

CHAPTER 11. CURRENT AQUATIC INVASIVE SPECIES LAW AND RULE

INTRODUCTION

Following are Iowa's Aquatic Invasive Species Law and Rule current as of 1 January 2008. Please check with the ANS Coordinator for clarification or to see if changes have occurred. All boat ramps should be posted with Stop Aquatic Hitchhiker signs or alert signs indicating which AIS is/are present in the waterbody.

Code of Iowa Chapter 456A Regulation and Funding – Natural Resources Department

456A.37 Aquatic Invasive Species –Prevention and Control.

1. Definitions. As used in this section:

- a. "Eurasian watermilfoil" means *Myriophyllum spicatum*, a submerged aquatic weed that invades lakes, ponds, reservoirs, and other bodies of water.
- b. "Infestation of an aquatic invasive species" means an infestation of Eurasian watermilfoil that occupies more than twenty percent of the littoral area of a body of water or an infestation of any other species defined as an aquatic invasive species in this section.
- c. "Aquatic invasive species" means a species that is not native to an ecosystem and whose introduction causes or is likely to cause economic or environmental harm or harm to human health including but not limited to habitat alteration and degradation, and loss of biodiversity. For the purposes of this section, "aquatic invasive species" are limited to Eurasian watermilfoil, purple loosestrife, and zebra mussels, except as provided in subsection 4.
- d. "Purple loosestrife" means *Lythrum salicaria*, a wetland plant that invades marshes, lakeshores, and other wetlands.
- e. "Watercraft" means any vessel which through the buoyance of water floats upon the water and is capable of carrying one or more persons.
- f. "Zebra mussel" means *Dreissena polymorpha*, a small mussel that invades lakes, rivers, and other bodies of water.

2. Aquatic invasive species management plan. Before January 1, 2005, the commission shall prepare a long-term statewide aquatic invasive species management plan. The plan shall address all of the following:

- a. The detection and prevention of accidental introductions into the state of aquatic invasive species.
- b. A public awareness campaign regarding aquatic invasive species.
- c. The control and eradication of aquatic invasive species in public waters.
- d. The development of a plan of containment strategies that at a minimum shall include all of the following:

(1) The participation by lake associations, local citizens groups, and local units of government in the development and implementation of lake management plans where aquatic invasive species exist.

(2) Notice to travelers of the penalties for violation of laws relating to aquatic invasive species.

3. Grants. The director of the department of natural resources shall accept gifts, donations, and grants to aid in accomplishing the control and eradication of aquatic invasive species.

4. Rulemaking. The commission shall adopt rules pursuant to chapter 17A for the implementation and administration of this section. The rules shall do all of the following:

a. Restrict the introduction, propagation, use, possession, and spread of aquatic invasive species.

b. Identify bodies of water with infestations of aquatic invasive species. The department shall require that bodies of water be posted as infested. The department may prohibit boating, fishing, swimming, and trapping in infested bodies of water.

If the commission determines that an additional species should be defined as an “aquatic invasive species”, the species shall be defined by the commission by rule as an “aquatic invasive species”.

5. Prohibitions.

a. A person shall not do any of the following:

(1) Transport an aquatic invasive species on a public road.

(2) Place a trailer or launch a watercraft that contains or to which an aquatic invasive species is attached in public waters.

(3) Operate a watercraft in a marked aquatic invasive species infestation area.

b. A person who violates this subsection is subject to a scheduled fine pursuant to section 805.8B, subsection 5.

Section 805.8B Navigation, recreation, hunting, and fishing scheduled violations.

5. Aquatic invasive species violations. For violations of section 456A.37, subsection 5, the scheduled fine is one hundred dollars.

Chapter 90 Aquatic Invasive Species

571--90.1(456A) Definitions. As used in this chapter:

“Commission” means the natural resource commission.

“Department” means the department of natural resources.

“Director” means the director of the department of natural resources.

"Introduce" means to release a species into waters of the state. "Introduce" does not include the immediate return of a nonnative species to waters of the state from which it was removed.

"Transport" means to cause a species to be moved into or within the state, and includes accepting or receiving the species for transportation or shipment. "Transport" does not include the unintentional transport of a species within a water of the state or to a connected water of the state where the species being transported is already present.

"Watercraft" means a device used or designed for navigation on water.

571--90.2(456A) Aquatic invasive species. For the purposes of this rule, the following species and any hybrids, cultivars, or varieties of the species are designated as aquatic invasive species.

90.2(1) Aquatic invasive plants.

| | |
|-----------------------|-------------------------------------|
| Brittle naiad | Najas minor |
| Curlyleaf pondweed | Potamogeton crispus |
| Eurasian watermilfoil | Myriophyllum spicatum |
| Flowering rush | Butomus umbellatus |
| Purple loosestrife | Lythrum salicaria, Lythrum virgatum |
| Salt cedar | Tamarix spp. |

90.2(2) Aquatic invasive fish.

| | |
|--------------|-----------------------------|
| Bighead carp | Hypophthalmichthys nobilis |
| Black carp | Mylopharyngodon piceus |
| Round goby | Neogobius melanostomus |
| Rudd | Scardinius erythrophthalmus |
| Ruffe | Gymnocephalus cernuus |
| Silver carp | Hypophthalmichthys molitrix |
| White perch | Morone americana |

90.2(3) Aquatic invasive invertebrates.

| | |
|----------------------|---------------------------|
| Fishhook waterflea | Cercopagis pengoi |
| New Zealand mudsnail | Potamopyrgus antipodarum |
| Quagga mussel | Dreissena bugensis |
| Rusty crayfish | Orconectes rusticus |
| Spiny waterflea | Bythotrephes cederstroemi |
| Zebra mussel | Dreissena polymorpha |

90.2(4) Federal noxious weed list. For purposes of this rule, the aquatic plants listed in Code of Federal Regulations, Title 7, Section 360.200, are also designated as aquatic invasive species.

90.2(5) Injurious wildlife species. For purposes of this rule, aquatic species listed in Code of Federal Regulations, Title 50, Section 16.11 through 16.15, are also designated as aquatic invasive species.

571--90.3(456A) Restrictions.

90.3(1) A person shall not possess, introduce, import, purchase, sell, barter, propagate, or transport aquatic invasive species in any form in this state, except:

- a. By written permission of the director;
- b. For disposal as part of a harvest or control activity;
- c. When a species is being transported to the department, or to another destination as directed by the department, in a sealed container for purposes of identifying the species or reporting the presence of the species;
- d. When the specimen has been lawfully acquired dead and, in the case of plant species, when all seeds are removed or are otherwise secured in a sealed container;
- e. In the form of herbaria or other preserved specimens; or
- f. When a species is being removed from watercraft and equipment, or when a species is caught by an angler and immediately returned to the water from which it came.

90.3(2) A conservation officer, other licensed peace officer, or employee of the department may seize or dispose of all specimens of aquatic invasive species unlawfully possessed, introduced, imported, purchased, sold, bartered, propagated, or transported in the state.

571—90.4(456A) Infested waters.

90.4(1) Designation of infested waters. The department shall designate infested waters of the state. The department shall publish the names of infested waters in the fishing regulations brochure each year and provide notice through other available means where practical. At any time, the department may designate additional waters or remove from designation those waters that are no longer infested.

90.4(2) Restricted activities on infested waters. The department may restrict boating, fishing, swimming, and trapping in infested waters of the state. When determining when to restrict activities in infested waters, the department shall consider:

- a. The extent of a species' distribution within the state;
- b. The likely means of spread for a new species; and
- c. Whether restrictions specific to infested waters containing a specific species will effectively reduce that species' spread.

