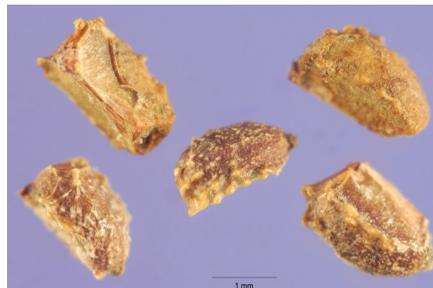




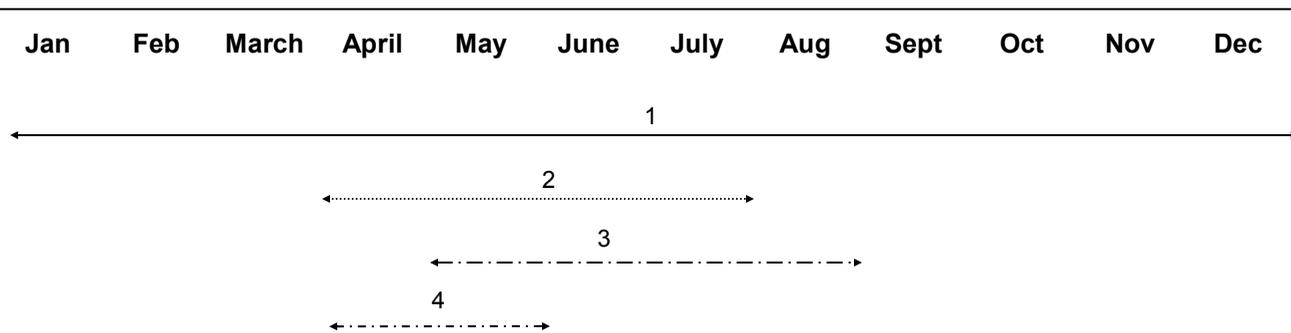
Leaflets



Inflorescence



Seeds



## Management Techniques

1. (All year) Prevention. Ensure boats and other watercraft are completely rid of Eurasian Watermilfoil before entering another body of water. This includes hosing off equipment, discharging lakewater and ensuring watercraft are completely dry. Watermilfoil can survive for multiple days if kept moist.
2. (spring-summer) Herbicide. May be applied throughout the growing season but is best done in early spring to reduce the effect on native plants. The following herbicides may be used.
  - 2,4-D or Tricopyr: useful for short term(48 hour) spot treatment. Selectively targets broad leaf plants like milfoil but will not target aquatic grasses.
  - (April-July) Fluridone: Long term non-selective treatment. Maintenance of 8-10 ppb for ten weeks will likely ensure 100% eradication. Best used for heavily infested waters.
1. (Late spring-summer) Manual Removal. Hand pulling by divers and snorkelers is effective to alleviate infestation and reduce fragmentation in fall. Removal should be followed up with chemical treatment since re-growth can occur from a single fragment.
2. (Spring) Biological. The native Milfoil Weevil feeds exclusively on milfoil so it will not threaten other plants. It is not known to threaten the population of Northern Watermilfoil. 1 ½-2 weevils per stem is recommended for control. Will not remove infestation but is effective as a low cost/management treatment.

## For More Information Visit:

<http://www.HawkeyeCWMA.org>

## ALWAYS READ AND FOLLOW PESTICIDE LABELS.

Proper training for prescribed fires is highly recommended.

Basic training can be found online at <http://training.nwcg.gov/courses/s130.html> and <http://training.nwcg.gov/courses/s190.html>

## Related Website:

<http://www.iowadnr.com/forestry/invasive.html>  
<http://plants.usda.gov>  
[www.invasivespecies.gov](http://www.invasivespecies.gov)  
[www.nps.gov/plants/alien](http://www.nps.gov/plants/alien)

Mention of any trade names is for the convenience of the reader and does not imply any endorsement by the Hawkeye CWMA

## Credits:

**Photographs:** Steve Hurst, USDA NRCS PLANTS Database; Roberta Hill, VLMP; Leslie J. Mehrhoff, University of Connecticut; Robert L. Johnson, Cornell University; Richard Old, XID Services Inc; Alison Fox, University of Florida; Bugwood.org , K. DeGoosh, RIDEM; northeastans.org. Robert Harris;dynamidunes..bd.psu.edu., Maryland Department of Natural Resources. Tom Alwin; greenoaktp.com.



