

HACCP Step 1 – Activity Description

Activity Description	
Facility: Tulsa District Office Various Tulsa District Lakes	Site: Reservoirs and Rivers
Project Coordinator: Everett Laney	Activity: Water Quality Sampling
Site Manager: PE-E Branch Chief - District	
Address: Tulsa District Office 1645 S. 101 st East Ave Tulsa, OK 74128	
Phone: (918) 669-7411	

Project Description
i.e. Who; What; Where; When; How; Why
<p>Tulsa District personnel use boats and water quality sampling equipment (i.e. Van Dorn style water samplers, 80 micron mesh net, Ekman grab sampler, a Secchi disk, and a YSI Sonde unit) throughout the year to collect water samples from various District reservoirs and rivers. This activity is done to collect water quality data for O&M projects, as well as for general investigation studies. Sometimes the Project Office has the boat that the District personnel use on site for this activity; this description is for when the District personnel use their boat that is kept at the Core Drill compound on a trailer to sample the various reservoirs.</p> <p>The species listed in this HACCP Plan are of primary concern to the Tulsa District. For a detailed list of additional species, refer to the appropriate state’s Aquatic Nuisance Species (ANS) Management Plan.</p> <p>Kansas: http://www.kdwp.state.ks.us/news/Fishing/Aquatic-Nuisance-Species/KS-Nuisance-Species-Plan</p> <p>Oklahoma: http://anstaskforce.gov/State%20Plans/OK/OKLAHOMA%20ANS%20PLAN%20JULY08.pdf</p> <p>Texas: Currently the Texas ANS Management Plan is under development http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_pl_t3200_1221_draft.doc</p>

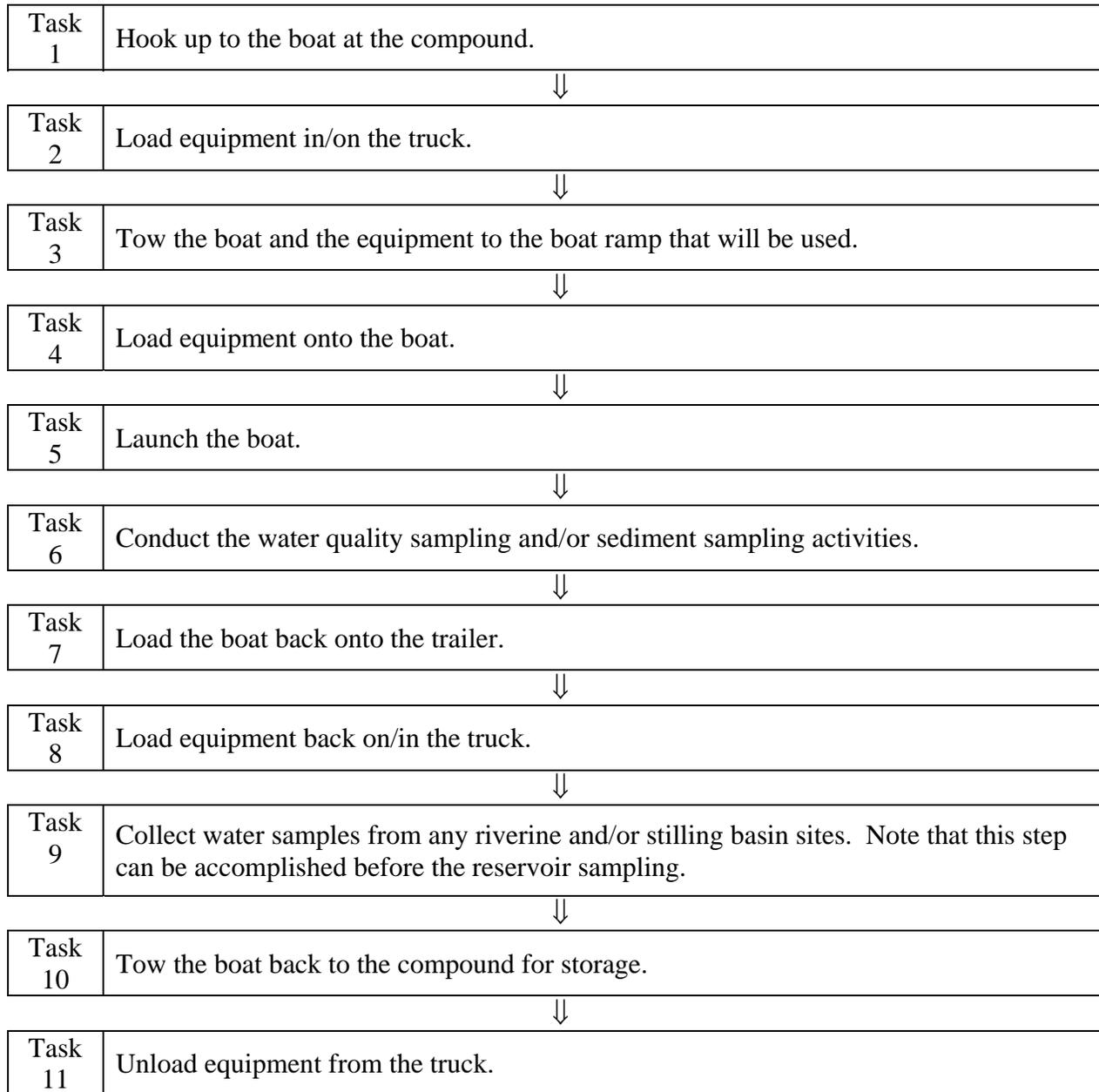
HACCP Step 2 – Identify Potential Hazards

