Aquatic Nuisance Species
Hazard Analysis and Critical Control Point Plan

Ennis National Fish Hatchery

Rainbow Trout
Egg, Fingerling, and Broodstock Production

December 30, 2003

Activity Description	
Facility: Ennis National Fish Hatchery	Site: Main Hatchery
Project Coordinator: Tom Pruitt	Activity: Rainbow trout (*Oncorhynchus mykiss)* fingerling, egg, and broodstock production.
Site Manager: Tom Pruitt	
Address: 180 Fish Hatchery Road Ennis, Montana 59729	
Phone: 406-682-4847 FAX: 406-682-7635	

Project Description
Ennis NFH is a highly technical, state-of -the-art hatchery that is the largest broodstock facility in the U.S. Fish and Wildlife Service hatchery system. The hatchery annually produces over 20 to 30 million eyed rainbow trout eggs, which are shipped to federal, state, provincial, and tribal hatcheries, research facilities, and universities in over thirty states and provinces. In addition the hatchery provides genetically viable broodstock eggs for state and private hatcheries in the process of developing future rainbow trout broodstock from multiple strains and conducts research into improved hatchery broodstock and spawning technology. Quality fingerling production for conservation agreements to assist with restoration and recovery, ranges from 400,000 to 500,000 fish annually. Many of these fish are stocked into Hebgen, Ruby, and Clark Canyon Reservoirs for Montana Fish Wildlife and Parks in exchange for grayling restoration projects. Each year over 30,000 pounds of retired broodstock are liberated into “Kids” and urban ponds for outreach and education

Hazards: Species Which May Potentially Be Moved/Introduced	
Vertebrates: List Species/Types: Comments:	None
Invertebrates: List Species/Types: Comments:	Tubifex worms (*Tubifex tubifex*) New Zealand Mud Snail (*Potamopyrgus antipodarum)* Tubifex worms are the secondary host of Whirling disease. New Zealand Mud Snails are found in the Madison River within 25 miles of the hatchery.
Plants: List Species/Types: Comments:	None
Other Biologics: List Species/Types: Comments:	Whirling disease (*Myxobolus cerebralis*) Whirling disease infected wild fish are found in Blaine Springs Creek directly below the hatchery and throughout the Madison River.
Others: List Species/Types: Comments:	None

Flow Diagram

Task 1	Eggs are air spawned from six strains of rainbow trout broodstock eleven months of the year.
∇	
Task 2	Eggs are disinfected with iodophor while water hardened out on the raceways, then loaded into incubation jars in the hatchery building.
∇	
Task 3	All jars are treated five days a week with a 1:600 15 minute treatment of formalin and a weekly treatment of Betadine while incubating
∇	
Task 4	When eggs have eyed at 19 days, they are shocked to kill weak eggs and dead eggs are picked off.
∇	
Task 5	Good eyed eggs are shipped to production hatcheries or moved to hatching racks in concrete tanks for production at Ennis. All eggs are disinfected before shipping.
∇	
Task 6	Initial rearing is accomplished in concrete tanks for both production and future broodstock lots of fish, with splitting of tanks accomplished as needed.
∇	
Task 7	All lots of fish are monitored for growth and fish health monthly.
∇	
Task 8	Production fish are loaded into disinfected distribution trucks and liberated into appropriate sites, selected by fisheries managers.
∇	
Task 9	Six broodstock strains are keep separate and reared in 8' x 80' raceways until mature and spawning takes place.
∇	
Task 10	Retired broodstock are liberated into Kid's and urban fish ponds throughout Montana.

