

MT ES Lake and Pond HACCP

HACCP Step 1 - Activity Description	
Facility: MT ES office	Site: Lake and Pond Environments
Project Coordinator: Doug Peterson or Wade Fredenberg	Project Description: Lake sampling
Site Manager: Doug Peterson or Wade Fredenberg	
Address: 585 Shepard Way Helena, MT 59601	
Phone: 406-449-5225 ex 221 or 406-758-6872	

Project Description (Who, What, Where, When, How & Why)
<p>Who: Fish biologists and field staff</p> <p>What: Sampling lake and pond environments for fish or other organisms</p> <p>Where: Throughout Montana</p> <p>When: As needed, could be year round</p> <p>How: Captured fish are held in metal tubs or plastic buckets. Fish are then identified to species, sexed if possible, measured, weighed on a portable scale, given a fin clip and/or an individually-identifying tag or mark; before being released back into the water. On occasion, fish that are kept for scientific purposes are placed in plastic bags or a bucket in the field and transported to a freezer or immediately preserved in formalin or ethanol. After fish processing is completed, boat is either left for the day if nets are re-deployed or is re-trailerred and equipment loaded. Vehicle with boat and equipment is driven to another body of water or back to the office/storage area where the boat and equipment is either unloaded or if crew is in the field for several days equipment remains in the vehicle overnight until the next work day.</p> <p>Why: To support FWS mission.</p>

MT ES Lake and Pond HACCP

HACCP Step 2 - Potential Hazard Identification

Vertebrates:

any fish species or other vertebrates (native or non-native) found in drainage basin

Invertebrates:

New Zealand Mud Snails, Zebra and Quagga mussels

Plants:

Native or non-native plants found in drainage basin.









Other Biologics:

whirling disease or other fish pathogens

Others:

MT ES Lake and Pond HACCP

HACCP Step 3 - Flow Diagram

Task # 1	Load boat with equipment and launch.
	
Task # 2	Attach appropriate ropes, floats or weights to hoop, trap or gill nets.
	
Task # 3	Set nets with at least net weights and lead-line in contact with substrate.
	
Task # 4	Either go to shore or load boat on trailer; typically overnight.
	
Task # 5	Re-launch boat and return to net sites.
	
Task # 6	Retrieve nets and remove fish.
	
Task # 7	Place fish in live well or bucket, weigh, measure, or tag fish, release fish back into water. Occasionally fish will be kept for scientific purposes.
	
Task # 8	Either re-deploy nets or return to boat launch with equipment.
	
Task # 9	Load boat on trailer and drive to another body of water or return to office/overnight accommodations.

MT ES Lake and Pond HACCP

HACCP Step 4 - Hazard Analysis

Task	Hazard	Probable?	Justification	Control Measures	CCP?
1. Load boat with equipment and launch.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	No	equipment is clean and free of hazards		No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	No	equipment is clean and free of hazards		No
	Plant: Native or non-native plants found in drainage basin.	No	equipment is clean and free of hazards		No
	Other Biologic: whirling disease or other fish pathogens	No	equipment is clean and free of hazards		No
2. Attach appropriate ropes, floats or weights to hoop, trap or gill nets.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	No	equipment is clean and free of hazards		No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	No	equipment is clean and free of hazards		No
	Plant: Native or non-native plants found in drainage basin.	No	equipment is clean and free of hazards		No
	Other Biologic: whirling disease or other fish	No	equipment is clean and free of hazards		No

MT ES Lake and Pond HACCP

	pathogens				
3. Set nets with at least net weights and lead-line in contact with substrate.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	Could be present	Hazard controlled at subsequent step	No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	Yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	Yes	Could be present	Hazard controlled at subsequent step	No
4. Either go to shore or load boat on trailer; typically overnight.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	Could be present	Hazard controlled at subsequent step	No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	Yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	Yes	Could be present	Hazard controlled at subsequent step	No

MT ES Lake and Pond HACCP

5. Re-launch boat and return to net sites.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	Could be present	Hazard controlled at subsequent step	No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	yes	Could be present	Hazard controlled at subsequent step	No
6. Retrieve nets and remove fish.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	Could be present	Hazard controlled at subsequent step	No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	Yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	Yes	Could be present	Hazard controlled at subsequent step	No
7. Place fish in live	Vertebrate: any fish species	Yes	Could be present	Hazard controlled at	No