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

Hazards: Species Which May Potentially Be Moved/Introduced
Vertebrates:
Invertebrates: Zebra mussels
Plants: Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)
Other Biologics (e.g. disease, pathogen, parasite):
Others (e.g. construction materials, etc.):

HACCP Step 3 – Flow Diagram

Flow Diagram Outlining Sequential Tasks to Complete Activity/Project
Described in HACCP Step 1 – Activity Description
(to be transferred to column 1 of the HACCP Step 4 – Hazard Analysis Worksheet)



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 Hook up to the boat at the compound	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussels could have gotten on the boat during the previous water sampling trip.	Check the boat for zebra mussels. Check to make sure the bilge water has been previously drained.	Yes If the boat is transported from infested waters to non-infested waters for use.
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could have gotten on the boat or trailer during the previous usage.	Physically examine the boat and trailer for weeds and remove any that are seen.	Yes If the boat is transported from infested waters to non-infested waters for use.
	Others	No			No
Task 2 Load equipment in/on the truck	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussels could have gotten on the equipment during the previous water sampling trip.	Check the equipment for zebra mussels. Check to make sure the equipment is completely dry before loading.	Yes If the equipment was used in infested water and will be used in non-infested water.
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could have gotten on the equipment during the previous usage.	Physically examine the equipment for weeds and remove any that are seen.	Yes If the equipment was used in infested water and will be used in non-infested water.
	Others	No			No

HACCP Step 4 - Hazard Analysis Worksheet (continued)

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 3 Tow the boat and the equipment to the boat ramp that will be used	Vertebrates	No			No
	Invertebrates	No			No
	Plants	No			No
	Others	No			No
Task 4 Load equipment onto the boat	Vertebrates	No			No
	Invertebrates	No			No
	Plants	No			No
	Others	No			No
Task 5 Launch the boat	Vertebrates	No			No
	Invertebrates	No			No
	Plants	No			No
	Others	No			No

HACCP Step 4 - Hazard Analysis Worksheet (continued)

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 6 Conduct water sampling and/or sediment sampling activities	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussels could get on the boat and equipment during use.	None	No
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could get on the boat and equipment during use.	Avoid driving the boat through weed beds and other vegetation.	No
	Others	No			No
Task 7 Load the boat back onto the trailer	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussels could have gotten on the boat and trailer during usage.	Drain the bilge. Lower the motor(s) so that the water in the lower unit(s) will completely drain.	Yes
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could have gotten on the boat and trailer during usage. Algae could have gotten into the bilge, lower unit(s), and on the trailer during usage.	Physically examine the boat, trailer, and pickup and remove any plants that are seen. Drain the bilge. Lower the motor(s) so that the lower unit(s) will completely drain.	No
	Others	No			No

HACCP Step 4 - Hazard Analysis Worksheet (continued)

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 8 Load equipment back on/in the truck	Vertebrates	No			No
	Invertebrates	No			No
	Plants	No			No
	Others	No			No
Task 9 Collect water samples from any riverine and/or stilling basin sites Note that this step can be accomplished before the reservoir sampling	Vertebrates	No			No
	Invertebrates	No			No
	Plants	No			No
	Others	No			No

HACCP Step 4 - Hazard Analysis Worksheet (continued)

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 10 Tow the boat back to the compound for storage	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussel adults and veligers could still be on the boat, anchor, and trailer.	Using at least 140°F water, pressure wash the boat, trailer, and pickup. Using at least 140°F water, pressure wash the anchor and rope and/or allow anchor storage area to be completely dried before using again.	Yes If the boat is to be transported from infested water to non-infested water for use.
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could have been overlooked at the boat ramp.	Pressure wash the boat, trailer, and pickup. Pressure wash the anchor and rope and/or allow anchor storage area to be completely dried before using again.	Yes If the boat is to be transported from infested water to non-infested water for use.
	Others	No			No