These rules are intended to implement Iowa Code section 456A.37 as amended by 2004 Iowa Acts, House File 2357.

Standard Procedures for Controlling Aquatic Invasive Plants with Herbicides

Waterbodies infested with aquatic invasive plants will be treated on a case by case basis and coordinated by the ANS Coordinator. Individual situations may require deviations from or may react differently to the standards below. Changes in herbicide formulations or new herbicides developed for the aquatic environment may change these standard treatment procedures.

Additional standard procedures may be added as new control techniques are developed or as additional aquatic invasive plant species are found in Iowa. Permits should be applied for well in advance of herbicide application. All label directions need to be followed when applying aquatic herbicides.

Eurasian Watermilfoil Whole Lake/Pond Sonar Treatment

Sonar is a selective, systemic herbicide that results in a slow kill of Eurasian watermilfoil and eliminates the threat of an oxygen deficit due to a large mass of vegetation decaying at one time. Plants begin to show signs of chlorosis (i.e., turn pink or white) within 7-10 days of application with a complete kill taking 30-90 days. There are no restrictions on swimming, fishing, or drinking after Sonar application; however, there are irrigation restrictions.

Treatment should begin when Eurasian watermilfoil is first observed to be growing in the spring. The lake/pond should be treated at 8ppb Sonar determined by the following equations:

mean depth (ft) x ppb Sonar x 0.027 (Sonar AS) = quarts of Sonar per surface acre

mean depth (ft) x ppb Sonar x 0.054 (Sonar Q) = pounds of Sonar per surface acre

The goal while treating Eurasian watermilfoil is to maintain a Sonar concentration above 5ppb for about 45 days. In most cases, a FastEST sample to monitor the Sonar concentration should be taken two weeks after the initial treatment date. FastEST sampling instructions and bottles will be provided by the ANS Coordinator. FastEST results are sent to the ANS Coordinator 2-3 days after the sample is shipped, and additional instructions are sent to the biologist at that time. If the Sonar concentration has dropped to 5ppb or below, additional Sonar should be applied to bump the concentration back up to 8ppb. If the Sonar concentration is above 5ppb, no bump is needed at that time. A second FastEST sample should be taken 4 weeks after the treatment date and/or 2 weeks after the bump. Again, the ANS Coordinator will get the FastEST results and send any additional instructions to the biologist at that time.

Brittle Naiad Whole Lake/Pond Sonar Treatment

Sonar is a selective, systemic herbicide that results in a slow kill of brittle naiad and eliminates the threat of an oxygen deficit due to a large mass of vegetation decaying at one time. Plants begin to show signs of chlorosis (i.e., turn pink or white) within 7-10 days of application with a complete kill taking 30-90 days. There are no restrictions on swimming, fishing, or drinking after Sonar application; however, there are irrigation restrictions.

Treatment should begin when brittle naiad is first observed to be growing in the spring or summer. Brittle naiad reproduces by seeds, and the timing of seedling emergence can vary from year to year. The lake/pond should be treated at 15ppb Sonar determined by the following equations:

mean depth (ft) x ppb Sonar x 0.027 (Sonar AS) = quarts of Sonar per surface acre

mean depth (ft) x ppb Sonar x 0.054 (Sonar Q) = pounds of Sonar per surface acre

The goal while treating brittle is to maintain a Sonar concentration above 10ppb for about 45 days. In most cases, a FastEST sample to monitor the Sonar concentration should be taken two weeks after the initial treatment date. FastEST sampling instructions and bottles will be provided by the ANS Coordinator. FastEST results are sent to the ANS Coordinator 2-3 days after the sample is shipped, and additional instructions are sent to the biologist at that time. If the Sonar concentration has dropped to 5ppb or below, additional Sonar should be applied to

bump the concentration back up to 8ppb. If the Sonar concentration is above 5ppb, no bump is needed at that time. A second FastEST sample should be taken 4 weeks after the treatment date and/or 2 weeks after the bump. Again, the ANS Coordinator will get the FastEST results and send any additional instructions to the biologist at that time.

Eurasian Watermilfoil and Brittle Naiad Spot Treatment

Several different herbicides can be used for controlling small areas of Eurasian watermilfoil and brittle naiad. Herbicide selection should be based on size of area to be treated, herbicide exposure time, turbidity, herbicide water use restrictions, presence of nontarget plants, and ease of application. Chemicals that are effective on both Eurasian watermilfoil and brittle naiad are 2,4-D (e.g., Navigate, Aqua-Kleen), diquat (e.g., Reward), endothall (e.g., Aquathol K), and triclopyr (e.g., Renovate). Spot treatment with any of these herbicides usually results in short-term control and may need to be repeated in subsequent years.

HACCP Step 1 - Activity Description

| | |
|--|---|
| Facility: Iowa Department of Natural Resources | Site: Statewide rivers and streams |
| Project Coordinator: Jason Euchner | Project Description: Backpack electroshocking |
| Site Manager: Fisheries biologist & technician | |
| Address: 1436 255th St. Boone, IA 50036 | |
| Phone: 515-432-2823 | |

Project Description

(Who, What, Where, When, How & Why)

Who: Fisheries management and research biologists & technicians
What: Backpack electroshocking
When: Spring through fall
Where: Statewide rivers and streams
How: Backpack electroshocker
Why: To sample fish populations, collect fish, or tag fish

HACCP Step 2 - Potential Hazard Identification

Vertebrates:

nonnative fish species (Asian carp, white perch, round goby, ruffe)

Invertebrates:

zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail

Plants:

Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Other Biologics:

largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Others:

HACCP Step 3 - Flow Diagram

| | |
|-----------------|---|
| Task # 1 | Dip nets and backpack electroshocker obtained from storage. |
| Task # 2 | Crew and gear travel to sample location. |
| Task # 3 | Crew enters water and begins sampling. |
| Task # 4 | Fish are kept or released. Kept species are preserved and brought back to station for identification or collection. |
| Task # 5 | Crew puts gear back in truck. |
| Task # 6 | Crew and gear travel back to station or new site. |
| Task # 7 | Gear is stored at station. |

HACCP Step 4 - Hazard Analysis

| Task | Hazard | Probable? | Justification | Control Measures | CCP? |
|--|--|------------------|--|-------------------------|-------------|
| Dip nets, backpack electroshocker obtained from storage. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment is clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Equipment is clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment is clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment is clean. | | No |
| Crew and gear travel to sample location. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment is clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Equipment is clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment is clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment is clean. | | No |
| Crew enters water and begins sampling. | Vertebrate: nonnative fish species (Asian carp, white | No | Staying in same system until sample is | | No |

| | | | | | |
|--|--|-----|---|---|-----|
| | perch, round goby, ruffe) | | complete. | | |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Staying in same system until sample is complete. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Staying in same system until sample is complete. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Staying in same system until sample is complete. | | No |
| Fish are kept or released. Kept species are preserved and brought back for identification or collection. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Fish are placed in preservative. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Will not collect these species. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Will not collect these species. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Minimal amount of water taken from system, then preservative is added which will eliminate chance of transport. | | No |
| Crew puts gear back in truck. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | Yes | Possible to have eggs or small fish on gear and in nets. | Clean all gear and nets before putting in storage or going to another location. | Yes |

| | | | | | |
|---|--|-----|---------------------------------|---|-----|
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | Yes | Possible to be on gear or nets. | Clean all gear and nets before putting in storage or going to another location. | Yes |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | Yes | Possible to be on gear or nets. | Clean all gear and nets before putting in storage or going to another location. | Yes |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | Yes | Possible to be on gear or nets. | Clean all gear and nets before putting in storage or going to another location. | Yes |
| Crew and gear travel back to station or new site. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment is clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Equipment is clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment is clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment is clean. | | No |
| Gear is stored at station. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment is clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail | No | Equipment is clean. | | No |

| | | | | | |
|--|--|----|---------------------|--|----|
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment is clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment is clean. | | No |

HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 5: Crew puts gear back in truck.

