

# Fishery Assessment

## HACCP Step 1 – Activity Description

<b>Activity Description</b>	
Facility: Missouri River FWMAO	Site: All Habitats
Project Coordinator: Steven Krentz or designated staff	Activity: Fishery Assessment
Site Manager: Project Leader	
Address: 3425 Miriam Ave Bismarck, ND 58501	
Phone: 701-250-4419	

<b>Project Description</b> i.e. Who; What; Where; When; How; Why
<p>This activity is the assessment of the aquatic populations using gill nets, trap nets, seines, trawls, etc. Staff from this office conducts annual surveys of various waters within the state of North Dakota and eastern Montana for purposes of collecting information of the current status of fish populations to evaluate trend information. This data is used to assist resource managers in making decisions such as stocking efforts, regulations and habitat manipulations. These activities have been conducted over the last two decades with regularity by the Fisheries Program. In an effort to monitor and document the occurrence or absence of aquatic nuisance species, an inspection for aquatic nuisance species (ANS) will be conducted as part of each assessment and an inspection form will be filled out and forwarded to the state-wide database.</p> <p>This plan will be implemented in coordination with North Dakota Game and Fish Department's policies and regulations. All efforts will be made to ensure that a coordinated effort is made to limit the spread and monitor the occurrence of aquatic nuisance species. This effort of interagency cooperation will be necessary to ensure a thorough and best effort to minimize the inadvertent spread of aquatic nuisance species.</p>

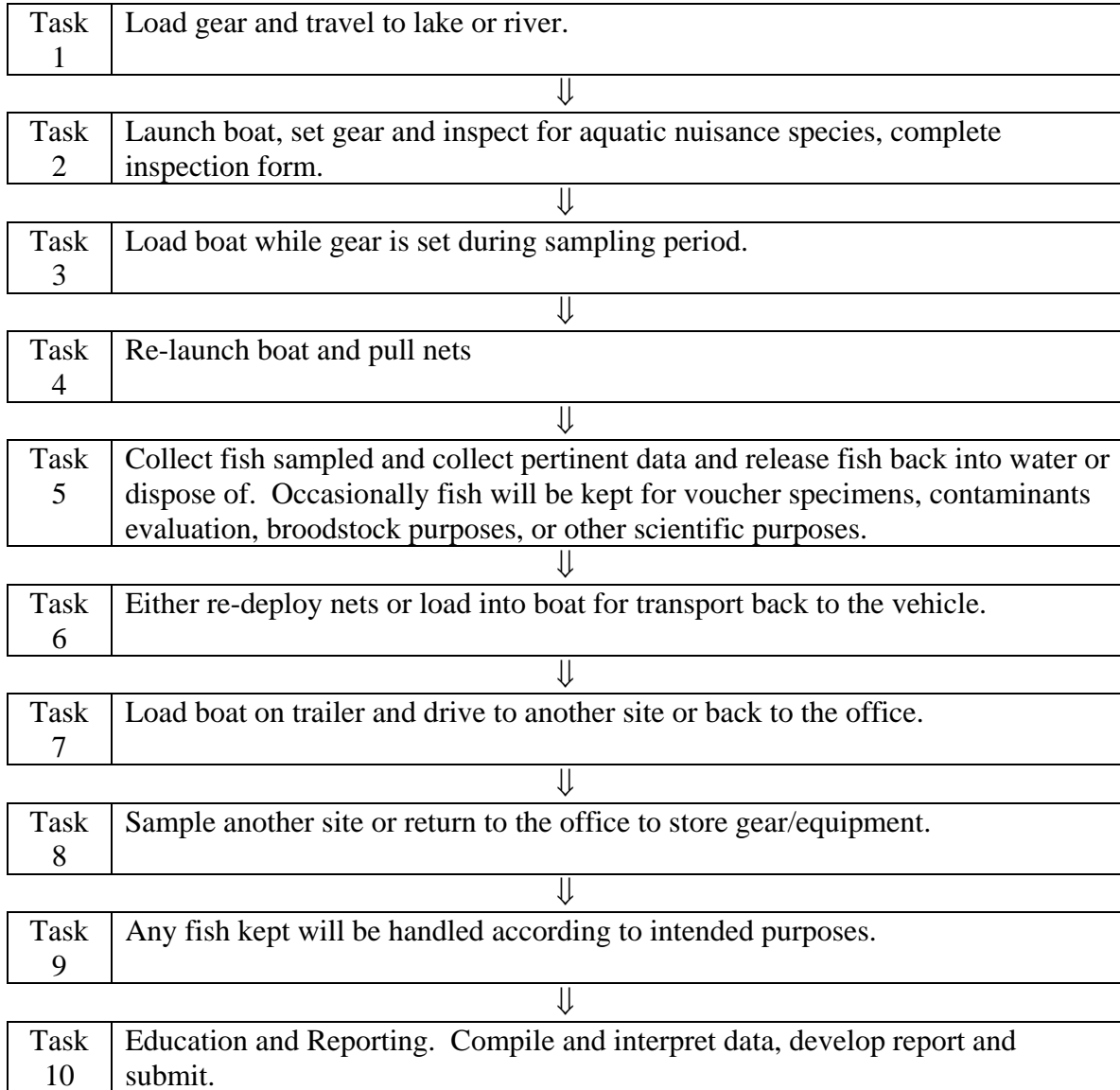
## HACCP Step 2 – Identify Potential Hazards

