Management of Eurasian Watermilfoil 2012

Patricia Gilbert
U.S. Army Corps of Engineers
Fort Peck Project
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1. Invasive submersed aquatic plant Eurasian Watermilfoil, listed as a Category 3 noxious weed in Montana

2. Located in the Missouri River and Fort Peck Lake

3. If untreated, these systems are sources of continued spread throughout the lake and river
1. Eurasian Watermilfoil discovered in August 2010 in the Dredge Cuts Below Fort Peck Dam

2. Environmental Assessment that includes various control techniques was completed May 2011

3. 2011 Contracted with Engineering Research and Development Center to develop treatment protocols to manage EWM
Contract with ERDC

- Prioritize specific areas for treatment. For example, boat launches and waters adjacent to water intake structures versus isolated bays.

- Design and oversee a field evaluation of water exchange and herbicide dissipation on two sites within the Fort Peck Project. One design will incorporate the use of a turbidity curtain to prevent the movement of aquatic herbicide from the treatment area.

- Develop & evaluate innovative chemical strategies, products, and application techniques for selective control of Eurasian Watermilfoil at Fort Peck Project.
Pre-Application

- Plant assessments to evaluate plant density and the plant community
- Bathymetric Assessments using Contour Innovations BioBase System
- Vegetation and bathymetry assessments combined determine a precise measurement for chemical application
Proposed Herbicide Application Site #1

Distance Information:
Site #1 to water intakes = 2,578 ft
Site #1 to Fish Hatchery = 2,680 ft
Site #1 to Swim Beach = 2,278 ft
Chemicals Used to Treat EWM

1. Site #1, Fort Peck Dredge Cuts- Aquathol K

2. Site #2 & 3, Rock Creek- Aquathol and Kraken
Aquathol® K – Eurasian Watermilfoil Control

- Registered by USEPA for lakes - 1960
- Re-registered for lakes - 2005
- Registered western irrigation canals – 2010
- Active ingredient – endothall dipotassium salt
- Contact herbicide
- Endothall degrades quickly in water and sediments
Aquathol® K – Eurasian Watermilfoil Control

- Maximum allowable application rate in water for Eurasain watermilfoil control = 5 ppm endothall

- Application rates proposed for 2012 Ft. Peck:
  2 – 2.5 ppm endothall - at least 2 years control of Eurasian milfoil expected at these rates
Aquathol® K – Use Restrictions, Lakes

- **No restrictions** on swimming, fishing, or irrigation of lawns and gardens in treated area
- No irrigation restrictions on most crops, including alfalfa in treated area
- Treatment area set-back distance of 600 ft from **functioning** potable water intakes
Kracken® – Eurasian Watermilfoil Control

- Registered by USEPA for terrestrial uses – 1976
- Terrestrial uses include turf and ornamentals, roadsides; registered for rice production 1996
- Registered for lakes – 2001
- Active ingredient – triclopyr, synthetic plant hormone, auxin
- Systemic herbicide
- Triclopyr degrades quickly in water and sediments
Kracken® – Eurasian Watermilfoil Control

- Maximum allowable application rate in water for Eurasian watermilfoil control = 2.5 ppm triclopyr

- Application rates proposed for 2012 Ft. Peck:
  1 – 2 ppm triclopyr - at least 2 years control of Eurasian milfoil expected at these rates
Kraken® K – Use Restrictions, Lakes

- **No restrictions** on swimming or fishing in treated area
- Irrigation restriction – 120 days or residues 1 ppb or less in treated area
- **Functioning** potable water intakes set-back distances from treated areas base on rate applied and acreage treated:
  - **Ft Peck** – 10-acre treatment @ 2 ppm triclopyr = 1600 ft set-back distance from treated area
Rhodamine Dye

1. Dye is applied with the aquatic herbicides to determine
   - Bulk water exchange patterns
   - Herbicide movement

2. Dye is measured using a portable Fluorometer

3. Water sampling for Dye concentration
   - Hours 0, 1, 3, 6, 12, 18, 24, and 36
Turbidity Barrier

- 15 feet depth
- 1,000 linear feet
- Fabric is impermeable
Rock Creek Eurasian Watermilfoil Infestation
Eurasian Watermilfoil Around Docks
All of us need to get involved in preventing the spread of EWM and other aquatic invasive species to other Bodies of Water.

With just three easy steps, you can do your part to help stop the spread of aquatic invasive species like plants, mussels and whirling disease:

1. **Inspect.**
   After leaving a lake or stream, inspect your boat, engine, trailer, anchor, waders, and other fishing and boating gear for mud, water, and vegetation that could carry aquatic invasive species.

2. **Clean.**
   Completely remove all mud, water, and vegetation you find. Boaters should use a pressurized power sprayer, found at most do-it-yourself car washes. The hot water helps kill organisms and the pressure removes mud and vegetation. No need to use soap or chemicals.

3. **Dry.**
   Aquatic invaders can survive only in water and wet areas. By draining and drying your boat and fishing equipment thoroughly, you will kill most invasives. The longer you keep your boat, trailer, waders, and other equipment outside in the hot sun between fishing trips, the better.

Remember, its up to us!
Eurasian Watermilfoil in Flower
Eurasian Watermilfoil at RC Marina
Eurasian Watermilfoil from Boat Prop