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	Vertebrates	No	n/a	n/a	No
	Invertebrates	Yes	In stream below hatchery	Cover raceways	Yes
	Plants	No	n/a	n/a	No
	Others Disease	Yes	In stream below hatchery	Cover raceways	Yes
Task 2	Vertebrates	No	n/a	n/a	No
	Invertebrates	No	n/a	n/a	No
	Plants	No	n/a	n/a	No
	Others Disease	Yes	In stream below hatchery	Disinfectant %	Yes
Task 3	Vertebrates	No	n/a	n/a	No
	Invertebrates	No	n/a	n/a	No
	Plants	No	n/a	n/a	No
	Others Disease	Yes	In stream below hatchery	Disinfectant %	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)
Task 4	Vertebrates	No	No exposure	n/a	No
	Invertebrates	No	No exposure NoexposureNoN	n/a	No
	Plants	No	No exposure	n/a	No
	Others Disease	No	No exposure	n/a	No
Task 5	Vertebrates	No	n/a	n/a	No
	Invertebrates	No	n/a	n/a	No
	Plants	No	n/a	n/a	No
	Others Disease	Yes	Transport disease through egg shipping	Disinfection %	Yes
Task 6	Vertebrates	No	Inside	n/a	No
	Invertebrates	No	Inside	n/a	No
	Plants	No	Inside	n/a	No
	Others Disease	Yes	Exposure potential	Fish culture disinfection procedures	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)
Task 7	Vertebrates	No	n/a	n/a	No
	Invertebrates	No	n/a	n/a	No
	Plants	No	n/a	n/a	No
	Others Disease	No	n/a	n/a	No
Tasks 8 & 10	Vertebrates	No	n/a	n/a	No
	Invertebrates	Yes	Disease transport by trucks	Disinfection %	Yes
	Plants	No	n/a	n/a	No
	Others Disease	Yes	Disease transport by trucks	Disinfection %	Yes
Task 9	Vertebrates	No	Buildings over raceways	Cover raceways	No
	Invertebrates	No	No habitat	Clean raceways	No
	Plants	No	No habitat	Clean raceways	No
	Others Disease	Yes	Densities of fish in raceways	Control densities	Yes

HACCP Plan Form

			Monitoring					
Critical Control Point (CCP)	**Significant Hazard(s)**	**Limits for each Control Measure**	**What**	**How**	**Frequency**	**Who**	**Evaluation & Corrective Action(s) (if needed)**	**Supporting Documentation (if any)**
Taking eggs	Whirling disease	Disease in stream below hatchery	Fish Health inspec-tion	Sixty fish sample	Twice yearly	Bozeman FHC	Buildings covering spring water source and raceways	Fish Health Reports
Disinfecting eggs	"	"	"	"	As eggs are taken	Spawners	All eggs disinfected at spawning	"
Incubating eggs	"	"	"	"	Five days a week	Culturists	Eggs treated in the jars as they incubate	"

Facility: Ennis National Fish Hatchery	**Activity:** Rainbow trout egg, broodstock, and fingerling production.
Address: 180 Fish Hatchery Road Ennis, Montana 59729	
Signature: **HACCP Plan was followed.**	**Date:** December 30, 2003

HACCP Plan Form

			Monitoring					
Critical Control Point (CCP)	**Significant Hazard(s)**	**Limits for each Control Measure**	**What**	**How**	**Frequency**	**Who**	**Evaluation & Corrective Action(s) (if needed)**	**Supporting Documentation (if any)**
Shipping eggs	Whirling disease	Disease in stream below hatchery	Fish Health inspec-tion	Sixty fish sample	Daily	Culturists	All eggs disinfected at shipping	Fish Health Reports
Rearing brood and fingerlings	"	"	"	Inspec-tion	Monthly	Culturists	Monthly sample count and inspection of all lots of fish	"
Fish distribution	"	"	Disin-fection	"	Every trip	Drivers	Disinfect trucks	"

Facility: Ennis National Fish Hatchery	**Activity:** Rainbow trout egg, broodstock, and fingerling production.
Address: 180 Fish Hatchery Road Ennis, Montana 59729	
Signature: **HACCP Plan was followed.**	**Date:** December 30, 2003