MT ES Lake and Pond HACCP

well or bucket, weigh, measure, or tag fish, release fish back into water. Occasionally fish will be kept for scientific purposes.	or other vertebrates (native or non-native) found in drainage basin			subsequent step	
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	Yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	Yes	Could be present	Hazard controlled at subsequent step	No
8. Either re-deploy nets or return to boat launch with equipment.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	Could be present	Hazard controlled at subsequent step	No
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	Could be present	Hazard controlled at subsequent step	No
	Plant: Native or non-native plants found in drainage basin.	Yes	Could be present	Hazard controlled at subsequent step	No
	Other Biologic: whirling disease or other fish pathogens	Yes	Could be present	Hazard controlled at subsequent step	No

MT ES Lake and Pond HACCP

9. Load boat on trailer and drive to another body of water or return to office/overnight accommodations.	Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin	Yes	some species are not present in all waters	Empty all live wells and dispose of fish and plants properly, clean, disinfect and dry equipment or use new equipment	Yes
	Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels	Yes	some species are not present in all waters	Empty all live wells and dispose of fish and plants properly, clean, disinfect and dry equipment or use new equipment	Yes
	Plant: Native or non-native plants found in drainage basin.	Yes	some species are not present in all waters	Empty all live wells and dispose of fish and plants properly, clean, disinfect and dry equipment or use new equipment	Yes
	Other Biologic: whirling disease or other fish pathogens	Yes	some species are not present in all waters	Empty all live wells and dispose of fish and plants properly, clean, disinfect and dry equipment or use new equipment	Yes

MT ES Lake and Pond HACCP

HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 9: Load boat on trailer and drive to another body of water or return to office/overnight accommodations

Significant Hazards:

Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin, New Zealand Mud Snails, Zebra and Quagga mussels, native or non-native plants living in the drainage and whirling disease

Control Measures:

Empty all live wells and dispose of fish and plants properly, clean, disinfect and dry equipment or use new equipment

Limits for Control Measures:

Residual water in live wells and motor, disinfection and drying time

Monitoring: What?

equipment

Monitoring: How?

visually

Monitoring: Frequency?

each time equipment is used

Monitoring: Who?

Field supervisor

Evaluation & Corrective Actions:

re-clean equipment, let equipment dry out, or use new equipment

Supporting Documentation:

Facility:

MT ES office

Activity:

Lake sampling

Address:

585 Shepard Way
Helena, MT 59601

Signature:

Date:

MT ES Lake and Pond HACCP

HACCP Checklist:

Netting: nets (gill, trammel, hoop, seine, trap, etc)

Facility MT ES office
Site Lake and Pond Environments
Coordinator Doug Peterson or Wade Fredenberg
Manager Doug Peterson or Wade Fredenberg
Address 585 Shepard Way, Helena, MT 59601

- Task # 1:** Load boat with equipment and launch.
- Task # 2:** Attach appropriate ropes, floats or weights to hoop, trap or gill nets.
- Task # 3:** Set nets with at least net weights and lead-line in contact with substrate.
- Task # 4:** Either go to shore or load boat on trailer; typically overnight.
- Task # 5:** Re-launch boat and return to net sites.
- Task # 6:** Retrieve nets and remove fish.
- Task # 7:** Place fish in live well or bucket, weigh, measure, or tag fish, release fish back into water. Occasionally fish will be kept for scientific purposes.
- Task # 8:** Either re-deploy nets or return to boat launch with equipment.
- Task # 9:** Load boat on trailer and drive to another body of water or return to office/overnight accommodations.

CRITICAL CONTROL POINT

- Hazards were contained
Hazards: Vertebrate: any fish species or other vertebrates (native or non-native) found in drainage basin, Invertebrate: New Zealand Mud Snails, Zebra and Quagga mussels, Plant: Native or non-native plants found in drainage basin, Other Biologic: whirling disease and other fish pathogens
- Control measures were implemented
Control Measures: Empty all live wells and dispose of fish

MT ES Lake and Pond HACCP

and plants properly, clean, disinfect and dry equipment or use new equipment

- Control limits were maintained
Control Limits: Residual water in live wells and motor, disinfection and drying time
- Corrective actions were (performed if necessary)
Corrective Actions: Re-clean equipment, let equipment dry out, or use new equipment