

Entrapment - Entanglement Gear HACCP Plan

HACCP Step 1 - Activity Description	
Facility: La Crosse Fishery Resources Office	Site: All waters
Project Coordinator: Crew leader (varies)	Project Description: Fishery Resource Management
Site Manager: Pam Thiel	
Address: 555 Lester Avenue Onalaska, WI 54650	
Phone: 608-783-8434	

Project Description (Who, What, Where, When, How & Why)
<p>The La Crosse Fishery Resources Office (LAXFRO) maintains a variety entrapment - entanglement sampling gears that are typically used during ice-free periods (e.g., March-November) to capture fish in many different aquatic habitat types. In most instances, these gears are deployed from LAXFRO-maintained watercraft in portions of rivers, lakes, wetlands, and other impoundments located in the Upper Mississippi River and Great Lakes drainage basins. This equipment is used by LAXFRO staff and cooperators, who are trained in its safe operation, for projects that include the restoration of native species, surveillance of invasive species, assessment of fish health, management of trust resources, and public education.</p>

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HACCP Step 2 - Potential Hazard Identification

Vertebrates:

Round goby, Asian carps, white perch, and other invasive fish

Invertebrates:

Zebra mussels, faucet snails, quagga mussels, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts

Plants:

Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants

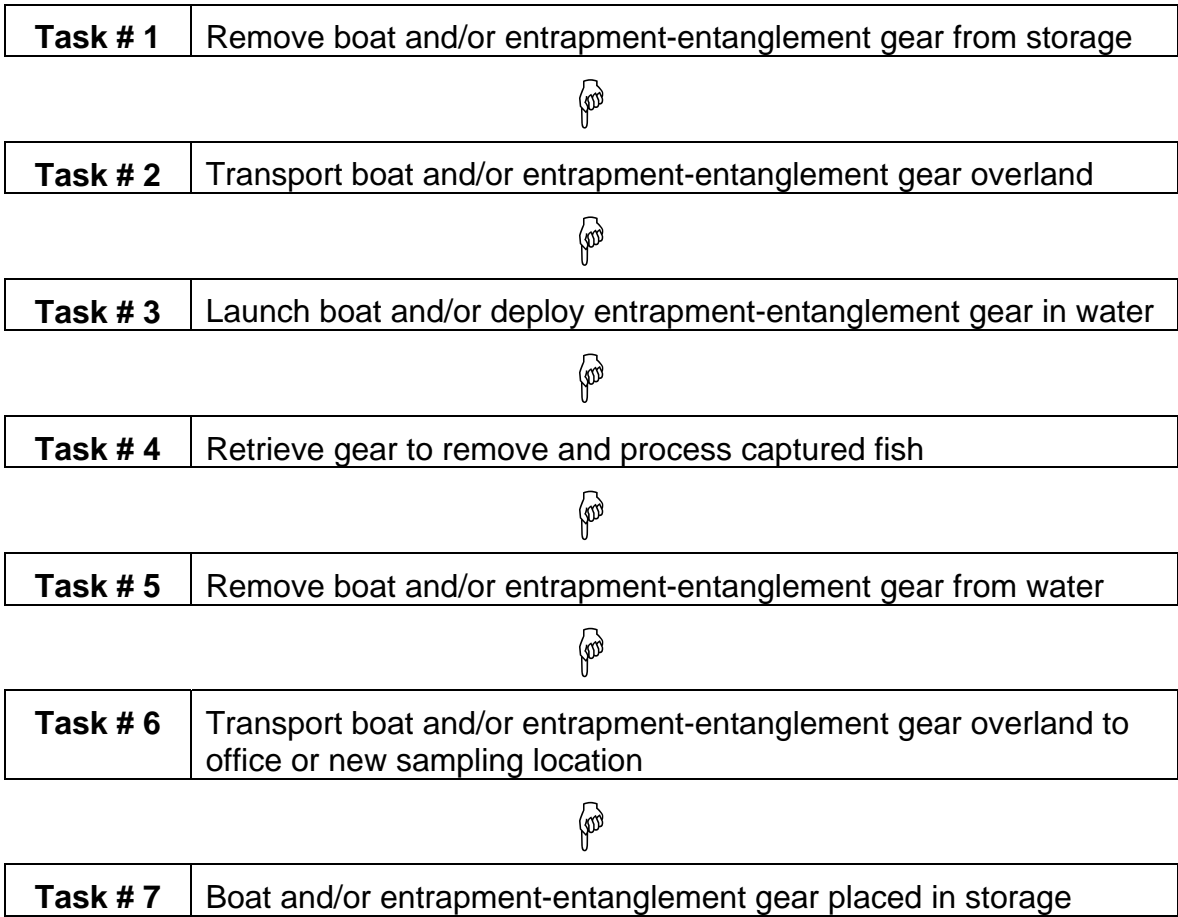
Other Biologics:

Largemouth bass virus (LMBV), spring viremia of carp virus (SVCV), viral hemorrhagic septicemia (VHS), bacterial kidney disease (BKD), furunculosis, ich, whirling disease, and other infectious fish pathogens

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?
Remove boat and/or entrapment-entanglement gear from storage	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	Yes	Invasive fish may remain on boat, in live well, or in capture gear from previous sampling.	Inspect boat, live well, and capture gears to remove all fish and accumulated water.	No
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	Yes	Invasive invertebrates may remain on boat, in live well, or in capture gear from previous sampling.	Inspect boat, live well, capture gears, and gear containers to remove macroinverts and accumulated water; check maintenance log to ensure boat and capture gear were thoroughly dried.	No
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	Yes	Viable plant propagules may remain on boat, in live well, or attached to capture gear from previous sampling.	Inspect and remove visible plant propagules from boat, live well, and capture gear; check maintenance log to ensure boat and capture gear were thoroughly dried.	No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	Yes	Boat, live well, and capture gear may not have been disinfected following prior use.	Check maintenance log to ensure boat, live well, and capture gear were disinfected since last used.	No
Transport boat	Vertebrate: Round goby,	No	Precautions to		No

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and/or entrapment-entanglement gear overland	Asian carps, white perch, and other invasive fish		prevent anthropogenic movement of invasive fish were taken in previous step.		
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	No	Precautions to prevent anthropogenic movement of invasive inverts were taken in previous step.		No
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	No	Precautions to prevent anthropogenic movement of invasive aquatic plants were taken in previous step.		No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	No	Precautions to prevent anthropogenic movement of infectious fish pathogens were taken in previous step.		No
Launch boat and/or deploy entrapment-entanglement gear	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	No	Precautions to prevent anthropogenic		No

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in water			movement of invasive fish were taken in a previous step.		
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	No	Precautions to prevent anthropogenic movement of invasive inverts were taken in a previous step.		No
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	No	Precautions to prevent anthropogenic movement of invasive aquatic plants were taken in previous step.		No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	No	Precautions to prevent anthropogenic movement of infectious fish pathogens were taken in previous step.		No
Retrieve gear to remove and process captured fish	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	Yes	Invasive fish may be collected and brought aboard.	Identify catch and preserve invasive fish or kill them and place in garbage.	No
	Invertebrate: Zebra	Yes	Invasive inverts may	Remove	No

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	mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts		be brought on board with water or on gear.	macroinvertebrates from boat and gear and return to waterbody.	
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	Yes	Viable plant propagules may be brought on board with water and gear.	Remove all visible plant propagules and return to waterbody or bag and discard in garbage.	No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	Yes	Pathogens may contaminate equipment when fish, water, and gear are brought on board.	None.	No
Remove boat and/or entrapment-entanglement gear from water	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	Yes	Small fish may remain undetected in gear, bilge, live well, or boat recesses.	Drain water from boat, bilge, live well, gear, and gear containers - remove all fish from these locations; kill, bag, and discard invasive fish in garbage.	Yes
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	Yes	Invasive inverts may remain undetected in gear, bilge, live well, or boat recesses.	Drain water from boat, bilge, live well, gear, and gear containers; check and remove macroinverts from these locations; bag and discard these in garbage.	No