Significant Hazards:

Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe)

Control Measures:

Clean all gear and nets before putting in storage or going to another location.

Limits for Control Measures:

Clean all gear and nets before storing or traveling to another location.

Monitoring: What?

Debris on gear and nets

Monitoring: How?

Visual

Monitoring: Frequency?

Once

Monitoring: Who?

Crew

Evaluation & Corrective Actions:

Clean gear and nets until free of debris.

Supporting Documentation:

Critical Control Point #2:

Task # 5: Crew puts gear back in truck.

Significant Hazards:

Invertebrate: zebra mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail

Control Measures:

Clean all gear and nets before putting in storage or going to another location.

Limits for Control Measures:

Clean all gear and nets before storing or traveling to another location.

Monitoring: What?

Debris on gear and nets

Monitoring: How?

Visual

Monitoring: Frequency?

Once

Monitoring: Who?

Crew

Evaluation & Corrective Actions:

Clean gear and nets until free of debris.

Supporting Documentation:

| |
|--|
| |
| <p>Critical Control Point #3: Task # 5: Crew puts gear back in truck.</p> |
| <p>Significant Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad</p> |
| <p>Control Measures: Clean all gear and nets before putting in storage or going to another location.</p> |
| <p>Limits for Control Measures: Clean all gear and nets before storing or traveling to another location.</p> |
| <p>Monitoring: What? Plant fragments on gear and nets</p> |
| <p>Monitoring: How? Visual</p> |
| <p>Monitoring: Frequency? Once</p> |
| <p>Monitoring: Who? Crew</p> |
| <p>Evaluation & Corrective Actions: Clean gear and nets until free of plant fragments.</p> |
| <p>Supporting Documentation:</p> |
| |
| <p>Critical Control Point #4: Task # 5: Crew puts gear back in truck.</p> |
| <p>Significant Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)</p> |
| <p>Control Measures: Clean all gear and nets before putting in storage or going to another location.</p> |
| <p>Limits for Control Measures: Clean all gear and nets before storing or traveling to another location.</p> |
| <p>Monitoring: What? Debris on gear and nets</p> |
| <p>Monitoring: How? Visual</p> |
| <p>Monitoring: Frequency? Once</p> |
| <p>Monitoring: Who? Crew</p> |
| <p>Evaluation & Corrective Actions: Clean gear and nets until free of debris.</p> |
| <p>Supporting Documentation:</p> |
| |

| | |
|--|--|
| | |
| Facility: Iowa Department of Natural Resources | Activity: Backpack electroshocking |
| Address: 1436 255th St. Boone, IA 50036 | |
| Signature: | Date: |

HACCP Plan

HACCP Checklist:

Backpack electroshocking

| | |
|--------------------|--------------------------------------|
| Facility | Iowa Department of Natural Resources |
| Site | Statewide rivers and streams |
| Coordinator | Jason Euchner |
| Manager | Fisheries biologist & technician |
| Address | 1436 255th St., Boone, IA 50036 |

Task # 1: Dip nets, backpack electroshocker obtained from storage.

Task # 2: Crew and gear travels to sample location.

Task # 3: Crew enters water and begins sampling.

Task # 4: Fish are kept or released. Keep species are preserved and brought back for ID or collection.

Task # 5: Crew puts crew back in truck.

CRITICAL CONTROL POINT

Hazards were contained

Hazards: Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe)

Control measures were implemented

Control Measures: Clean all gear and nets before putting in storage or going to another location.

Control limits were maintained

Control Limits: Clean all gear and nets before storing or traveling to another location.

Corrective actions were (performed if necessary)

Corrective Actions: Clean gear and nets until free of debris.

Hazards were contained

Hazards: Invertebrate: zebra Mussel, quagga mussel, rusty crayfish, spiny waterflea, New Zealand mudsnail

Control measures were implemented

Control Measures: Clean all gear and nets before putting in storage or going to another location.

Control limits were maintained

Control Limits: Clean all gear and nets before storing or traveling to another location.

Corrective actions were (performed if necessary)

Corrective Actions: Clean gear and nets until free of debris.

HACCP Plan

Hazards were contained

Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Control measures were implemented

Control Measures: Clean all gear and nets before putting in storage or going to another location.

Control limits were maintained

Control Limits: Clean all gear and nets before storing or traveling to another location.

Corrective actions were (performed if necessary)

Corrective Actions: Clean gear and nets until free of plant fragments.

Hazards were contained

Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Control measures were implemented

Control Measures: Clean all gear and nets before putting in storage or going to another location.

Control limits were maintained

Control Limits: Clean all gear and nets before storing or traveling to another location.

Corrective actions were (performed if necessary)

Corrective Actions: Clean gear and nets until free of debris.

Task # 6: Crew and gear travel back to station or new site.

Task # 7: Gear is stored at station.

HACCP Plan

| HACCP Step 1 - Activity Description | |
|--|---|
| Facility: Iowa Department of Natural Resources | Site: Statewide |
| Project Coordinator: Jason Euchner | Project Description: Boat electroshocking |
| Site Manager: Fisheries biologist & technician | |
| Address: 1436 255th St Boone, IA 50036 | |
| Phone: 515-432-2823 | |

| Project Description (Who, What, Where, When, How & Why) |
|---|
| <p>Who: Fisheries management and research biologists & technicians What: Boat electroshocking When: Spring through fall Where: Statewide rivers and lakes How: Electroshocking boat Why: To sample fish populations, collect fish, or tag fish</p> |

HACCP Plan

HACCP Step 2 - Potential Hazard Identification

Vertebrates:

nonnative fish species (Asian carp, white perch, round goby, ruffe)

Invertebrates:

zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail

Plants:

Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Other Biologics:

largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Others:

HACCP Plan

HACCP Step 3 - Flow Diagram

| | |
|-----------------|---|
| Task # 1 | Load equipment at station. |
| Task # 2 | Travel to sample location. |
| Task # 3 | Launch boat. |
| Task # 4 | Sample and collect fish for surveys or tagging. |
| Task # 5 | Measure and tag fish. |
| Task # 6 | Release fish back into water. (If collecting fish for fishing clinic or state fair, refer to fish hauling HACCP.) |
| Task # 7 | Load boat onto trailer. |
| Task # 8 | Travel back to station or another location. |

HACCP Plan

| HACCP Step 4 - Hazard Analysis | | | | | |
|--------------------------------|--|-----------|----------------------------|------------------|------|
| Task | Hazard | Probable? | Justification | Control Measures | CCP? |
| Load equipment at station. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |
| Travel to sample location. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |
| Launch boat. | Vertebrate: nonnative fish species (Asian carp, white | No | Equipment should be clean. | | No |

HACCP Plan

| | | | | | |
|---|--|----|---|--|----|
| | perch, round goby, ruffe) | | | | |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |
| Sample and collect fish for surveys or tagging. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Sampling and collecting fish, not moving to another system. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Sampling and collecting fish, not moving to another system. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Sampling and collecting fish, not moving to another system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Sampling and collecting fish, not moving to another system. | | No |
| Measure and tag fish. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Measuring and tagging fish, not moving to another system. | | No |

