

HACCP Step 1 – Coldwater Fish culture and Fish Stocking

Activity Description	
Facility: Genoa National Fish Hatchery	Site: Genoa National Fish Hatchery
Project Coordinator: Roger Gordon	Activity: Coldwater fish production and distribution at the Genoa NFH
Site Manager: Doug Aloisi	
Address: S 5689 State Hwy 35 Genoa, WI 54632	
Phone: 608-689-2605	

Project Description i.e. Who; What; Where; When; How; Why
<p>Genoa National Fish Hatchery receives eggs from wild and domesticated salmonid species to further restoration efforts in the Great Lakes, and provides fish for other federal, state and tribal conservation agencies to meet management requests. Roughly 60,000 brook, rainbow trout and lake trout are produced annually for distribution in the midwest.</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: Green sunfish <i>Lepomis cyanellus</i> Brook stickleback <i>Culaea inconstans</i> Black bullhead <i>Ameiurus melas</i>
Invertebrates: Freshwater snail <i>Gastropoda</i> spp. Rusty crayfish <i>Orconectes rusticus</i>
Plants:
Other Biologics (e.g. disease, pathogen, parasite): Infectious Pancreatic Necrosis Furunculosis <i>Aeromonas salmonicida</i> Enteric Redmouth Disease <i>Yersinia ruckeri</i> Bacterial Kidney Disease <i>Renibacterium salmoninarum</i> Other Assorted parasites/pathogens commonly found in cultured salmonids.
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)**

Task 1	Receive eggs from other culture facilities/wild sources
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Task 2	Fry moved to rearing tanks in culture building.
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Task 3	Fingerlings are moved to raceways supplied with groundwater supply.
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Task 4	Fingerlings are moved into rearing pond where they will remain until harvest.
↓	
Task 5	Drain Ponds/Harvest fish in spring
↓	
Task 6	Inventory fish and place in distribution truck.
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Task 7	Fill trucks and distribute fish
↓	
Task 8	Drain/fallow ponds for winter
↓	
Task 9	
↓	
Task 10	

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)
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Task 1 Receive eggs from other culture facilities/wild sources	Vertebrates	no	Not possible		No
	Invertebrates	no	Not possible		No
	Plants	no	Not possible		No
	Others	yes	Fish diseases inherent in the wild populations of fish in the basin.	Fish inspected for disease and quarantined until disease clearance occurs. Eggs disinfected before put down at hatchery	Yes

Task 2 Fry moved to rearing tanks in culture building	Vertebrates	no	Fry are hatched on well water, with no ANS present	n/a	no
	Invertebrates	no	See above	n/a	no
	Plants	no	See above	n/a	no
	Others	no	No added risk at this stage	Fish will be quarantined on separate water supply until disease sampling is completed/eggs will be disinfected with iodophor. River water will not be used to transport eggs to station.	no

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 Fingerlings are moved to raceways supplied with groundwater supply	Vertebrates	no	Will not come in contact with ANS	Rearing units will be disinfected between fish lots to reduce cross contamination	no
	Invertebrates	no	“	n/a	no
	Plants	no	“	n/a	no
	Others	no	BMP's preclude added risk at this stage	Furunculosis/ERM vaccine applied to reduce threat of epizootic	no
Task # 4 Fingerlings are moved into rearing pond where they will remain until harvest.	Vertebrates	yes	Nuisance species of fish may be inadvertently added to pond through filling	Ponds will be drained and dried before stocking to avoid contamination	no
	Invertebrates	no	Gastropods in rearing pond	“	no
	Plants	no	No plant ANS species on site		
	Others	yes	Larger outside rearing area more exposed to predators carrying disease, less controlled environment		no

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 # 5 Drain Ponds/Harvest fish in spring	Vertebrates	yes	ANS can be harvested that have been inadvertently introduced to the pond through inundated water systems/immigrations	Use care/large mesh nets to reduce potential for cross contamination of smaller sized ANS	yes
	Invertebrates	yes	Snails inherent in pond system can be transferred with fish during harvest	Reduce transfer of snails through careful harvesting	yes
	Plants	no	n/a	Milfoil not currently on hatchery grounds	no
	Others	no	n/a	No disease prevention/control measures available at this point	no
Task # 6 Inventory fish and place in distribution truck.	Vertebrates	yes	ANS can be harvested that have been inadvertently introduced to the pond through pipelines/immigrations	Sort fish carefully during inventory process to reduce amount of undesirables in fish population. Use larger sized mesh to minimize cross contamination	yes
	Invertebrates	yes	ANS can be harvested that have been inadvertently introduced to the pond through contaminated bait stockings/immigrations	Sort fish carefully during inventory process to reduce amount of undesirables in fish population.	yes
	Plants	no			yes
	Others	yes	Harvested fish may carry pathogens	Test segment of fish population for disease before stocking	yes

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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Task # 7 Fill trucks and distribute fish	Vertebrates	no	Control point already listed in 5,6	n/a	no
	Invertebrates	no	n/a	n/a	no
	Plants	no	n/a	n/a	no
	Others	yes	Truck water and culture equipment vector for diseases	Groundwater used for truck filling, disinfection between trips and fish populations required	yes

Task # 8 Drain/fallow ponds for winter	Vertebrates	yes	no	Judicious use of piscicide, drying and freezing to eliminate unwanted vertebrates	yes
	Invertebrates	yes	no	Use freezing and drying during winter to eliminate unwanted species	yes
	Plants	yes	no	Use freezing and drying during winter to eliminate unwanted species	yes
	Others	yes	no	Use freezing and drying during winter to eliminate unwanted pathogens/alternate crops	yes

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HACCP Step 5 – HACCP Plan Form

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	Monitoring				Evaluation & Corrective Action(s) (if needed)	Supporting Documentation (if any)
			What	How	Frequency	Who		
Receive eggs from other culture facilities/wild sources	Other	Virus can not be disinfected topically with iodophor	Reduce Disease Incidence	Iodophor disinfection Health cert.	Every egg shipment	Staff	Production supervisor	Records in daily capture log book
Drain Ponds/Harvest fish in spring	Vertebrates/Other		Reduce contamination	Sorting	At Harvest	Staff	Production supervisor	
Inventory fish and place in distribution truck	All		Sort out ANS	Large mesh net	Harvest	Staff	Production Supervisor	
	All			Increase water flow	During season	Staff	Production Supervisor	
Fill trucks and distribute fish	Other	Time Constraints	Reduce pathogen spread	Disinfecting trucks and equipment	Between populations	Staff	Production supervisor	
Drain/fallow ponds	All	Ponds fill with groundwater seeps	Eliminate ANS	Piscicide, drying and freezing	Between yearclasses	Staff	Production supervisor	
						Staff	Production Supervisor	
					Activity:			
Address:								
Signature:					Date:			
HACCP Plan was followed.								