The **Hawkeye Cooperative Weed Management Area (HCWMA)** is a collective group of county, state, and federal agencies, nonprofit organizations and community associations who have come together to **combat the invasive species problem in Eastern Iowa**. The HCWMA serves Benton, Cedar, Iowa, Johnson, Jones, Linn, and Louisa Counties and is open to all interested parties. The Term CWMA, or Cooperative Weed Management Area, refers to a local organization that integrates invasive species management resources across jurisdictional boundaries in order to benefit entire regions.

All Hawkeye CWMA members (agencies, organizations, and individuals) are equal opportunity providers and employers.

# Eurasian Watermilfoil

## *Myriophyllum spicatum*



## A SERIOUS THREAT To Iowa's Wetlands

# What is Eurasian Watermilfoil?

- Native to Europe, Asia, and North Africa.
- Started as an aquarium plant, most likely introduced by accident.
- First collected in US in the 1940s.
- Spreads to new lakes by attaching to watercraft.
- Threatens diversity of lakes and rivers.



# What does Eurasian Watermilfoil Look Like?

**Identifying traits:** Watermilfoil is most easily identified by its narrow stem and feathery leaflets. commonly growing from 2-10 feet, Stems are usually off white with colors ranging from brown to light pink; leaves are narrow and pale green. Small red flowers Flowers bloom above water in late summer.

## Leaflets:

Arranged in 4 or rarely 5 whorls around the stem, whorls are covered in 12+ thin, fine leaflets about 1/2-2 inches in length. Native watermilfoil has only 5-9 leaflets per whorl. Leaflets are delicate and will collapse out of water.



## Roots:

Long, thin and fibrous, roots are off- white and take off from any leaf node. Floating plants will be found with roots attached to find new areas to anchor.



**Stems:** Usually grow to around 5 feet but may grow 10 feet or more. Each stem will branch several times before reaching the surface, forming a

dense mat. Color can vary greatly, ranging from red-pink around the whorl to completely red, white, or brown.

## Inflorescence:

Flowers occur on the tip of the stem in the late summer and protrude 2-4 inches above the water. Flower is 4 parted and reddish to pale pink.



# I'm a boater or fisherman, Why should I care about Eurasian Watermilfoil?

Eurasian Watermilfoil grows so thick that it can clog boat engines and propellers, causing damage to equipment which can leave one stranded in shallow waters. Invasive milfoil deoxygenates the water, killing fish and the insects they feed on. Boaters can also face up to a \$500 fine for transporting invasives from lake to lake.

## What can I do to stop it from spreading?

You can help stop invasives from spreading to new areas by ensuring that all equipment is hosed off or dried off before entering another body of water and that watercraft are drained of all pump water and are free of any hitchhikers. An infestation can be spread from a single leaf or stem which may survive to propagate even after drying out.



Result of Eurasian Watermilfoil infestation

# What is the threat to Iowa?

- Can form thick underwater tangles of stems.
- Rapidly deoxygenates water, killing off fish and native plants.
- Can clog boat engines and propellers.
- Poses problems for swimming, boating, and fishing.
- Has no natural growth controls.
- Degrades habitat for waterfowl.
- Colonies can form from a single leaf or stem.
- Is extremely adaptable and able to survive in many water conditions.

# Native Alternatives:

## Northern Watermilfoil (*Myriophyllum exalbescens*)

Very similar to Eurasian Watermilfoil, it is most easily distinguished by having only 5-9 leaflets, which remain rigid out of water, compared to the Eurasians varieties 12+ leaflets. Grows from 1-20 feet in length, stems are hollow. It forms mats in shallow water that provide nesting for fish and supply food for insects, waterfowl, muskrats, and fish.



## Leafy Pondweed (*Potamogeton foliosus*)

A perennial submersed plant with both floating and submerged leaves. Leaves usually elongated with noticeable veins, 6-8 inches long by 1-3 inches wide. Stems are thick to keep leaves afloat. Erect spikes of greens flowers emerge in late summer. Provides fish habitat and food for waterfowl.

