

HACCP Step 1 – Activity Description

Activity Description	
Facility: “The BugLab” BLM National Aquatic Monitoring Center	Site: Utah State University
Project Coordinator: Dan Barnes	Activity: Aquatic Biota Surveys and Monitoring e.g. Stream Restoration, Fire Effects Monitoring, Management, Aquatic Surveys and Monitoring, Fisheries Studies, T & E Recovery/Listing Surveys, aquatic invasive species surveys and effects monitoring
Site Manager:	
Address: 5210 Old main Hill Logan, Utah 84321	
Phone: 435-797-3945	

Project Description i.e. Who; What; Where; When; How; Why
<p>Collect, identify, and evaluate aquatic macroinvertebrates in western streams for water quality monitoring and stream/river/aquatic surveys. Located at Utah State University, the “BugLab” cooperates with Utah State agencies such as, the Utah Dept of Natural Resources, Division of Wildlife Resources-Fisheries Section, to provide survey analysis of Utah rivers, lakes, and wetlands, as well as most federal government agencies. Survey projects are conducted throughout the year and would have similar HACCP Pathway prevention methods.</p>

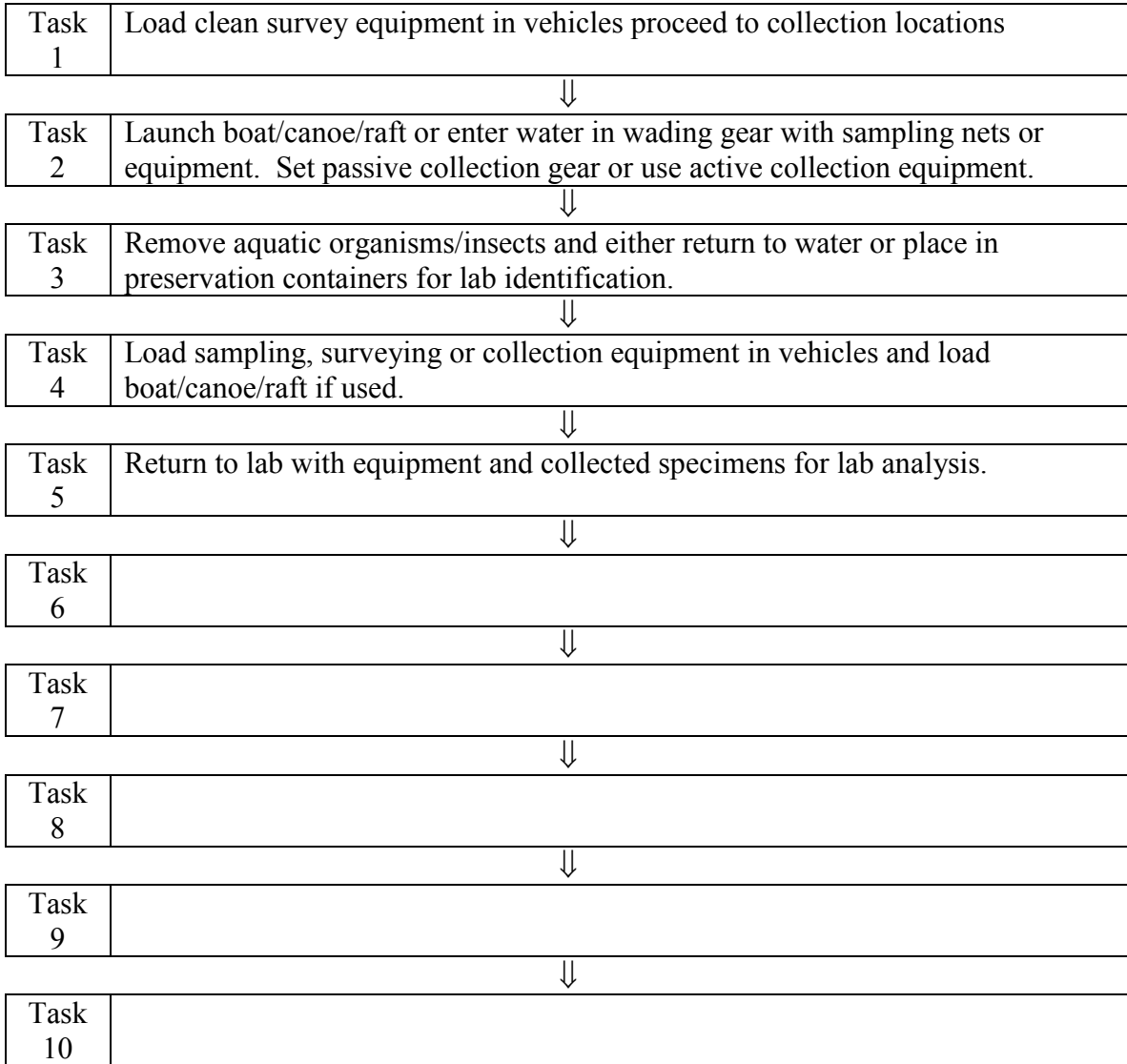
HACCP Step 2 – Identify Potential Hazards

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

Hazards: Species Which May Potentially Be Moved/Introduced
Vertebrates: List Species/Types: not likely to transfer fish or other vertebrates Comments:
Invertebrates: List Species/Types: New Zealand mudsnail, Zebra mussels, <i>Thiaridae melanoides</i> , Chinese mystery snail, <i>Corbicula fluminea</i> (Asian clam), <i>Daphnia lumholtzi</i> Comments:
Plants: List Species/Types: Eurasian watermilfoil, hydrilla Comments: other species moved to new watersheds could become invasive
Other Biologics (e.g. disease, pathogen, parasite): List Species/Types: fish diseases, Comments: whirling disease and similar aquatic diseases or parasites could easily be spread to uninfected waters through boots and sampling equipment.
Others (e.g. construction materials, etc.): List Other Hazards: NA Comments:

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 Load clean equipment in vehicles proceed to collection site	Vertebrates not likely to fish or other vertebrates	YES	Equipment may not have been cleaned	Certify at start have clean equipment	YES
	Invertebrates New Zealand mudsnail, Zebra mussels, <i>Thiaridae melanoides</i> , Chinese mystery snail, <i>Corbicula fluminea</i> (Asian clam), <i>Daphnia lumholtzi</i>	YES	Equipment may not have been cleaned	Certify at start have clean equipment	YES
	Plants Eurasian watermilfoil, hydrilla	YES	Equipment may not have been cleaned	Certify at start have clean equipment	YES
	Others	YES	Diseases spread by dirt/debris	Use sterilize procedures/methods	YES
Task 2 Launch boat/canoe/raft or enter water in wading gear with sampling nets or equipment. Set passive collection gear or use active collection equipment.	Vertebrates	NO	Cleaned before loading		<input type="checkbox"/>
	Invertebrates	NO	Cleaned before loading		<input type="checkbox"/>
	Plants	NO	Cleaned before loading		<input type="checkbox"/>
	Others	NO	Cleaned before loading		<input type="checkbox"/>
Task 3 Remove aquatic organisms/insects and either return to water or place in preservation containers for lab identification	Vertebrates	NO	returned or into preservation fluid		<input type="checkbox"/>
	Invertebrates	NO	returned or into preservation fluid		<input type="checkbox"/>
	Plants	NO	returned or into reservation fluid		<input type="checkbox"/>
	Others	NO	returned or into preservation fluid		<input type="checkbox"/>

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 4 Load sampling, surveying or collection equipment in vehicles and load boat/canoe/raft if used.	Vertebrates not likely to fish or other vertebrates	YES	species could be in water collection areas	Drain, dry, clean, inspect at risk areas	NO
	Invertebrates New Zealand mudsnail, Zebra mussels, <i>Thiaridae melanoides</i> , Chinese mystery snail, <i>Corbicula fluminea</i> (Asian clam), <i>Daphnia lumholtzi</i>	YES	could be in water collection areas or attached to gear	Drain, dry, clean inspect at risk areas	NO
	Plants Eurasian watermilfoil, hydrilla	YES	Could be in nets/gear or on boat/trailer	Clean, dry nets inspect remove on boat/trailer	NO
	Others	YES	Diseases/pathogens could be on equipment	Clean & prepare gear for sterile treatment	NO
Task 5 Return to lab with equipment and collected specimens for lab analysis	Vertebrates not likely to fish or other vertebrates	YES	Pre-cleaning before loading not complete	In lab finish cleaning & tag	YES
	Invertebrates New Zealand mudsnail, Zebra mussels, <i>Thiaridae melanoides</i> , Chinese mystery snail, <i>Corbicula fluminea</i> (Asian clam), <i>Daphnia lumholtzi</i>	YES	Pre-cleaning before loading not complete	In lab finish cleaning & tag	YES
	Plants	YES	Pre-cleaning before loading not complete	In lab finish cleaning & tag	YES
	Others	YES	Pre-cleaning before loading not complete	In lab finish cleaning sterilize & tag	YES
Task 6	Vertebrates	<input type="checkbox"/>			<input type="checkbox"/>
	Invertebrates	<input type="checkbox"/>			<input type="checkbox"/>
	Plants	<input type="checkbox"/>			<input type="checkbox"/>
	Others	<input type="checkbox"/>			<input type="checkbox"/>

HACCP Step 5 – HACCP Plan Form

Section 1.01 HACCP Plan Form								
(all CCP's or "yes" answers from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)								
Critical Control Point (CCP)	Significant Hazard(s)	Article III. Limits for Aach Control Measure	Article II. Monitoring				Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
			What	How	Frequency	Who		
Task 1 Error! Reference source not found. Load clean equipment in vehicles proceed to collection site	Equipment & gear might not be cleaned	Visually examine equipment/gear & certify equipment for use is clean	Visually inspect	With magnification if needed	Every time the gear is loaded from lab	Everyone on survey crew	Will not use equipment that can not easily be determined to be clean & free of aquatic invasives or disease/pathogens	
Task 5 Error! Reference source not found.	Clean & treat equipment to remove or kill hitchhikers that may be attached	Follow established periods of drying, freezing or chemical treatment	That procedures used are removing & killing non-targets	Visual inspect	Every time the equipment is used	Researcher using the equipment	Will not use equipment that can not easily be determined to be clean & free of aquatic invasives or disease/pathogens	
Facility: BLM National Aquatic Monitoring Center Error! Reference source not found.						Activity: Sampling aquatic macroinvertebrates		
Address: Department of Aquatic, Watershed, and Earth Resources 5210 Old main Hill, Utah State University Logan, Utah 84322-5210								
Signature: HACCP Plan was followed.						Date:		