(to be transferred to column 2 of HACCP Step 4 – Hazard Analysis Worksheet)

<b>Hazards: Species Which May Potentially Be Moved/Introduced</b>
<b>Vertebrates:</b> Common carp, Black carp, Silver carp, Bighead carp, Grass carp, Ruffe, Round Goby, Rudd
<b>Invertebrates:</b> Zebra mussel, New Zealand Mudsail, Spiny Water Flea, Asian Clams, Rusty Crayfish
<b>Aquatic Plants:</b> Eurasian Watermilfoil, Curly Leaf Pondweed
<b>Terrestrial Plants:</b> Purple Loose-strife, Salt Cedar
<b>Other Biologics (e.g. disease, pathogen, parasite):</b> Whirling disease, heterosporis (Yellow perch parasite), Spring carp viremia, Largemouth Bass Virus
<b>Others (e.g. construction materials, etc.):</b>

### HACCP Step 3 – Flow Diagram

Flow Diagram Outlining Sequential Tasks to Complete Activity/Project  
Described in HACCP Step 1 – Activity Description



### HACCP Step 4 - Hazard Analysis Worksheet

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards probable? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)
Task 1  Load gear and travel to lake or river.	<u>Vertebrates</u>	No	Nets and gear should be clean prior to departure to conduct assessment.		No
	<u>Invertebrates</u>	No	Nets and gear should be clean prior to departure to conduct assessment.		
	<u>Plants</u>	No	Nets and gear should be clean prior to departure to conduct assessment.		
	<u>Others</u>	No			
Task 2  Launch boat, set gear and inspect for aquatic nuisance species, complete inspection form.	<u>Vertebrates</u>	No	Nets and gear should be clean prior to departure to conduct assessment.	Monitoring efforts can be conducted at this time to document any observations. Any documentation of ANS would identify that additional effort be made to prevent movement of species.	Yes, dependant on results of inspection.
	<u>Invertebrates</u>	No	Nets and gear should be clean prior to departure to conduct assessment.	Monitoring efforts can be conducted at this time to document any observations. Any documentation of ANS would identify that additional effort be made to prevent movement of species.	
	<u>Plants</u>	No	Nets and gear should be clean prior to departure to conduct assessment.	Monitoring efforts can be conducted at this time to document any observations. Any documentation of ANS would identify that additional effort be made to prevent movement of species.	
	<u>Others</u>	No			

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Task 3  Load boat while gear is set during sampling period.	<u>Vertebrates</u>	No	Fish have not been sampled so should not be present in boat.		Yes
	<u>Invertebrates</u> Zebra mussel, New Zealand Mudsnail, Spiny Water Flea	Yes	Boat, trailer and cooling system has capability to hold water that could harbor these organisms.	Drain boat and cooling system of all water before leaving the waterbody.	
	<u>Plants</u> Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar	Yes	Plant parts and seeds could be attached to the trailer or in the boat, ready for inadvertent transport.	Remove plant fragments from the boat, trailer and gear before leaving waterbody.	
	<u>Others</u>	No			

Task 4  Re-launch boat and pull nets	<u>Vertebrates</u>	No	Fish have not been sampled so should not be present in boat.		No
	<u>Invertebrates</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Plants</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Others</u>	No			

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<b>Task 5</b>  Collect fish sampled and pertinent data and release fish back into water or dispose of. Occasionally fish will be kept for voucher specimens, contaminants evaluation, or other scientific purposes.	<u>Vertebrates</u>	No	Of fish captured, almost all would be released at the point of capture. Any kept would be euthanized.		No
	<u>Invertebrates</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Plants</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Others</u>	No			