HACCP Step 4 - Hazard Analysis Worksheet (continued)

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 11 Unload equipment and samples from truck	Vertebrates	No			No
	Invertebrates Zebra mussels	Yes	Zebra mussels (especially veligers) could have gotten on the water sampling equipment during use.	Wash equipment thoroughly in warm water and soap, rinsing thoroughly. Allow all equipment used to air dry completely before using again. Use the same procedure for the buckets that are used to contain the equipment.	Yes If the water sampling equipment was used in infested water and will be used in non-infested water.
	Plants Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Yes	Plants could have been overlooked at the boat ramp while loading the water sampling equipment back onto the truck.	Wash equipment thoroughly in warm water and soap, rinsing thoroughly. Allow all equipment to air dry completely before using again. Use the same procedure for the buckets that are used to contain the equipment.	Yes If the water sampling equipment was used in infested water and will be used in non-infested water.
	Others	No			No

HACCP Step 5 – HACCP Plan Form

<p align="center">HACCP Plan Form (all CCP's or "yes's" from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)</p>								
Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	What	Monitoring			Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
				How	Frequency	Who		
<p>Task 1</p> <p>Hook up to the boat at the compound</p>	Zebra mussels Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Zero tolerance on the boat, in anchor storage area, and on trailer.	All areas of the boat, anchor storage area, and trailer.	Visual inspection and feeling with hands.	Before each use if the boat has been transported from infested water to non-infested water for use.	Boat operator	Check the boat, anchor storage area, and trailer before each use. If the anchor storage area is not completely dried, power wash using 140°F water before launching into non-infested water.	

HACCP Step 5 – HACCP Plan Form (continued)

<p align="center">HACCP Plan Form (all CCP's or "yes's" from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)</p>								
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		
<p>Task 2 Load equipment in/on the truck</p>	Zebra mussels Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Zero tolerance on the equipment.	All equipment to be used and any containers used to transport and store the equipment.	Physically examine the equipment and containers to ensure they are completely dried before loading on/in the truck.	Before loading the equipment on/in the truck if the equipment has been used in infested water and is going to be used in non-infested water.	Water sampling technicians	Check all equipment before each use. If the equipment and containers are not completely dried, rinse using 140°F water before using.	

HACCP Step 5 – HACCP Plan Form (continued)

HACCP Plan Form								
(all CCP's or "yes's" from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)								
Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	What	Monitoring			Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
				How	Frequency	Who		
Task 7 Load the boat back onto the trailer	Zebra mussels Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Zero tolerance in the bilge, in/on the lower unit(s), and on trailer.	Bilge, lower unit(s), and trailer.	Drain the lower unit(s) and bilge. Remove any visible zebra mussels and weeds.	Before leaving the ramp.	Boat operator		

HACCP Step 5 – HACCP Plan Form (continued)

HACCP Plan Form								
(all CCP's or "yes's" from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)								
Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	What	Monitoring			Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
				How	Frequency	Who		
Task 10 Tow the boat back to the compound for storage	Zebra mussels Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Zero tolerance on boat, in anchor storage area, and on trailer.	All areas of the boat, anchor storage area, and trailer. Any part of the pickup that came into contact with the water (i.e. tires, wheels, and fenders).	Pressure wash* the boat, trailer, and pickup. Pressure wash* the anchor and rope and/or allow anchor storage area to be completely dried before using again.	After each use when the boat is used in infested water and is to be transported to non-infested water for use.	Boat operator		

*Use at least 140°F water for zebra mussels.

HACCP Step 5 – HACCP Plan Form (continued)

<p align="center">HACCP Plan Form (all CCP's or "yes's" from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)</p>								
Critical Control Point (CCP)	Significant Hazard(s)	Limits for each Control Measure	What	Monitoring			Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
				How	Frequency	Who		
<p>Task 11 Unload equipment and samples from the truck</p>	Zebra mussels Eurasian milfoil Alligator weed Common reed – genus <i>Phragmites</i> Algae (golden)	Zero tolerance on equipment and in carrying containers.	All equipment used and any containers they were transported and stored in.	Physically examine the equipment, removing any seen mussels or weeds. Wash equipment with warm water and soap, rinsing thoroughly. Allow to completely dry before using again.	After each use when the equipment has been used in infested water and is going to be used in non-infested water.	Water sampling technicians		

HACCP Plan has been discussed with all employees. It is the manager's responsibility to review plan with all new employees as required.

Facility:	Address:
Signature:	Date: