

HACCP Plan

HACCP Step 1 - Activity Description	
Facility: Boone Research Station	Site: Tributaries of Mississippi River
Project Coordinator: Jason Euchner	Project Description: Water sampling for zebra mussel veligers
Site Manager: Kim Bogenschutz	
Address: 1436 255th St. Boone, IA 50036	
Phone: 515-432-2823	

Project Description (Who, What, Where, When, How & Why)
Who: survey crew What: water sampling for zebra mussel veligers When: spring and summer Where: tributaries of Mississippi River How: with water sampling pump, screens, and buckets Why: to monitor zebra mussel presence

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HACCP Step 2 - Potential Hazard Identification

Vertebrates:

Asian Carp

Invertebrates:

Zebra Mussels

Plants:

Eurasian Watermilfoil

Brittle Naiad

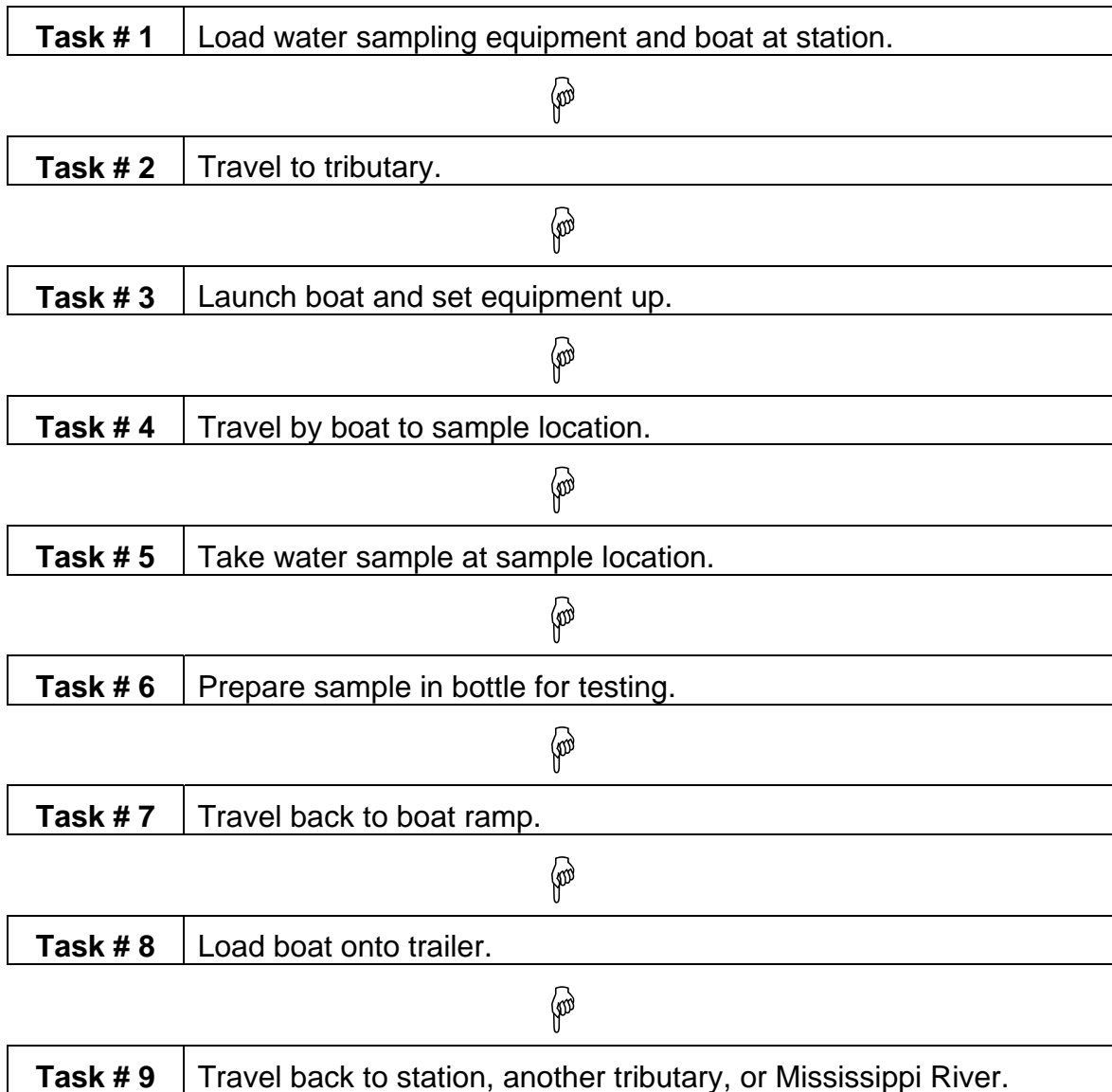
Curly leaf pondweed

Other Biologics:

Others:

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HACCP Step 3 - Flow Diagram



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HACCP Step 4 - Hazard Analysis

Task	Hazard	Probable?	Justification	Control Measures	CCP?
Load water sampling equipment and boat at station.	Vertebrate: Asian Carp	No	Equipment is clean		No
	Invertebrate: Zebra Mussels	No	Equipment is clean		No
	Plant: Eurasian Watermilfoil	No	Equipment is clean		No
	Plant: Brittle Naiad	No	Equipment is clean		No
	Plant: Curly leaf pondweed	No	Equipment is clean		No
Travel to tributary.	Vertebrate: Asian Carp	No	Equipment has not been used.		No
	Invertebrate: Zebra Mussels	No	Equipment has not been used.		No
	Plant: Eurasian Watermilfoil	No	Equipment has not been used.		No
	Plant: Brittle Naiad	No	Equipment has not been used.		No
	Plant: Curly leaf pondweed	No	Equipment has not been used.		No
Launch boat and set equipment up.	Vertebrate: Asian Carp	No	Equipment has not been used.		No
	Invertebrate: Zebra Mussels	No	Equipment has not been used.		No
	Plant: Eurasian Watermilfoil	No	Equipment has not been used.		No
	Plant: Brittle Naiad	No	Equipment has not		No

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			been used.		
	Plant: Curly leaf pondweed	No	Equipment has not been used.		No
Travel by boat to sample location.	Vertebrate: Asian Carp	No	Traveling by boat to location, unlikely of coming into contact with.		No
	Invertebrate: Zebra Mussels	No	Traveling by boat to location, unlikely of coming into contact with.		No
	Plant: Eurasian Watermilfoil	Yes	Possible to get some fragments on motor and equipment.	Check motor and equipment as you leave shallow water.	No
	Plant: Brittle Naiad	Yes	Possible to get some fragments on motor and equipment.	Check motor and equipment as you leave shallow water.	No
	Plant: Curly leaf pondweed	Yes	Possible to get some fragments on motor and equipment.	Check motor and equipment as you leave shallow water.	No
Take water sample at sample location.	Vertebrate: Asian Carp	No	Unlikely to encounter in this process.		No
	Invertebrate: Zebra	Yes	Water being	Minimize amount of	No

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	Mussels		pumped could have high densities of veligers present.	water spilled in boat.	
	Plant: Eurasian Watermilfoil	No	Unlikely to encounter in this process.		No
	Plant: Brittle Naiad	No	Unlikely to encounter in this process.		No
	Plant: Curly leaf pondweed	No	Unlikely to encounter in this process.		No
Prepare sample in bottle for testing.	Vertebrate: Asian Carp	No	Unlikely to encounter in this process.		No
	Invertebrate: Zebra Mussels	Yes	Filter being cleaned off could have high densities of veligers present.	Minimize spilling of rinse water on floor of boat.	No
	Plant: Eurasian Watermilfoil	No	Unlikely to encounter in this process.		No
	Plant: Brittle Naiad	No	Unlikely to encounter in this process.		No
	Plant: Curly leaf pondweed	No	Unlikely to encounter in this		No

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			process.		
Travel back to boat ramp.	Vertebrate: Asian Carp	No	Unlikely to encounter in this process.		No
	Invertebrate: Zebra Mussels	No	Unlikely to encounter in this process.		No
	Plant: Eurasian Watermilfoil	Yes	Possibility of picking up plant fragments on motor as boat enters shallow water.	Check motor and equipment before loading on trailer.	No
	Plant: Brittle Naiad	Yes	Possibility of picking up plant fragments on motor as boat enters shallow water.	Check motor and equipment before loading on trailer.	No
	Plant: Curly leaf pondweed	Yes	Possibility of picking up plant fragments on motor as boat enters shallow water.	Check motor and equipment before loading on trailer.	No
Load boat onto trailer.	Vertebrate: Asian Carp	No	Unlikely to encounter in this process.		No
	Invertebrate: Zebra Mussels	Yes	Water in bilge of boat has a chance of having veligers	Pull plug and drain bilge of boat.	No

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			present.		
	Plant: Eurasian Watermilfoil	Yes	Possible to pick up plant fragments as you exit the water.	Remove all visible vegetation from boat, motor, and trailer.	No
	Plant: Brittle Naiad	Yes	Possible to pick up plant fragments as you exit the water.	Remove all visible vegetation from boat, motor, and trailer.	No
	Plant: Curly leaf pondweed	Yes	Possible to pick up plant fragments as you exit the water.	Remove all visible vegetation from boat, motor, and trailer.	No
Travel back to station, another tributary, or Mississippi River.	Vertebrate: Asian Carp	No	Unlikely to encounter in this process.		No
	Invertebrate: Zebra Mussels	Yes	Standing water in boat could have zebra mussels present.	Spray boat with 10% bleach solution and pressure wash. If time allows let dry for 5 days. Sampling equipment will be rinsed with 10% bleach solution at site. Then rinsed with water from new water body. Both times pumping	Yes

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				waste water onto shoreline in area that will not run back into water body. Procedure listed in SOP.	
	Plant: Eurasian Watermilfoil	No	Unlikely to encounter in this process.		No
	Plant: Brittle Naiad	No	Unlikely to encounter in this process.		No
	Plant: Curly leaf pondweed	No	Unlikely to encounter in this process.		No

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HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 9: Travel back to station, another tributary, or Mississippi River.

Significant Hazards:

Invertebrate: Zebra Mussels

Control Measures:

Park at angle to allow bilge to drain, spray boat with 10% bleach solution and pressure wash. Rinse water sampling pump out with fresh water. Using bucket of water from tributary rinse pump out on flat land with no possible run off.

Limits for Control Measures:

Spray boat with 10% bleach solution and pressure wash. Rinse water sampling pump with minimum 5 gallons of fresh water.

Monitoring: What?

presence of standing water

Monitoring: How?

visual

Monitoring: Frequency?

once

Monitoring: Who?

survey crew

Evaluation & Corrective Actions:

Supporting Documentation:

Facility:

Boone Research Station

Activity:

Water sampling for zebra mussel veligers

Address:

1436 255th St.
Boone, IA 50036

Signature:

Date:

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HACCP Checklist:

Water sampling for zebra mussel veligers

Facility Boone Research Station
Site Tributaries of Mississippi River
Coordinator Jason Euchner
Manager Kim Bogenschutz
Address 1436 255th St., Boone, IA 50036

- Task # 1: Load water sampling equipment and boat at station.**
- Task # 2: Travel to tributary.**
- Task # 3: Launch boat and set equipment up.**
- Task # 4: Travel by boat to sample location.**
- Task # 5: Take water sample at sample location.**
- Task # 6: Prepare sample in bottle for testing.**
- Task # 7: Travel back to boat ramp.**
- Task # 8: Load boat onto trailer.**
- Task # 9: Travel back to station, another tributary, or Mississippi River.**
CRITICAL CONTROL POINT
 - Hazards were contained
Hazards: Invertebrate: Zebra Mussels
 - Control measures were implemented
Control Measures: Spray boat with 10% bleach solution and pressure wash. If time allows let dry for 5 days. Sampling equipment will be rinsed with 10% bleach solution at site. Then rinsed with water from new water body. Both times pumping waste water onto shoreline in area that will not run back into water body. Procedure listed in SOP.
 - Control limits were maintained
Control Limits: Spray boat with 10% bleach solution and pressure wash. Rinse water sampling pump with minimum 5 gallons of fresh water.

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- Corrective actions were (performed if necessary)
Corrective Actions: