HACCP Step 1 – Activity Description

Activity Description	
Facility: Tonto Creek Hatchery	Site:
Project Coordinator: Roger Sorensen	Activity/Management Objective: Culture and, distribution of various cultured species to waters (lakes & streams) and production facilities
Site Manager: John Diehl	
Address: HC2 Box 961 Payson, AZ 8541-9556	
Phone: 928-478-4200	

Project Description

i.e. Who; What; Where; When; How; Why

Who: Tonto Creek Hatchery, Arizona Game & Fish Dept.

What: Distribute specific cultured fish of various size and species to specific locations. The specific of size, species, and season for distribution is predicated on requests from Fish Program Managers and culture needs.

Where: Locations are determined by Fish Program Managers production requests and assignments made by Hatchery Program Manager.

ASHURST	CONCHO	LOWER L MARY
BEAR CANYON	CRESCENT	LOWER SALT R
BEAR FLATS	E VERDE	LUNA
BIG LAKE	HAIGLER CR	TONTO CR
CHRISTOPHER CR	KINNIKINICK L	WOODS CANYON

When: Typical distribution is seasonal and related to recreational needs (anglers) and management prescription (put and take, put, grow, and take).

How: Prior to initiating the fish loading process hatchery staff will ensure that the target species and size have been selected for the specific destination. Specifically this requires that the staff select the appropriate rearing container for loading fish from. Once correct container has been designated the fish will be crowded, sample counted, appropriate number determined based on weight, and then loaded on distribution vehicle. Loading method may include the use of mechanical fish loader with segregator, use of digital scales, or displacement using a sight gauge.

Why: Fish are cultured and distributed in support of recreational sportfishing programs, recovery efforts, and establishment of new fisheries.

HACCP Step 2 – Identify Potential Hazards

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

Hazards: Species or Contaminants Which May Potentially Be Moved/Introduced
Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes
Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA
Plants: Macrophytes: NA Plankton; various species Algae; various species
Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA
Others (non-biological contaminants e.g. pesticide residue, oil products, etc. or harborage via packing or construction materials, etc.): None

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)

Task 1	Pre-trip vehicle inspection and equipment; including fill truck, check oxygen stones and aerators, ice water as needed
⇓	
Task 2	Select appropriate fish to be loaded, Run fish loader to flush system
⇓	
Task 3	Crowd fish, sample count, and load fish
⇓	
Task 4	Depart to destination, periodically, stop and check fish/equipment i.e. Oxygen, aerators, and lids.
⇓	
Task 5	At destination, check access (ramp, stream bank, or facility), and water quality. Release fish (single or multiple points).
⇓	
Task 6	Post stocking inspection, i.e. mud, non-targets species, return to POD. (Potentially implement equipment HACCP Plan).
⇓	
Task 7	
⇓	

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 significant? (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 Pre-trip vehicle inspection and equipment; including fill truck, check oxygen stones and aerators, ice water as needed	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	no	Process does not include handling of product.	NA	NA
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	no	Process does not include handling of product.	NA	NA
	Plants: Macrophytes: NA Plankton; various species Algae; various species	no	Process does not include handling of product.	NA	NA
	Other Biologics Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA	no	Process does not include handling of product.	NA	NA
	Others None	no			

Task 2 Select appropriate fish to be loaded, Run fish loader to flush system	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	Yes, fish	Fish production is conducted where specific fish groups (lots) are not mixed. Prior to loading hatchery staff make all efforts to identify appropriate container to load from	Hatchery staff will have containers labeled, and get second staff to verify that appropriate fish and container are used.	No
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	no	Process does not include handling of product.	NA	NA
	Plants: Macrophytes: NA Plankton; various species Algae; various species	no	Process does not include handling of product.	NA	NA
	Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA	no	Process does not include handling of product.	NA	NA
	Others None	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 significant? (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 Crowd fish, sample count, and load fish	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	yes	This is the most appropriate task where fish are handled for inspection by staff. If any non-targets are mixed with target species this is point that they would be included with load.	Prior to loading random sample count (60 individuals ensures 90% of occurrence) of fish to determine if non-targets present. Not a CCP but definitely a CP.	Yes
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	No	This is the most appropriate task where fish are handled for inspection by staff. If any non-targets are mixed with target species this is point that they would be included with load. Impacts of these non-targets is not severe as they are rarely present or they are not present in receiving waters.	During sample count of fish ocular inspection presence of non-targets. Loading process will mechanical loader using the segregating bars separates the large target species and returns smaller non-targets to production container.	yes
	Plants: Macrophytes: NA Plankton; various species Algae; various species	N0	Although these non-targets may be present in the water of the production facility they are not considered to be invasive and potential impact is not considered significant	Fish loading occurs in raceways and macrophytes are flushed through the holding container	yes

	Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA	no	None of the known species of this category are considered as prohibitive or restrictive as determined by Fish Health Policy.	Fish will not be distributed from the station if pathogens are considered prohibited.	yes
	Others None	no			

Task # 4 Depart to destination, periodically, stop and check fish/equipment i.e. Oxygen, aerators, and lids.	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	no	Control Points and critical control point exist in previous steps.	NA	NA
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	no	Control Points and critical control point exist in previous steps.	NA	NA
	Plants: Macrophytes: NA Plankton; various species Algae; various species	no	Control Points and critical control point exist in previous steps.	NA	NA
	Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA	no	Control Points and critical control point exist in previous steps.	NA	NA
	Others None	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 significant? (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 # 5 At destination, check access (ramp, stream bank, or facility), and water quality. Release fish (single or multiple points).	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	No	Control Points and critical control point exist in previous steps.	NA	NA
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	No	Control Points and critical control point exist in previous steps.	NA	NA
	Plants: Macrophytes: NA Plankton; various species Algae; various species	No	Control Points and critical control point exist in previous steps.	NA	NA
	Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA	No	Control Points and critical control point exist in previous steps.	NA	NA
	Others None	no			

Task # 6 Post stocking inspection, i.e. mud, non-targets species, return to POD. (Potentially implement equipment HACCP Plan).	Vertebrates: Fish: rainbow, brook, brown, cutthroat, and apache trout; arctic grayling; Amphibians: NA Reptiles: various snakes	no	HACCP Plan is for control of non-target organisms being distributed from production facility and this task is addressed under HACCP plan for equipment movement.	NA	NA
	Invertebrates: Insects: various aquatic insects Crustaceans: NA Mollusks:NA	no	HACCP Plan is for control of non-target organisms being distributed from production facility and this task is addressed under HACCP plan for equipment movement.	NA	NA
	Plants: Macrophytes: NA Plankton; various species Algae; various species	no	HACCP Plan is for control of non-target organisms being distributed from production facility and this task is addressed under HACCP plan for equipment movement.	NA	NA
	Other Biologics (disease, pathogen, parasite, or non-pathogens): Parasite: Gyrodactylus, Trichodina Bacteria: Coldwater disease Virus: NA		HACCP Plan is for control of non-target organisms being distributed from production facility and this task is addressed under HACCP plan for equipment movement.	NA	NA
	Others None	no			

For additional pages, select entire page and copy to a new page.

HACCP Step 5 – HACCP Plan Form

HACCP Plan Form (all CCPs or “yeses” from column 6 of HACCP Step 4 – Hazard Analysis Worksheet)		
(1) Critical Control Point:		Task 3 Crowd fish, sample count, and load fish
Significant Hazard(s):		Fish species
Limits for Each Control Measure:		95% probability in waters unless the distribution destination is a recovery area or one identified as species restrictive.
Monitoring	What	: Non-target fish species
	How:	Visual
	Frequency:	Continuous during production cycle and during loading process
	Who:	Staff
Evaluation & Corrective Action(s) (if needed):		If on-targets detected, determine severity of potential impact by communicating with receiving party. Determination may include all actions up to and including cancellation of distribution
Supporting Documents (if any):		
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(2) Critical Control Point:		
Significant Hazard(s):		
Limits for Each Control Measure:		
Monitoring	What:	
	How:	
	Frequency:	
	Who:	
Evaluation & Corrective Action(s) (if needed):		
Supporting Documents (if any):		
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(3) Critical Control Point:		
Significant Hazard(s):		
Limits for Each Control Measure:		
Monitoring	What:	
	How:	
	Frequency:	
	Who:	
Evaluation & Corrective Action(s) (if needed):		
Supporting Documents (if any):		
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Facility:	**Activity/Management Objective:**
Address:	
Signature: **HACCP Plan was followed.**	**Date:**