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	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	Yes	Viable plant propagules may remain undetected in gear, bilge, live well, or boat recesses.	Drain water from boat, bilge, live well, gear, and gear containers and remove all plant material; thoroughly dry all reusable equipment.	Yes
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	Yes	Fish disease pathogens may contaminate boat and other equipment that got wet or was used to handle fish.	Drain water from boat, bilge, live well, gear, and gear containers, and all other used equipment.	No
Transport boat and/or entrapment-entanglement gear overland to office or new sampling location	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	No	These were removed in the previous step.		No
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	Yes	Viable microscopic life stages of some invasive inverts may remain.	Pressure wash and/or drain water from all used equipment and thoroughly dry.	Yes
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	Yes	These were removed in the previous step.		No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, and other infectious fish pathogens	Yes	Pathogens may remain on boat and other used equipment.	Disinfect and thoroughly dry boat, live well, gear, gear containers, measuring boards, and other used equipment.	Yes

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Boat and/or entrapment-entanglement gear placed in storage	Vertebrate: Round goby, Asian carps, white perch, and other invasive fish	No	Cared for in previous step.		No
	Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts	No	Cared for in previous step.		No
	Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants	No	Cared for in previous step.		No
	Other Biologic: LMBV, SVCV, VHS, BKD, furunculosis, ich, whirling disease, and other infectious fish pathogens	No	Cared for in previous step.		No

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HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 5: Remove boat and/or entrapment-entanglement gear from water

Significant Hazards:

Vertebrate: Round goby, Asian carps, white perch, and other invasive fish

Control Measures:

Drain water from boat, bilge, live well, gear, and gear containers and remove all fish from these locations; kill, bag, and discard invasive fish in garbage.

Limits for Control Measures:

Remove water and all fish from boat, live well, bilge, gear, and gear containers.

Monitoring: What?

Water and fish in boat, live well, bilge, gear, and gear containers.

Monitoring: How?

Visually

Monitoring: Frequency?

Once (as boat and gear are removed from water)

Monitoring: Who?

Crew leader

Evaluation & Corrective Actions:

Inspect boat, trailer, and all gear before reuse to ensure compliance

Supporting Documentation:

Critical Control Point #2:

Task # 5: Remove boat and/or entrapment-entanglement gear from water

Significant Hazards:

Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants

Control Measures:

Drain water from boat, bilge, live well, gear, and gear containers; remove plant material from these locations and boat trailer; thoroughly dry all equipment.

Limits for Control Measures:

Remove vegetation from all parts of boat, trailer, gear, and other reusable equipment.

Monitoring: What?

Presence of vegetative propogules on boat, trailer, gear, and other reusable equipment.

Monitoring: How?

Visually

Monitoring: Frequency?

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Once (as boat and gear are removed from water)
Monitoring: Who? Crew leader
Evaluation & Corrective Actions: Inspect boat, trailer, gear, and other equipment before reuse to ensure compliance
Supporting Documentation:
Critical Control Point #3: Task # 6: Transport boat and/or entrapment-entanglement gear overland to office or new sampling location
Significant Hazards: Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts
Control Measures: Pressure wash and/or drain accumulated water from boat; thoroughly dry all used equipment
Limits for Control Measures: Pressure wash boat and/or drain water from all used equipment and thoroughly dry.
Monitoring: What? Equipment was pressure washed and/or thoroughly dried
Monitoring: How? Visual , tactal
Monitoring: Frequency? Once (after used boat/gear returns to office or before arrival at a new sampling location)
Monitoring: Who? Crew leader
Evaluation & Corrective Actions: Inspect boat maintenance log and gear before reuse to ensure compliance
Supporting Documentation: Boat maintenance log
Critical Control Point #4: Task # 6: Transport boat and/or entrapment-entanglement gear overland to office or new sampling location
Significant Hazards: Other Biologic: Largemouth bass virus, spring viremia of carp virus, viral hemorrhagic septicemia, bacterial kidney disease, furunculosis, ich, whirling disease, and other infectious fish pathogens
Control Measures: Disinfect boat, trailer, live well, and all other reusable gear (nets, traps, waders,

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gloves, dip nets, measuring boards, etc) and thoroughly dry.	
Limits for Control Measures: 10 minutes of Extra germicidal detergent (1:64 dilution) contact time, rinse, and thoroughly dry	
Monitoring: What? Disinfectant contact time on equipment	
Monitoring: How? Chronometer	
Monitoring: Frequency? Once	
Monitoring: Who? Crew leader	
Evaluation & Corrective Actions: Equipment must be quarantined until disinfected; inspect boat maintenance log to ensure compliance; equipment that has not been disinfected cannot be used beyond the sub-basin location where it was last used and must be quarantined.	
Supporting Documentation: Boat maintenance log	
Facility: La Crosse Fishery Resources Office	Activity: Fishery Resource Management
Address: 555 Lester Avenue Onalaska, WI 54650	
Signature: <i>Pam Thiel</i>	Revision Date: 12 April 2007

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HACCP Checklist:

Fishery Resource Management

Facility La Crosse Fishery Resources Office
Site Navigable waters
Coordinator Crew leader (varies)
Manager Pam Thiel
Address 555 Lester Avenue, Onalaska, WI 54650

- Task # 1: Remove boat and/or entrapment-entanglement gear from storage**
- Task # 2: Transport boat and/or entrapment-entanglement gear overland**
- Task # 3: Launch boat and/or deploy entrapment-entanglement gear in water**
- Task # 4: Retrieve gear to remove and process captured fish**
- Task # 5: Remove boat and/or entrapment-entanglement gear from water**

CRITICAL CONTROL POINT

- Hazards were contained
Hazards: Vertebrate: Round goby, Asian carps, white perch, and other invasive fish
- Control measures were implemented
Control Measures: Drain water from boat, live well, bilge, gear, gear boxes, and dip nets; remove, kill, bag, and discard invasive fish in garbage.
- Control limits were maintained
Control Limits: Remove water from boat, live well, bilge, gear, gear boxes, and dip nets.
- Corrective actions were (performed if necessary)
Corrective Actions: Inspect gear before reuse to ensure compliance

- Hazards were contained
Hazards: Plant: Eurasian watermilfoil, purple loosestrife, and other invasive aquatic plants

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- Control measures were implemented
Control Measures: Drain water from boat, live well, bilge, gear, gear boxes, and dip nets; remove plant material from boat, trailer, live well, bilge, gear, gear boxes, and dip nets; thoroughly dry all used gear.
- Control limits were maintained
Control Limits: Remove all vegetation from boat, trailer, and reusable equipment.
- Corrective actions were (performed if necessary)
Corrective Actions: Inspect gear before reuse to ensure compliance

- Task # 6: Transport boat and/or entrapment-entanglement gear overland to office or new sampling location**
CRITICAL CONTROL POINT
 - Hazards were contained
Hazards: Invertebrate: Zebra mussels, quagga mussels, faucet snails, Daphnia lumholtzi, rusty crayfish, and other invasive aquatic inverts
 - Control measures were implemented
Control Measures: Pressure wash and/or drain water from boat, live well, gear, gear boxes, and all other used equipment (e.g., dip nets, buckets, measuring boards, etc.) and thoroughly dry
 - Control limits were maintained
Control Limits: Pressure wash and/or drain water from all used equipment and thoroughly dry
 - Corrective actions were (performed if necessary)
Corrective Actions: Inspect boat maintenance log and gear before reuse to ensure compliance

 - Hazards were contained
Hazards: Other Biologic: Largemouth bass virus, spring viremia of carp virus, viral hemorrhagic septicemia, bacterial kidney disease, furunculosis, ich, whirling disease, and other infectious fish pathogens
 - Control measures were implemented
Control Measures: Disinfect boat, live well, gear, gear boxes, and all other reusable equipment (e.g., dip nets, buckets,

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measuring boards, etc.) and thoroughly dry

- Control limits were maintained
Control Limits: 10 minutes of Extra germicidal detergent (1:64 dilution) contact time, rinse, and dry
- Corrective actions were (performed if necessary)
Corrective Actions: Inspect maintenance log and gear before reuse to ensure compliance

- Task # 7: Boat and/or entrapment-entanglement gear placed in storage**