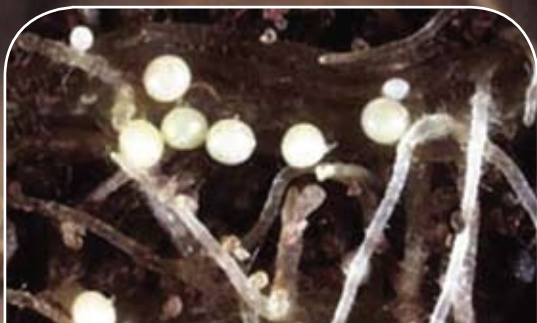
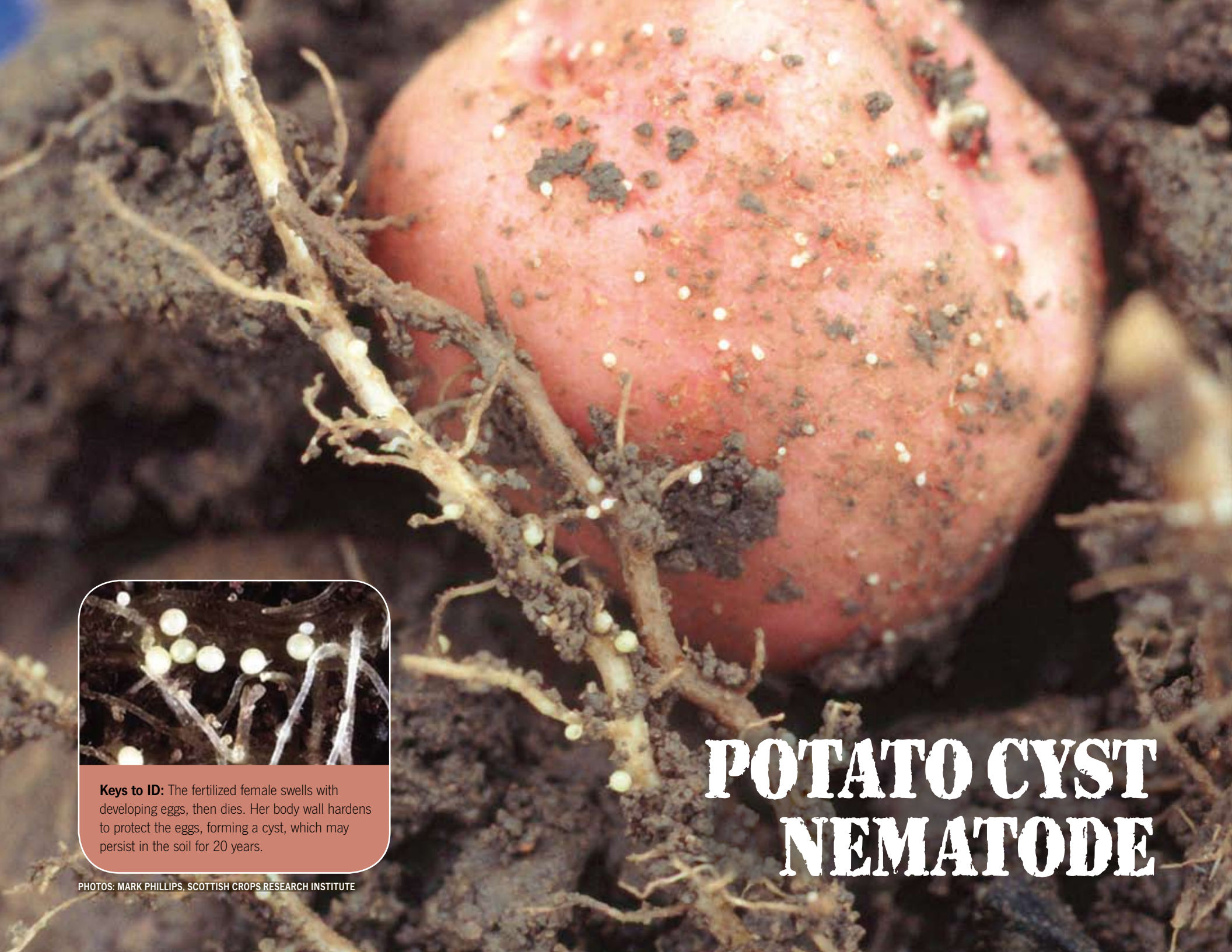
**Means of spread:** Spread is by seed and sprouts from the lateral roots.

**How can people help?**  
Report observations using MDA's Invasive Plant Locator Web site: [http://gis.mda.state.mn.us/website/invasives\\_locator](http://gis.mda.state.mn.us/website/invasives_locator)  
To log in—User ID: mdainv Password: skibo.

**Further information:** Contact MDA's Invasive Species Exclusion Unit.

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**Keys to ID:** The fertilized female swells with developing eggs, then dies. Her body wall hardens to protect the eggs, forming a cyst, which may persist in the soil for 20 years.

# POTATO CYST NEMATODE

2008

# APRIL

**POTATO CYST NEMATODE**  
*Globodera pallida*

**Species:** A sedentary obligate parasite of roots.

**Origin:** It is native to South America.

**Impacts:** Its populations cause reductions in tuber weight. If not managed, reductions of up to 80% may occur. The nematode can also infest other Solanaceae, including tomato and eggplant.

**Status:** Potato cyst nematode is found in Central America, Asia, Africa, Europe, the Middle East, and Canada. In 2006, it was found for the first time in the United States in Idaho. Wide-scale soil sample testing in Idaho showed that the extent of the infestation was within a one-mile radius. Detection surveys are underway in the other major potato growing states. It has not been detected in Minnesota.

**Where to look:** It is most likely to occur in fields that have been planted to potatoes for consecutive years. When nematode populations are high, they will cause patches of poor plant growth, often with yellowed, wilted, or dead foliage.

**Regulatory classification (agency):** It is a *federally quarantined pest* (USDA-APHIS).

**Means of spread:** Long-distance spread is by moving soil, potatoes, contaminated equipment, and vehicles. Natural movement is by flowing water, wild animals, or wind.

**How can people help?**

- Prevention is critical—growers should make sure that they are planting clean seed and that all equipment is clean before entering a field.
- Potatoes should be grown in rotation with other crops.

**Further information:** Contact MDA's "Arrest the Pest Hotline" at (651) 201-6448 (metro) or 1-888-545-6684 (greater Minnesota).

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# COMMON MOTHERWORT



**Keys to ID:** It appears as a ground rosette in the spring and rosettes can be present in late fall. The shaggy shape of the 5 to 7 lobed leaves resembles a lion's tail. It has the traditional square stem of other members of the mint family and can grow 2 to 5 feet tall. Pale pink blooms appear from June through August and produce a seed case with a border of prickly teeth.

PHOTOS: PETER M. DZIUK, MDA

2008

# MAY

**COMMON MOTHERWORT**  
*Leonurus cardiaca*

**Species:** A biennial plant.

**Origin:** It is native to central Eurasia.

**Impacts:** Johnny Appleseed helped deliver it along his routes here in the U.S., as it was used as an herbal remedy at that time.

**Status:** Motherwort has spread to all temperate areas of the world.

**Where to look:** Look for motherwort along paths and disturbed areas. It is found in both sun and partial shade.

**Regulatory classification (agency):** It is not regulated in Minnesota.

**Means of spread:** It is spread by animals and humans.

**How can people help?**

- Do not plant it (seeds are available for sale through catalogs and it has also been seen for sale in herb seed racks).
- Pull the rosettes in early spring and remove plants throughout the season before it goes to seed. It is very easy to pull.

**Management information:** The first year rosettes appear shortly after snow melt and can easily be pulled or sprayed with a 3% glyphosate solution before other desirable plants emerge. Typically, motherwort rosettes are visible when quackgrass and garlic mustard appear in early spring.

**Further information:** Contact MDA.

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18	19	20	21	22	23	24	
25	26 Memorial Day Observed	27	28	29	30	31	

# CHINESE AND BANDED MYSTERY SNAILS



**Keys to ID:** The **Chinese mystery snail** (below left) has small shallow depressions above the shell opening and rows of fine, short stiff hairs parallel to the whorl of the shell which may wear off with age and abrasion. The **banded mystery snail** (below right) has red bands that are parallel to the whorl of the shell.



A Chinese mystery snail on an aquatic plant.

2008

# JUNE

## CHINESE AND BANDED MYSTERY SNAILS

*Bellamya (Cipangopaludina) chinensis*  
and *Viviparus georgianus*

**Species:** Large, olive colored snails.

**Origin:** Chinese mystery snail (CMS) is native to Asia. It was brought to California in 1892 as a food source, and found in Massachusetts in 1915—likely an aquarium release. The historic range of banded mystery snails (BMS) is the southeastern U.S., primarily in the Mississippi basin up to Illinois.

**Impacts:** Both snails can form dense aggregations. In Asia, the CMS can transmit human intestinal flukes, however, cases have not been documented in the United States. It is also a carrier of trematode parasites found in native mussels. BMS can cause mortality of largemouth bass embryos when they invade nests. It may be an intermediate host of trematodes that cause mortality in ducks and coots.

**Status:** CMS are present in more than 80 waters and BMS occurs in about 50 waters in Minnesota.

**Where to look:** They are mainly found in lakes and in slow moving rivers. They are called “mystery” snails because in spring, they give birth to young, fully developed snails that suddenly and mysteriously appear. After reproducing in their fourth year, they die and wash up on shore.

**Regulatory classification (agency):** Chinese, Japanese, and other mystery snails (*Bellamya/Cipangopaludina*) are regulated invasive species. These and the banded mystery snail (genus *Viviparus*) will be re-evaluated and may be designated as prohibited invasive species (DNR).

**Means of spread:** They spread via dumping of aquariums and by transfer from one water body to another.

**How can people help:**

- Never move species from one water body to another.
- Don't dump aquarium species.
- Report infestations to DNR.

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14 Flag Day
15 Father's Day	16	17	18	19	20	21 Summer Solstice
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# HYDRILLA



**Keys to ID:** Hydrilla is similar in appearance to Canada waterweed, which is native to Minnesota. Hydrilla has small oblong to linear leaves (about  $\frac{5}{8}$ -inch long), usually in whorls of four to six; leaves have saw-toothed edges. Canada waterweed, usually has leaves in whorls of three and leaf edges are minutely serrated.

PHOTO: VIC RAMEY, UNIVERSITY OF FLORIDA



2008

# JULY

**HYDRILLA**  
*Hydrilla verticillata*

**Species:** A rooted submersed plant in the frog's-bit family.

**Origin:** Native to Africa, India, and Korea, it was imported to North America for aquarium use in the 1950s and discovered in Florida waters in 1960.

**Impacts:** Hydrilla can form dense growths in the water column and mats on the water surface. These growths can cause problems for boaters, swimmers, and anglers; displace native plants; and alter the environment for fish and wildlife. Fragments also can clog water intakes.

**Status:** Hydrilla has caused problems in the southern states for many years. It was found in Indiana in 2006 and Wisconsin in 2007, but has not yet been detected in Minnesota.

**Where to look:** Hydrilla is found in shallow areas in lakes and rivers where other submersed plants grow. Also look in shipments of water garden plants from other states.

**Regulatory classification (agency):** It is a *prohibited invasive species* (DNR).

**Means of spread:** Introductions can result from orders of aquatic plants contaminated with hydrilla or by the unintentional transfer of plant fragments, primarily on trailered boats and other watercraft.

**How can people help?**

- Don't use illegal species such as hydrilla in aquariums or water gardens.
- Plant only clean material.
- Report suspected infestations using the form found at [www.mda.state.mn.us/misac](http://www.mda.state.mn.us/misac) and click on "Reporting Invasive Species."
- Remove all aquatic plants from your boat, trailer, and equipment before leaving the access on all bodies of water.

**Further information:** Contact DNR Invasive Species Program.

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# PLUMELESS THISTLE

**Keys to ID:** First year growth is a wavy-leaved rosette with many small yellow spines along the leaf margins. Rosettes “bolt” into mature plants that consist of multiple spiny stems containing small purple/reddish flowers (1.5 to 3 cm diameter) protected by small needle-like bracts. The spiny alternate leaves are deeply-lobed, wavy in appearance, and attach directly to the stem.



PHOTOS: PETER M. DZIUK, MDA



2008

# AUGUST

**PLUMELESS THISTLE**  
*Carduus acanthoides*

**Species:** A biennial forb in the Asteraceae (Composite) family.

**Origin:** Native to Europe and Asia, it was most likely introduced into Minnesota in the early twentieth-century as a contaminant of livestock hay or bedding.

**Impacts:** It is an extremely spiny plant that is unpalatable to most livestock and grazing wildlife species. It can form dense stands that outcompete desirable vegetation.

**Status:** It is found throughout Minnesota and is most abundant in northern, central, and western counties.

**Where to look:** It is most commonly found in disturbed habitats like pastures, fence rows, drainage ditches, gravel pits, field margins, roadsides, and trails. It can infest more stable habitats like prairie areas, CRP lands, wetlands, and stream edges.

**Regulatory classification (agency):** It is a *prohibited noxious weed* in Minnesota (MDA).

**Means of spread:** It spreads by seeds that are light weight and connected to feathery stalks that aid wind dispersal. Seeds are transported in forages, via equipment, by animals, and through movement of snow and water.

**How can people help?**

- Prevent seed production.
- Hand cutting, mowing, selective grazers (browsers), insect biological control, and herbicides are possible management tools.
- Report unmanaged infestations to your local County Agricultural Inspector.

**Management information:**

County Agricultural Inspector: <http://www.mda.state.mn.us/plants/weedcontrol/caolist.htm>

MDA Weed IPM Group: <http://www.mda.state.mn.us/plants/weedcontrol>

U of M Extension Weed Science: <http://appliedweeds.cfans.umn.edu/weedbull/Grass%20Pastures.pdf>

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# CUT-LEAVED TEASEL

**Keys to ID:** Small, dense white flowers occur on oval-shaped, terminal heads enclosed by stiff, spiny bracts. Flower stalks may grow to over 7 feet in height and have large, opposite, sessile leaves that form cups, which often hold water. Both the broad, deeply-lobed leaves and the stem are very prickly. It produces a basal rosette that can grow several seasons before sending up a flower stalk, after which the plant dies. It blooms from July through September.



PHOTOS: PETER M. DZIUK, MDA

2008

# SEPTEMBER

**CUT-LEAVED  
TEASEL**  
*Dipsacus laciniatus*

**Species:** A monocarpic perennial.

**Origin:** Native throughout central and southern Europe and Asia, it was introduced into North America as a horticultural plant that quickly escaped cultivation.

**Impacts:** Cut-leaved teasel is an aggressive non-native species. Once established, it will spread to nearby pasture and wildlife lands, crowding out native vegetation.

**Status:** It is presently distributed in small, isolated populations in the Twin Cities area and southeast Minnesota. It is being eradicated when found in the state.

**Where to look:** It prefers sunny sites and is increasingly common along transportation corridors.

**Regulatory classification (agency):** It is not regulated in Minnesota.

**Means of spread:** Cut-leaved teasel is spread by seeds. It can spread quickly along transportation routes via mowing activities. The unusual seed heads are sometimes used in floral arrangements, and the seeds may grow if discarded in ditches or open areas.

**How can people help?**

Report observations using MDA's Invasive Plant Locator Web site: [http://gis.mda.state.mn.us/website/invasives\\_locator](http://gis.mda.state.mn.us/website/invasives_locator)  
To log in—User ID: mdainv Password: skibo.

**Further information:** Contact MDA.

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

 <p>PHOTO: PETER M. DZIUK, MDA</p>	<p>1 Labor Day</p>	<p>2</p>	<p>3</p>	<p>4</p>	<p>5</p>	<p>6</p>																																																																							
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# NARROW-LEAVED AND HYBRID CATTAIL

**Keys to ID: Broad-leaved Cattail** (native to Minnesota)  
Mature fresh leaf width 14 to 23 mm. Female and male portions of spike frequently contiguous, and not more than 2 cm apart.

**Hybrid Cattail** (below)  
Mature fresh leaf width 10 to 14 mm. Hybrids tend to grow taller (often to 9 feet) and leaves grow taller than the spikes.

**Narrow-leaved Cattail** (below)  
Mature fresh leaf width 4 to 10 mm. Female and male portions of spike at least 2 cm and usually >3 cm apart.



PHOTOS: B. J. COOK, MINNESOTA STATE UNIVERSITY-MANKATO

Narrow-leaved cattail shown in the foreground with hybrid cattails in the background.

2008

# OCTOBER

**NARROW-LEAVED AND HYBRID CATTAILS**  
*Typha angustifolia* and *Typha x glauca*

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

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5	6	7	8	9	10	11
12	13 Columbus Day	14	15	16	17	18
19	20	21	22	23	24 United Nations Day	25
26	27	28	29	30	31 Halloween	

**Species:** Tall, perennial wetland plants.

**Origin:** Narrow-leaved is native to Europe and was introduced to the Atlantic Coast of North America in the 1820s. Narrow-leaved freely hybridizes with the native broad-leaved cattail (*T. latifolia*) to form *T. x glauca*.

**Impacts:** Narrow-leaved and hybrid cattails produce very dense, single-species stands with thick mats of rhizomes and leaf litter, reducing native plant diversity. They are more aggressive, may encroach further into open water, and are more likely to form floating mats that can be problematic.

**Status:** Common to abundant in Minnesota.

**Where to look:** Most commonly seen along road ditches and disturbed sites and may be found in any wetland or detention area that ponds water or remains saturated for most of the growing season.

**Regulatory classification (agency):**

Non-native and hybrid cattails are *unlisted non-native species* (DNR). All cattails in public waters are regulated under state aquatic plant management regulations and permits are required for their removal.

**Means of spread:** Spread in wind-dispersed seeds that remain viable in the seed-bank for years and by rapidly spreading rhizomes. Seeds can be transported in mud attached to footwear and equipment.

**How can people help?**

- Minimize disturbance in wetlands; clean seeds or fluff and mud from waders, boots, clothing, and equipment.
- Limit removal projects because long-term management is difficult, and while not as desirable as native cattails, they provide wildlife habitat and protect shorelines from erosion.

**Further information:** Contact the DNR and the Wetland and Plant Ecology Laboratory at Minnesota State University-Mankato.

# EURASIAN RUFFE

**Key to ID:** Usually less than 6 inches in length and slimy when handled. No gap between the front, hard-ray dorsal fin and the back, soft-ray dorsal fin. Other than native sauger, it is the only fish with rows of dark spots between the spines on the dorsal fin.



PHOTO: MINNESOTA SEA GRANT



PHOTO: JAY RENDALL, MN DNR



2008

# NOVEMBER

**EURASIAN RUFFE**  
*Gymnocephalus cernuus*

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

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2 Daylight Saving Time Ends	3	4 Election Day	5	6	7	8
9	10	11 Veteran's Day	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27 Thanksgiving Day	28	29
30						

**Species:** A small, spiny, and aggressive, perch-like fish.

**Origin:** Native to Northern Europe and Asia, it was introduced into the U.S. Great Lakes in Duluth-Superior Harbor, possibly as early as 1982. Ship ballast water was the probable means of introduction.

**Impacts:** Their impacts are not clearly understood, but the greatest impact is probably competition with native fishes for food. The ruffe is considered a threat to commercial and sport fishes.

**Status:** There are no known populations in Minnesota inland lakes. Most ruffe in the U.S. are in Lake Superior, but also are found in northern Lake Michigan.

**Where to look:** They live in lakes and rivers. Anglers should closely examine small fish they catch.

**Regulatory classification (agency):** It is a *prohibited invasive species* in Minnesota (DNR).

**Means of spread:** Ruffe could be accidentally transported through use and release of live bait, release of angler-caught fish, and fertilized eggs on aquatic plants.

**How can people help?**

- Do not take live bait from infested waters.
- Never release fish from one water body into another.
- Report possible sightings in inland waters, and bring a dead specimen to the local DNR office.

**Further information:** Contact the DNR Invasive Species Program or the University of Minnesota Sea Grant Program.

# EUROPEAN STARLING



**Keys to ID:** Adults are about 8 inches long with a pointed bill—yellow during most of year, dark in fall. Plumage is black with green and purple iridescence and white spots scattered about the head and body. They are similar to blackbirds, cowbirds, and grackles, but have a shorter tail. They are often seen in large flocks.

PHOTO: CARROL HENDERSON, MN DNR



PHOTO: LEO WEHRSTEDT

2008

# DECEMBER

**EUROPEAN  
STARLING**  
*Sturnus vulgaris*

**Species:** A cavity nesting bird.

**Origin:** Native to Europe, it was introduced by the American Acclimatization Society in New York City's Central Park in 1890-91.

**Impacts:** They compete with native species, especially cavity-nesting birds such as woodpeckers, martins, and bluebirds that are evicted by starlings during the breeding season. Also considered a serious agricultural pest in some areas, eating grains, sprouting seeds, and livestock feed.

**Status:** The starling is found throughout the U.S. and is abundant in most of its range.

**Where to look:** It occupies a great variety of habitats including suburban, rural, and woodlands, and tends to avoid dense forests away from human habitation. Normally it selects an old woodpecker or natural cavity and usually nests earlier than many other cavity nesters.

**Regulatory classification (agency):** It is an *unregulated non-native species* in Minnesota (DNR). The European starling is not protected by state law.

**Means of spread:** The ability to fly, adapt to a variety of habitats, produce two broods a season, and diverse dietary preferences allows them to expand their range quickly.

**How can people help?**

- Shoot where the use of firearms is legal or trap inside roost boxes at night and humanely dispatch.
- Modify entrance holes to purple martin houses using D-shaped entrance plates.
- Monitor wood duck boxes weekly.
- Use small entrance holes in blue bird nest boxes (1½-inch diameter).
- Avoid using cracked corn, bread, or red millet to feed birds.
- Use a starling-proof suet feeder.

**Further information:** Contact your local DNR Nongame Wildlife Specialist.

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REED CANARY GRASS



VIRAL HEMORRHAGIC SEPTICEMIA



DALMATION TOADFLAX



POTATO CYST NEMATODE



MOTHERWORT



CHINESE AND BANDED MYSTERY SNAILS



HYDRILLA



PLUMELESS THISTLE



CUT-LEAVED TEASEL



NARROW-LEAVED AND HYBRID CATTAILS



EURASIAN RUFFE



EUROPEAN STARLING

**FOR INFORMATION ABOUT INVASIVE SPECIES IN MINNESOTA, CONTACT:**

**Aquatic Plants and Animals**

Minnesota Department of Natural Resources—  
Invasive Species Program  
(651) 259-5100

University of Minnesota—Sea Grant Aquatic Invasive  
Species Information Center  
(218) 726-8712

U.S. Fish and Wildlife Service  
(612) 713-5114

**Terrestrial Plants and Insects**

Minnesota Department of Agriculture—Invasive  
Species Exclusion Unit  
(651) 201-6328

USDA—Animal and Plant Health Inspection Service  
(612) 725-1722

Minnesota Department of Natural Resources—  
Division of Forestry  
(651) 259-5300