<b>Task 6</b>  Either re-deploy nets or load into boat for transport back to the vehicle.	<u>Vertebrates</u>	No	All fish would be released at the point of capture. Any fish kept would be euthanized.		No
	<u>Invertebrates</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Plants</u>	No	Boat, trailer and gear has only been on the current waterbody.		
	<u>Others</u>	No			

### HACCP Step 4 - Hazard Analysis Worksheet

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards probable? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)
Task 7  Load boat on trailer and drive to another site or back to the office.	<u>Vertebrates</u> Common carp, Black carp, Silver carp, Bighead carp, Grass carp, Ruffe, Round Goby, Rudd	Yes	If any fish or their eggs are missed in the netting equipment, these could conceivably be transported alive in wet nets or in the bottom of the boat.	Visually inspect to ensure that no fish remain in the net or in the boat. Rinse with water if equipment available or let air dry.	Yes
	<u>Invertebrates</u> Zebra mussel, New Zealand Mudsnail, Spiny Water Flea	Yes	Any invertebrates or their eggs could be attached to the netting equipment and these could conceivably be transported alive in wet nets or in the bottom of the boat.	Rinse with hot water if available and let air dry . Completely drain all water from boat and cooling system.	
	<u>Plants</u> Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar	Yes	Plant fragments or seeds could be transported on the equipment, in the boat or on the trailer.	Completely drain all water from boat and cooling system. Remove all plant fragments from the boat, trailer, and equipment. Powerwash the boat and trailer if equipment is available.	
	<u>Others</u> Whirling disease, heterosporis (Yellow perch parasite), Spring carp viremia, Largemouth Bass Virus	Yes	Any pathogens could be attached to the netting equipment and these could conceivably be transported alive in wet nets or in the bottom of the boat.	Rinse with water and let air dry. Completely drain all water from boat and cooling system.	

### HACCP Step 4 - Hazard Analysis Worksheet

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Task 8  Sample another site or return to the office to store gear/equipment.	<u>Vertebrates</u> Common carp, Black carp, Silver carp, Bighead carp, Grass carp, Ruffe, Round Goby, Rudd	Yes	If any fish or their eggs are missed in the netting equipment, these could be transported alive in wet nets or in the bottom of the boat.	Inspect nets and boat while setting out equipment.	Yes
	<u>Invertebrates</u> Zebra mussel, New Zealand Mudsnail, Spiny Water Flea	Yes	Any invertebrates or their eggs could be attached to the netting equipment and these could be transported alive in wet nets or in the bottom of the boat.	Inspect nets and boat while setting out equipment.	
	<u>Plants</u> Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar	Yes	Plant fragments or seeds could be transported on the equipment, in the boat or on the trailer.	Inspect nets and boat while setting out equipment.	
	<u>Others</u> Whirling disease, heterosporis (Yellow perch parasite), Spring carp viremia, Largemouth Bass Virus	Yes	Any pathogens could be attached to the netting equipment and these could conceivably be transported alive in wet nets or in the bottom of the boat.	Monitor existing information on occurrence of these pathogens.	

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1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards probable? (yes/no)	4 Justify evaluation for column 3	5 What control measures can be applied to prevent undesirable results?	6 Is this task a critical control point? (yes/no)
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<b>Task 9</b>  Any fish kept will be handled according to intended purposes.	<u>Vertebrates</u>	No	Any fish captured and transported should have been euthanized and stored in proper containers.		No
	<u>Invertebrates</u>	No	Any invertebrates transported with the fish should have also been euthanized and stored in proper containers.		
	<u>Plants</u>	No	Plant parts not usually collected for further study.		
	<u>Others</u>	No	Any fish transported would be preserved and stored in proper containers.		

<b>Task 10</b>  Education and Reporting. Compile and interpret data, develop report and submit.	<u>Vertebrates</u>	No	Transfer of information only.	Trip surveillance form submitted to NDGFD for documentation and inclusion into statewide database.	No
	<u>Invertebrates</u>	No	Transfer of information only.	Trip surveillance form submitted to NDGFD for documentation and inclusion into statewide database.	
	<u>Plants</u>	No	Transfer of information only.	Trip surveillance form submitted to NDGFD for documentation and inclusion into statewide database.	
	<u>Others</u>	No	Transfer of information only.	Trip surveillance form submitted to NDGFD for documentation and inclusion into statewide database.	