HACCP Plan

| | | | | | |
|---|--|-----|---|---|-----|
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Measuring and tagging fish, not moving to another system. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Measuring and tagging fish, not moving to another system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Measuring and tagging fish, not moving to another system. | | No |
| Release fish back into water. (If collecting fish for fishing clinic or state fair, refer to fish hauling HACCP.) | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Will not release nonnative species back into system. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Will not release nonnative species back into system. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Will not release nonnative species back into system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Will not release nonnative species back into system. | | No |
| Load boat onto trailer. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | Yes | Possible to have in or on boat. | Drain fish tanks and bilge and inspect boat for presence of standing water. | Yes |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New | Yes | Possible to have in or on boat. | Drain fish tanks and bilge and inspect boat for presence of | Yes |

HACCP Plan

| | | | | | |
|---|--|-----|------------------------------------|---|-----|
| | Zealand mudsnail | | | standing water. | |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | Yes | Possible to be on boat or trailer. | Inspect and remove any plant fragments before leaving ramp. | Yes |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | Yes | Possible to have in or on boat. | Drain fish tanks and bilge and inspect boat for presence of standing water. | Yes |
| Travel back to station or another location. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |

HACCP Plan

| HACCP Step 5 - HACCP Plan | |
|--|--|
| Critical Control Point #3: Task # 7: Load boat onto trailer. | |
| Significant Hazards: Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | |
| Control Measures: Drain fish tanks and bilge and inspect boat for presence of standing water. | |
| Limits for Control Measures: If in known infested location, pressure wash boat and allow to dry. | |
| Monitoring: What? Presence of standing water | |
| Monitoring: How? Visual | |
| Monitoring: Frequency? Once | |
| Monitoring: Who? Crew | |
| Evaluation & Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat. | |
| Supporting Documentation: | |
| Critical Control Point #4: Task # 7: Load boat onto trailer. | |
| Significant Hazards: Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | |
| Control Measures: Drain fish tanks and bilge and inspect boat for presence of standing water. Decontaminate motor if in known infested area. | |
| Limits for Control Measures: If in known infested location, pressure wash boat and allow to dry and decontaminate engine cooling system. | |
| Monitoring: What? Presence of standing water | |
| Monitoring: How? Visual | |
| Monitoring: Frequency? Once | |
| Monitoring: Who? | |

HACCP Plan

| |
|--|
| Crew |
| Evaluation & Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat. |
| Supporting Documentation: |
| |
| Critical Control Point #5: Task # 7: Load boat onto trailer. |
| Significant Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad |
| Control Measures: Inspect and remove any plant fragments before leaving ramp. |
| Limits for Control Measures: Do not leave ramp until all plant fragments are removed from boat, trailer, and equipment. |
| Monitoring: What? Plant fragments |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Crew |
| Evaluation & Corrective Actions: If in known infested location, pressure wash boat and equipment before traveling to another location. |
| Supporting Documentation: |
| |
| Critical Control Point #6: Task # 7: Load boat onto trailer. |
| Significant Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) |
| Control Measures: Drain fish tanks and bilge and inspect boat for presence of standing water. |
| Limits for Control Measures: If in known infested location, pressure wash boat and allow to dry. |
| Monitoring: What? Presence of standing water. |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? |

HACCP Plan

| | |
|--|--|
| Crew | |
| Evaluation & Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat. | |
| Supporting Documentation: <div style="background-color: #333; height: 20px; width: 100%;"></div> | |
| Facility: Iowa Department of Natural Resources | Activity: Boat electroshocking |
| Address: 1436 255th St Boone, IA 50036 | |
| Signature: | Date: |

Fish Hauling HACCP

HACCP Checklist:

Boat Electroshocking

| | |
|--------------------|--------------------------------------|
| Facility | Iowa Department of Natural Resources |
| Site | Statewide |
| Coordinator | Jason Euchner |
| Manager | Fisheries biologist & technician |
| Address | 1436 255th St, Boone, IA 50036 |

Task # 1: Load equipment at station.

Task # 2: Travel to sample location.

Task # 3: Launch boat.

Task # 4: Sample and collect fish for surveys or tagging.

Task # 5: Measure and tag fish.

Task # 6: Release fish back into water. (If collecting fish for fishing clinic or state fair, refer to fish hauling HACCP.)

Task # 7: Load boat onto trailer.

CRITICAL CONTROL POINT

Hazards were contained

Hazards: Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe)

Control measures were implemented

Control Measures: Drain fish tanks and bilge and inspect boat for presence of standing water.

Control limits were maintained

Control Limits: If in known infested location, pressure wash boat and allow to dry.

Corrective actions were (performed if necessary)

Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat.

Hazards were contained

Hazards: Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail

Control measures were implemented

Control Measures: Drain fish tanks and bilge and inspect boat for presence of

Fish Hauling HACCP

standing water. Decontaminate motor if in known infested area.

Control limits were maintained

Control Limits: If in known infested location, pressure wash boat and allow to dry and decontaminate engine cooling system.

Corrective actions were (performed if necessary)

Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat.

Hazards were contained

Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Control measures were implemented

Control Measures: Inspect and remove any plant fragments before leaving ramp.

Control limits were maintained

Control Limits: Do not leave ramp until all plant fragments are removed from boat, trailer, and equipment.

Corrective actions were (performed if necessary)

Corrective Actions: If in known infested location, pressure wash boat and equipment before traveling to another location.

Hazards were contained

Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Control measures were implemented

Control Measures: Drain fish tanks and bilge and inspect boat for presence of standing water.

Control limits were maintained

Control Limits: If in known infested location, pressure wash boat and allow to dry.

Corrective actions were (performed if necessary)

Corrective Actions: If water still standing in boat, move to a location that allows water to drain from boat.

Task # 8: Travel back to station or another location.

Fish Hauling HACCP

| HACCP Step 1 - Activity Description | |
|---|--|
| Facility: Iowa DNR | Site: Statewide |
| Project Coordinator: Jason Euchner | Project Description: Fish collection and transport |
| Site Manager: Local Biologist or Technician | |
| Address: 1436 255th St, Boone, IA 50036 | |
| Phone: 515-432-2823 | |

| Project Description (Who, What, Where, When, How & Why) |
|--|
| <p>Who: Iowa DNR fisheries personnel</p> <p>What: Fish collection for use at fish clinics, the state fair, and other events</p> <p>When: During sampling season</p> <p>Where: Statewide</p> <p>How: With standard electrofishing and netting</p> <p>Why: To have live display fish at fish clinics, the state fair, and other events</p> |

Fish Hauling HACCP

| HACCP Step 2 - Potential Hazard Identification | |
|---|--|
| Vertebrates: | Asian Carp, round goby, white perch, ruffe |
| Invertebrates: | zebra mussels, quagga mussels, spiny waterflea |
| Plants: | brittle naiad, Eurasian watermilfoil, curlyleaf pondweed |
| Other Biologics: | VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) |
| Others: | |

Fish Hauling HACCP

HACCP Step 3 - Flow Diagram

| | |
|-----------------|---|
| Task # 1 | Fill hauling unit at station and neutralize chlorine and chloramines. |
| Task # 2 | Collect fish following HACCP plans for boat electrofishing and netting. |
| Task # 3 | Use fish at clinic, event, or state fair. |
| Task # 4 | Return fish back to originating waterbody and ramp, or dispose of fish. |
| Task # 5 | Clean hauling unit and allow to dry. |