**HACCP Step 5 – HACCP Plan Form**

<b>HACCP Plan Form</b>								
<b>Critical Control Point (CCP)</b>	<b>Significant Hazard(s)</b>	<b>Limits for each Control Measure</b>	<b>Monitoring</b>				<b>Evaluation &amp; Corrective Action(s) (if needed)</b>	<b>Supporting Documentation (if any)</b>
			<b>What</b>	<b>How</b>	<b>Frequency</b>	<b>Who</b>		
Task 2	Zebra mussel, Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar, New Zealand Mudsnaail, Spiny Water Flea	If inspection reveals that ANS species exist. Zero tolerance for movement to another water body and all nets will be disinfected and dried. Completely drain and rinse boat and cooling system.	The waterbody that is being sampled.	Visually	During each assessment period.	Field Crews or designated person.	Reevaluate the procedures of cleaning after each trip to ensure they are being implemented.	
Task 3	Zebra mussel, Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar, New Zealand Mudsnaail, Spiny Water Flea	Some tolerance provided since the boat and trailer are remaining in the waterbody. However, all effort must be made to visually inspect and remove any plant fragments from trailer and boat and drain all water from boat and cooling system prior to transport.	The boat and trailer to insure that water is drained and plant fragments are removed.	Visually	Each time the boat is loaded.	Field Crews or designated person.	Reevaluate the procedures of cleaning after each trip to ensure they are being implemented.	

## HACCP Plan Form

Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	Monitoring				Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
			What	How	Frequency	Who		
Task 7	Common carp, Zebra mussel, Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-strife, Salt Cedar, New Zealand Mudsnail, Spiny Water Flea, Asian Carp Species, Ruffe, Round Goby, Rudd	Some tolerance if the crew is heading back to the office, however, if traveling to another waterbody, tolerance levels need to be reduced significantly. All effort must be made to visually inspect and remove any plant fragments from trailer and boat and drain all water from boat and cooling system. If boat and gear is going to another waterbody, a thorough rinsing of all equipment will also be necessary.	The boat and trailer to insure that water is drained and plant fragments are removed, and equipment is rinsed.	Visually	Each time the assessment is completed.	Field Crews or designated person.	Reevaluate the procedures of cleaning after each trip to ensure they are being implemented.	

## HACCP Plan Form

Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	Monitoring				Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
			What	How	Frequency	Who		
Task 8	Common carp, Zebra mussel, Eurasian Watermilfoil, Curly Leaf Pondweed, Purple Loose-stripe, Salt Cedar, New Zealand Mudsnaill, Spiny Water Flea, Asian Carp Species, Ruffe, Round Goby, Rudd	If the sampling crew is heading to another waterbody, tolerance levels need to be reduced significantly. All effort must be made to visually inspect and remove any plant fragments from trailer and boat and drain all water from boat and cooling system prior to leaving waterbody. A thorough rinsing of all equipment will also be necessary.	The boat and trailer to insure that water is drained and plant fragments are removed, and equipment is rinsed.	Visually	Each time the assessment is completed.	Field Crews or designated person.	Reevaluate the procedures of cleaning after each trip to ensure they are being implemented.	

<b>Facility:</b>	Missouri River FWMAO	<b>Activity:</b>	Fishery Assessment
<b>Address:</b>	3425 Miriam Ave Bismarck, ND 58501		
<b>Signature:</b>		<b>Date:</b>	
<b>HACCP Plan was followed.</b>			

Aquatic Nuisance Species (ANS) Inspection Form  
 U.S. Fish & Wildlife Service  
 Fisheries Program

<b>Date of Inspection:</b>	<b>Water Body:</b>
<b>Area Inspected (Include a map on reverse side, if needed):</b>	
Coordinates: Easting: _____ Northing: _____	
<b>Type of Inspection (from boat, off dock, vehicle, shoreline, or grab sample):</b>	
<b>Inspector(s):</b>	
<b>Aquatic Nuisance Species</b>	
<b>Aquatics Present?</b>	<b>IF YES, answer the following:</b>
NO _____ YES _____	<b>List Type:</b>
If NO, form ends here!	<b>Circle One:</b> NEW INFESTATION or PREVIOUSLY IDENTIFIED
<b>Narrative or GPS location of individuals, or the colonies, within the area inspected (if possible):</b>	
<b>Describe Degree of Infestation</b> (heavy, moderate, light)	
<b>Adults Present</b> (Circle One): YES or NO	
<b>General Comments</b> (boat ramp location, recent construction, boating activity, etc.)	
Use back of page for additional information.	