Fish Hauling HACCP

| HACCP Step 4 - Hazard Analysis | | | | | |
|---|--|-----------|---|---|------|
| Task | Hazard | Probable? | Justification | Control Measures | CCP? |
| Fill hauling unit at station and neutralize chlorine and chloramines. | Vertebrate: Asian carp, round goby, white perch, ruffe | No | Tank should be clean from previous uses. | | No |
| | Invertebrate: zebra mussels, quagga mussels, spiny waterflea | No | Tank should be clean from previous uses. | | No |
| | Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed | No | Tank should be clean from previous uses. | | No |
| | Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) | No | Tank should be clean from previous uses. | | No |
| Collect fish following HACCP plans for boat electrofishing and netting. | Vertebrate: Asian carp, round goby, white perch, ruffe | Yes | Could be collected during this task. | Refer to HACCP plans for boat electrofishing and netting. | No |
| | Invertebrate: zebra mussels, quagga mussels, spiny waterflea | Yes | Could be collected during this task. | Refer to HACCP plans for boat electrofishing and netting. | No |
| | Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed | Yes | Could be collected during this task. | Refer to HACCP plans for boat electrofishing and netting. | No |
| | Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) | Yes | Could be collected during this task. | Refer to HACCP plans for boat electrofishing and netting. | No |
| Use fish at clinic, event, or state fair. | Vertebrate: Asian carp, round goby, white perch, ruffe | No | Fish and water are not being released anywhere. | | No |

Fish Hauling HACCP

| | | | | | |
|---|--|-----|---|--|-----|
| | Invertebrate: zebra mussels, quagga mussels, spiny waterflea | No | Fish and water are not being released anywhere. | | No |
| | Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed | No | Fish and water are not being released anywhere. | | No |
| | Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) | No | Fish and water are not being released anywhere. | | No |
| Return fish back to originating waterbody and ramp, or dispose of fish. | Vertebrate: Asian carp, round goby, white perch, ruffe | Yes | Eggs could be in water or on fish in tank. | Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. | Yes |
| | Invertebrate: zebra mussels, quagga mussels, spiny waterflea | Yes | Veligers could be present in water. | Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. | Yes |
| | Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed | Yes | Plant fragments could be present in tank. | Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. | Yes |
| | Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) | Yes | Biological hazards could be present in water. | Water and fish can only be released back at originating boat ramp or disposed of | Yes |

Fish Hauling HACCP

| | | | | | |
|--------------------------------------|--|----|-------------------------------|---|----|
| | | | | properly. Cannot be released into nearest waterbody to event. | |
| Clean hauling unit and allow to dry. | Vertebrate: Asian carp, round goby, white perch, ruffe | No | Hauling unit should be clean. | | No |
| | Invertebrate: zebra mussels, quagga mussels, spiny waterflea | No | Hauling unit should be clean. | | No |
| | Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed | No | Hauling unit should be clean. | | No |
| | Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) | No | Hauling unit should be clean. | | No |

Fish Hauling HACCP

| HACCP Step 5 - HACCP Plan |
|---|
| Critical Control Point #1: Task # 4: Return fish back to originating waterbody and ramp, or dispose of fish. |
| Significant Hazards: Vertebrate: Asian carp, Round goby, white perch, ruffe |
| Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. |
| Limits for Control Measures: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly. |
| Monitoring: What? Water and fish |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Fisheries biologist or technician |
| Evaluation & Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody. |
| Supporting Documentation: |
| Critical Control Point #2: Task # 4: Return fish back to originating waterbody and ramp, or dispose of fish. |
| Significant Hazards: Invertebrate: zebra mussels, quagga mussels, spiny waterflea |
| Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. |
| Limits for Control Measures: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly. |
| Monitoring: What? Water and fish |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Fisheries biologist or technician |
| Evaluation & Corrective Actions: |

Fish Hauling HACCP

| |
|---|
| Water and fish cannot be released anywhere other than originating waterbody. |
| Supporting Documentation: |
| |
| Critical Control Point #3: Task # 4: Return fish back to originating waterbody and ramp, or dispose of fish. |
| Significant Hazards: Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed |
| Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. |
| Limits for Control Measures: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly. |
| Monitoring: What? Water, fish, and plant fragments |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Fisheries biologist or technician |
| Evaluation & Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody. Check for plant fragments as tank is draining. |
| Supporting Documentation: |
| |
| Critical Control Point #4: Task # 4: Return fish back to originating waterbody and ramp, or dispose of fish. |
| Significant Hazards: Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus) |
| Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event. |
| Limits for Control Measures: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly. |
| Monitoring: What? Water and fish |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |

Fish Hauling HACCP

| | |
|---|---|
| Monitoring: Who? Fisheries biologist or technician | |
| Evaluation & Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody. | |
| Supporting Documentation: <div style="background-color: #4b4b00; height: 20px; width: 100%;"></div> | |
| Facility: Iowa DNR | Activity: Fish collection and transport |
| Address: 1436 255th St, Boone, IA 50036 | |
| Signature: | Date: |

HACCP Checklist:

Fish collection and transport

Facility Iowa DNR
Site Statewide
Coordinator Jason Euchner
Manager Local Biologist
Address 1436 255th St., Boone, IA 50036

Task # 1: Fill hauling unit at station and declorinate.

Task # 2: Collect fish following HACCP plans for boat electrofishing and netting.

Task # 3: Use fish at clinic, event, or state fair.

Task # 4: Return fish back to originating waterbody and ramp, or dispose of fish.

CRITICAL CONTROL POINT

Hazards were contained

Hazards: Vertebrate: Asian carp, round goby, white perch, ruffe

Control measures were implemented

Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event.

Control limits were maintained

Control Limits: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly.

Corrective actions were (performed if necessary)

Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody.

Hazards were contained

Hazards: Invertebrate: zebra mussels, quagga mussels, spiny waterflea

Control measures were implemented

Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event.

Control limits were maintained

Control Limits: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly.

Corrective actions were (performed if necessary)

Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody.

Hazards were contained

Hazards: Plant: brittle naiad, Eurasian watermilfoil, curlyleaf pondweed

Control measures were implemented

Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event.

Control limits were maintained

Control Limits: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly.

Corrective actions were (performed if necessary)

Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody. Check for plant fragments as tank is draining.

Hazards were contained

Hazards: Other Biologic: VHS (viral hemorrhagic septicemia), LMBV (largemouth bass virus)

Control measures were implemented

Control Measures: Water and fish can only be released back at originating boat ramp or disposed of properly. Cannot be released into nearest waterbody to event.

Control limits were maintained

Control Limits: Water and fish must be released back at originating waterbody and ramp. If not releasing fish back into water, dispose of fish properly.

Corrective actions were (performed if necessary)

Corrective Actions: Water and fish cannot be released anywhere other than originating waterbody.

Task # 5: Clean hauling unit and allow to dry.

| HACCP Step 1 - Activity Description | |
|--|---|
| Facility: Iowa Department of Natural Resources | Site: Statewide |
| Project Coordinator: Jason Euchner | Project Description: Fish netting |
| Site Manager: Fisheries biologist & technician | |
| Address: 1436 255th St. Boone, IA 50036 | |
| Phone: 515-432-2823 | |

| Project Description (Who, What, Where, When, How & Why) |
|---|
| <p>Who: Fisheries management and research biologists & technicians What: Fish netting (passive & active) When: Spring through fall Where: Statewide rivers and lakes How: Passive & active nets Why: To sample fish populations, collect fish, or tag fish</p> |

HACCP Step 2 - Potential Hazard Identification

Vertebrates:

nonnative fish species (Asian carp, white perch, round goby, ruffe)

Invertebrates:

zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail

Plants:

Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Other Biologics:

largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Others:

HACCP Step 3 - Flow Diagram

| | |
|-----------------|--|
| Task # 1 | Load equipment at station. |
| Task # 2 | Travel to sample location. |
| Task # 3 | Launch boat and travel by boat to sample location. |
| Task # 4 | Set nets if using passive gear, use nets if using active gear. |
| Task # 5 | Travel back to ramp. |
| Task # 6 | Load boat onto trailer. |
| Task # 7 | Travel back to station. |

HACCP Step 4 - Hazard Analysis

| Task | Hazard | Probable? | Justification | Control Measures | CCP? |
|-----------------------------------|--|------------------|----------------------------|-------------------------|-------------|
| Load equipment at station. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |
| Travel to sample location. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |
| Launch boat and travel by boat to | Vertebrate: nonnative fish species (Asian carp, white | No | Staying in system. | | No |

| | | | | | |
|--|--|----|--------------------|--|----|
| sample location. | perch, round goby, ruffe) | | | | |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Staying in system. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Staying in system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Staying in system. | | No |
| Set nets if using passive gear, if using active gear use nets. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Staying in system. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Staying in system. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Staying in system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Staying in system. | | No |
| Travel back to ramp. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Staying in system. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New | No | Staying in system. | | No |

| | | | | | |
|-------------------------|--|-----|---|---|-----|
| | Zealand mudsnail | | | | |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Staying in system. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Staying in system. | | No |
| Load boat onto trailer. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | Yes | Possible to be in or on nets and other equipment. | Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. Allow nets to dry before using in another waterbody. | Yes |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | Yes | Possible to be in or on nets and other equipment. | Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. Allow nets to dry before using in another waterbody. | Yes |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | Yes | Possible to have fragments in nets or on equipment. | Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. Allow nets to dry before using in another | Yes |

| | | | | | |
|-------------------------|--|-----|---|---|-----|
| | | | | waterbody. | |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | Yes | Possible to be in or on nets and other equipment. | Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. Allow nets to dry before using in another waterbody. | Yes |
| Travel back to station. | Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe) | No | Equipment should be clean. | | No |
| | Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail | No | Equipment should be clean. | | No |
| | Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad | No | Equipment should be clean. | | No |
| | Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) | No | Equipment should be clean. | | No |

HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 6: Load boat onto trailer.

Significant Hazards:

Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe)

Control Measures:

Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area.

Limits for Control Measures:

If in known infested system, pressure wash nets and equipment.

Monitoring: What?

Presence of standing water or mud on nets and equipment.

Monitoring: How?

Visual

Monitoring: Frequency?

Once

Monitoring: Who?

Crew

Evaluation & Corrective Actions:

Rewash all equipment and let dry before using again.

Supporting Documentation:

Critical Control Point #2:

Task # 6: Load boat onto trailer.

Significant Hazards:

Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail

Control Measures:

Clean nets and equipment off when leaving area. Drain water. Pressure wash everything and decontaminate motor if in known infested area.

Limits for Control Measures:

If in known infested system, pressure wash nets and equipment and decontaminate engine cooling system.

Monitoring: What?

Presence of standing water or mud on nets and equipment.

Monitoring: How?

Visual

Monitoring: Frequency?

Once

Monitoring: Who?

Crew

Evaluation & Corrective Actions:

| |
|--|
| Rewash all equipment and let dry before using again. |
| Supporting Documentation: |
| |
| Critical Control Point #3: Task # 6: Load boat onto trailer. |
| Significant Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad |
| Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. |
| Limits for Control Measures: If in known infested system, pressure wash nets and equipment. |
| Monitoring: What? Presence of plant fragments or mud on nets and equipment. |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Crew |
| Evaluation & Corrective Actions: Rewash all equipment and let dry before using again. |
| Supporting Documentation: |
| |
| Critical Control Point #4: Task # 6: Load boat onto trailer. |
| Significant Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS) |
| Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. |
| Limits for Control Measures: If in known infested system, pressure wash nets and equipment. |
| Monitoring: What? Presence of standing water or mud on nets and equipment. |
| Monitoring: How? Visual |
| Monitoring: Frequency? Once |
| Monitoring: Who? Crew |

| | |
|---|----------------------------------|
| Evaluation & Corrective Actions: Rewash all equipment and let dry before using again. | |
| Supporting Documentation: | |
| | |
| | |
| Facility: Iowa Department of Natural Resources | Activity: Fish netting |
| Address: 1436 255th St. Boone, IA 50036 | |
| Signature: | Date: |

**HACCP Checklist:
Fish Netting**

Facility Iowa Department of Natural Resources
Site Statewide
Coordinator Jason Euchner
Manager Fisheries biologist & technician
Address 1436 255th St., Boone, IA 50036

Task # 1: Load equipment at station.

Task # 2: Travel to sample location.

Task # 3: Launch boat and travel by boat to sample location.

Task # 4: Set nets if using passive gear, use nets if using active gear.

Task # 5: Travel back to ramp.

Task # 6: Load boat onto trailer.

CRITICAL CONTROL POINT

Hazards were contained

Hazards: Vertebrate: nonnative fish species (Asian carp, white perch, round goby, ruffe)

Control measures were implemented

Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area.

Control limits were maintained

Control Limits: If in known infested system, pressure wash nets and equipment.

Corrective actions were (performed if necessary)

Corrective Actions: Rewash all equipment and let dry before using again.

Hazards were contained

Hazards: Invertebrate: zebra mussel, quagga mussel, rusty crawfish, spiny waterflea, New Zealand mudsnail

Control measures were implemented

Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area. Decontaminate motor.

Control limits were maintained

Control Limits: If in known infested system, pressure wash nets and equipment.

Decontaminate engine cooling system.

Corrective actions were (performed if necessary)

Corrective Actions: Rewash all equipment and let dry before using again.

Hazards were contained

Hazards: Plant: Eurasian watermilfoil, curlyleaf pondweed, brittle naiad

Control measures were implemented

Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area.

Control limits were maintained

Control Limits: If in known infested system, pressure wash nets and equipment.

Corrective actions were (performed if necessary)

Corrective Actions: Rewash all equipment and let dry before using again.

Hazards were contained

Hazards: Other Biologic: largemouth bass virus (LMBV), viral hemorrhagic septicemia (VHS)

Control measures were implemented

Control Measures: Clean nets and equipment off when leaving area. Drain water. Pressure wash everything if in known infested area.

Control limits were maintained

Control Limits: If in known infested system, pressure wash nets and equipment.

Corrective actions were (performed if necessary)

Corrective Actions: Rewash all equipment and let dry before using again.

Task # 7: Travel back to station.

| Waterbody | Species | County | Year Discovered | Status |
|------------------------------------|-----------------------|---------------|------------------------|---|
| Big Sioux River | bighead carp | Woodbury | 1997 | present - no control |
| Cedar River | bighead carp | Linn | | present - no control |
| Chariton River | bighead carp | Appanoose | 1995 | present - no control |
| Des Moines River | bighead carp | multiple | 1996 | present - no control |
| East Nodaway River tributary | bighead carp | Adams | 2004 | present - no control |
| Iowa River | bighead carp | Johnson | 2003 | present - no control |
| Mississippi River | bighead carp | multiple | 2003 | present - no control |
| | silver carp | Lee | 2003 | present - no control |
| | zebra mussel | multiple | 1992 | present - no control |
| | Eurasian watermilfoil | multiple | unknown | present - no control |
| | brittle naiad | multiple | 2003 | present - no control |
| Missouri River | bighead carp | multiple | 1995 | present - no control |
| | silver carp | multiple | unknown | present - no control |
| Ottumwa Lagoon | bighead carp | Wapello | 2002 | present - no control |
| Pee Dee Creek/Soap Creek tributary | bighead carp | Davis | 2004 | present - no control |
| West Platte River | bighead carp | Union | 2004 | present - no control |
| Chariton River | silver carp | Appanoose | 2007 | present - no control |
| | Eurasian watermilfoil | Chickasaw | 2002 | treated in 2003 and 2004, continue monitoring |
| Airport Lake | Eurasian watermilfoil | Franklin | 2000 | eradicated |
| Beeds Lake | Eurasian watermilfoil | Polk | 2001 | treated in 2002 and 2005, continue monitoring |
| Camp Sunnyside Pond | watermilfoil | Cerro | 2001 | treated in 2002 and 2005, continue monitoring |
| Clear Lake | zebra mussel | Gordo | 2005 | unknown - will monitor this fall and spring |
| Casey Lake | brittle naiad | Tama | 2003 | treated in 2004, continue monitoring |
| Crawford Creek Lake | brittle naiad | Ida | 2003 | treated in 2004, treatment scheduled for 2006 |
| Crystal Lake | Eurasian | Hancock | 1993 | eradicated |

| | | | | |
|------------------------|---|------------------|------|--|
| Eldred Sherwood Lake | watermilfoil brittle naiad Eurasian | Hancock | 2005 | treatment scheduled for 2006 |
| Grundy County Lake | watermilfoil | Grundy | 2003 | treated in 2004, continue monitoring |
| Hannen Lake | brittle naiad Eurasian | Benton | 2004 | treatment scheduled for 2006 |
| Horseshoe Pond | watermilfoil Eurasian | Jackson | 2000 | eradicated |
| Keg Creek Lake | watermilfoil Eurasian | Mills Buchana | 1999 | eradicated |
| Koutny Pond | watermilfoil | n Buchana | 1995 | treated in 1996, 1998, 2003, continue monitoring |
| | brittle naiad | n Van | 2003 | treated in 2004, continue monitoring |
| Lacey-Keosauqua Lake | brittle naiad | Buren | 2004 | treated in 2005, continue monitoring |
| Lake Geode | brittle naiad | Henry Van | 2004 | continue monitoring |
| Lake Sugema | brittle naiad | Buren | 2004 | continue monitoring |
| Lake Wapello | brittle naiad | Davis Woodbur | 1998 | continue monitoring |
| Little Sioux Park Pond | brittle naiad Eurasian | y | 2003 | treated in 2004, continue monitoring |
| Mile Hill Lake | watermilfoil Eurasian | Mills Black | 1999 | treated in 2000, treatment scheduled for 2006 |
| Mitchell Avenue Pit | watermilfoil | Hawk | 1998 | eradicated |
| Moorehead Park Pond | brittle naiad | Ida Van | 2003 | treated in 2004, continue monitoring |
| Morris Park Pond | brittle naiad | Buren | 2004 | treated in 2005, continue monitoring |
| Nelson Park Pond | brittle naiad Eurasian | Crawford | 2003 | treated in 2004 and 2005, continue monitoring |
| Ottumwa Pond | watermilfoil | Wapello | 2002 | treated in 2003, continue monitoring |
| Pleasant Creek Lake | brittle naiad Eurasian | Linn | 2003 | continue monitoring |
| Red Rock Pond | watermilfoil Eurasian | Marion | 2003 | treated in 2004, continue monitoring |
| Rudd Lake | watermilfoil | Floyd | 2003 | treated in 2004, continue monitoring |

| | | | | |
|------------------------------|-----------------------|------------|------|--|
| Scott "A" Lake | Eurasian watermilfoil | Fremont | 1999 | eradicated |
| Scott "B" Lake | Eurasian watermilfoil | Fremont | 2003 | treated in 2004, treatment scheduled for 2006 |
| Siems Park Ponds | Eurasian watermilfoil | Kossuth | 2003 | treated in 2004, treatment scheduled for 2006 |
| Snyder Bend | Eurasian watermilfoil | Woodbury | 1996 | eradicated |
| South Prairie Lake | Eurasian watermilfoil | Black Hawk | 1998 | eradicated |
| Southwood Ponds | brittle naiad | Woodbury | 2005 | treated in 2005, continue monitoring |
| Sportsman's Lake | Eurasian watermilfoil | Palo Alto | 1998 | treated in 1999, treatment scheduled for 2006 |
| St. Benedicts Pond | Eurasian watermilfoil | Kossuth | 1994 | treated in 1995, 1998, 2003, and 2004; will continue spot treatments |
| Sweet Marsh | Eurasian watermilfoil | Bremer | 1997 | treated in 1997, 2001, and 2004; treatment scheduled for 2006 |
| Volga Lake | brittle naiad | Fayette | 2004 | continue monitoring |
| Walnut Acres Campground Pond | Eurasian watermilfoil | Jones | 2002 | treated in 2003, treatment scheduled for 2006 |
| Walnut Creek Marsh | Eurasian watermilfoil | Ringgold | 1994 | eradicated |
| Willow Lake | brittle naiad | Harrison | 2004 | treated in 2004 and 2005, continue monitoring |
| Wilson Grove Pond | Eurasian watermilfoil | Bremer | 1996 | treated in 1997, treatment scheduled for 2006 |
| Yellow Smoke Lake | brittle naiad | Crawford | 2003 | treated in 2004, continue monitoring |
| Rathbun | zebra mussel | Appanose | 2007 | observed on boat docked at marina |

| Waterbody | Site | County | River Mile | Lat N | Long W | Report Date | Report Source | Comments |
|-------------------|-------------------|---------------|-------------------|--------------|---------------|--------------------|----------------------|--|
| Mississippi River | Lock and Dam 19 | Lee | 364 | | | 09/03/03 | Bernie Schonoff | below dam at Keokuk; have not been observed above |
| Des Moines River | Keosaqua | Van Buren | 51 | 588551 | 4509921 | 06/24/03 | Mark Flammang | 32.1 in., 13.2 lbs.; collected during standard sampling |
| Des Moines River | Otummwa | Wapello | 90 | | | 07/28/03 | Mark Flammang | 100's of them jumping around the boat while sampling near Cliffland Access |
| Chariton River | Below Rathbun Dam | Appanoose | | | | 8/1/2007 | Mark Flammang | |

| Waterbody | County | Year(s) Discovered | Tier | Range | Section | Treatment (Results)* | Comments |
|---|------------|-----------------------|-------------|-------------|------------|---|--|
| Airport Lake | Chickasaw | 2002 | 96N | 13W | 35 | Sonar whole lake in 2003 (EWM observed in 2005) Navigate spot treatment in 2000 (no EWM observed) | |
| Beeds Lake | Franklin | 2000 | 92N | 20W | 19,20 | | did not observe in 2005 |
| Bob Pyle Marsh | Story | 2004 | 85N | 24W | 5 | none | |
| Camp Sunnyside Pond | Polk | 2001 | 79N | 24W | 2 | Sonar whole lake in 2002 (EWM observed in 2004), Sonar whole lake in 2005 (unknown), Did not observe 2007 | |
| Crystal Lake | Hancock | 1993 | 97N | 25W | 9,10,15,16 | Sonar whole lake in 1994 (no EWM observed) | |
| Grundy County Lake | Grundy | 2003 | 88N | 15W | 6 | Sonar whole lake in 2004 (no EWM observed) | |
| Horseshoe Pond | Jackson | 2000 | 84N | 3E | 30 | NA | private pond |
| Keg Creek Lake | Mills | 1999 | 71N; 72N | 43W; 43W | 4,5; 23,33 | NA | |
| Koutny Pond | Buchanan | 1995 | 87N | 10W | 36 | NA (EWM observed in 1997, 2002) | Sonar whole lake for brittle naiad in 2004 (BN observed in 2005) |
| Maxwell Pond | Story | 2002 | 82N | 22W | 22 | NA | private pond |
| Mile Hill Lake | Mills | 1999 | 72N | 43W | 10,15 | NA (EWM observed in 2005) | |
| Mississippi River Mitchell Avenue Pit | multiple | Unknown | | | | none | |
| O'Brien Addition Pond | Black Hawk | 1998 | 89N | 12W | 31 | NA | did not observe in 2003, 2004 |
| Ottumwa Pond | Emmet | 2002 | 100N | 34W | 34 | none | |
| Plainfield Lake | Wapello | 2002 | | | | Sonar whole lake in 2003 (no EWM observed) | private pond |
| Red Rock Pond | Bremer | 2005 | 93N | 14W | 19 | | |
| | Marion | 2003 | 76N | 19W | | Sonar whole lake in 2004 (no EWM observed) | USACE treated |

| | | | | | | | EWM observed) | |
|--------------------|------------|------|-----|-----|-------------|--|---|--|
| Riverton Marsh | Fremont | 2006 | | | | | | observed by Gabe Stevenson while hunting |
| Rudd Lake | Floyd | 2003 | 96N | 17W | 19, 20 | | Sonar whole lake in 2004 (no EWM observed) | |
| Scott "A" Lake | Fremont | 1999 | 70N | 43W | 16 | | NA | |
| Scott "B" Lake | Fremont | 2003 | 70N | 43W | 16 | | Reward spot treatment in 2004 (EWM observed in 2005) | |
| Siems Park Ponds | Kossuth | 2003 | 95N | 30W | 9 | | Sonar whole lake in 2004 (EWM observed in 2005) | |
| Snyder Bend | Woodbury | 1996 | 86N | 47W | 7,8,9,16,17 | | Sonar whole lake in 1998 (no EWM observed) | |
| South Prairie Lake | Black Hawk | 1998 | 89N | 14W | 35 | | NA | treatment planned for 2004 was postponed due to high water, few EWM plants were observed in 2005 |
| Sportsman's Lake | Palo Alto | 1998 | 96N | 31W | 19 | | Sonar fall whole lake in 1998 (EWM observed in 2003,2007) Sonar whole lake all ponds in 1995 (EWM observed in 1997), Sonar whole lake all ponds in 1998? (Ewm observed in 2002), Sonar whole lake main pond in 2004 (EWM observed in 2005) | |
| St. Benedicts Pond | Kossuth | 1994 | 95N | 27W | 30 | | multiple chemical and physical treatments since 1997 (EWM observed most years in reservoir and Martens Lake channel) | |
| Sweet Marsh | Bremer | 1997 | 93N | 12W | 35 | | | |

| | | | | | | | |
|--|------------|------|-----|-----|----------------|--|----------------------------|
| Walnut Acres Campground Pond | Jones | 2002 | 86N | 3W | 15,16 | Sonar whole lake in 2003 (EWM observed in 2005) | |
| Walnut Creek Marsh | Ringgold | 1994 | 68N | 30W | 17 | NA | |
| Winnebago Bend Wilson Grove Pond | Woodbury | 2002 | 86N | 47W | 28,29,31,32,33 | none | did not observe in 2003 |
| Yamakowski Pond | Bremer | 1996 | 93N | 11W | 13 | NA (EWM observed in 2005) | private pond |
| Martinn Zauug | Linn | 2006 | | | | | private pond |
| * No data on treatment details are available if treatment happened before November 2000 | Pocahontas | 2007 | | | | NA | private pond |

| Brittle Naiad Locations | | Year(s) | | |
|--------------------------------|---------------|-------------------|---|--|
| Waterbody | County | Discovered | Treatment (Results) | Treatment Priority/Rea |
| Bergfeld Pond | Dubuque | 2005 | | high/isolated location, s |
| Bitterman Pond | Buchanan | 2005 | | This is a 1/2 acre privat |
| Brushy Creek Lake | Webster | 2006 | | |
| Casey Lake | Tama | 2003 | Sonar whole lake in 2004 (brittle naiad observed in 2005) | low/low use, close prox treated in the past |
| Crawford Creek Lake | Ida | 2003 | Sonar whole lake in 2004 (brittle naiad observed in 2005) | low/low use, close prox treated in the past |
| Dog Creek Lake | O'Brien | 2006 | | |
| Eldred Sherwood Lake | Hancock | 2004 | | high/isolated location, s |
| Grundy County Lake | Grundy | 2006 | | |
| Hannen Lake | Benton | 2004 | | medium/medium use, s |
| Hickory Hollow Pond | Tama | 2006 | | |
| Koutny Pond | Buchanan | 2003 | Sonar whole lake in 2004 (brittle naiad observed in 2005) | low/low use, close prox treated in the past for both brittle nai |
| Indian Lake | Van Buren | 2005 | | |
| Lacey-Keosauqua Lake | Van Buren | 2004 | Sonar whole lake in 2005 (unknown) | medium/medium use, s |
| Lake Geode | Henry | 2004 | | medium/high use; howe |
| Lake Miami | Monroe | 2005 | | medium-low/somewhat |
| Lake Sugema | Van Buren | 2004 | | low/large, close proximi |
| Lake Wapello | Davis | 1998 | Reward spot treatment | low/big, close proximity treated in the past |
| Little Sioux Park Pond | Woodbury | 2003 | Sonar whole lake in 2004 (no brittle naiad observed in 2005) | low/low use, close prox treated in the past |
| Meadow Lake | Adair | 2006 | | |
| Mississippi River | multiple | 2003 | | none |
| Moorehead Park Pond | Ida | 2003 | Sonar whole lake in 2004 (no brittle naiad observed in 2005) | low/low use, close prox treated in the past |
| Morris Park Pond | Van Buren | 2004 | Sonar whole lake in 2005 (unknown) | high/small, dense brittle |
| Nelson Park Pond | Crawford | 2003 | Sonar whole lake in 2004 (brittle naiad observed in 2005); Sonar whole lake 2005 (unknown) | low/low use, close prox treated in the past |
| Pleasant Creek Lake | Linn | 2003 | Reward spot treatment | low/large, close proximi |

| | | | | |
|-------------------|------------|------|--|--|
| | | | | has been spot treated in |
| Snyder Bend | Woodbury | 2005 | | low/large, close proximity |
| Southwood Ponds | Woodbury | 2005 | Reward spot treatment in 2005 | low/low use, close proximity |
| Tug Fork West | Van Buren | 2005 | | low/connected to Lake |
| Volga Lake | Fayette | 2004 | | high/isolated, medium use |
| Willow Lake | Harrison | 2004 | Reward spot treatment in 2004, 2005 | low/low use, close proximity however has been spot treated in the past |
| Yellow Smoke Lake | Crawford | 2003 | Sonar whole lake in 2004 (brittle naiad observed in 2005 & 2007) | medium-low/close proximity however medium use and has been treated in |
| White Oak Lake | Mahaska | 2006 | | |
| Wild Wood Lake | Jackson | 2006 | | |
| Lake Iowa | Iowa | 2007 | | |
| Private Pond | Blawh Hawk | 2007 | | |
| Lake Meyer | Winneshiek | 2007 | | |