

Jackson NFH HACCP Plan

HACCP Step 1 - Activity Description	
Facility: Jackson National Fish Hatchery	Site: Jackson National Fish Hatchery
Project Coordinator: Liz Scriven	Project Description: Rearing and distribution of Snake River cutthroat
Site Manager: Kerry Grande	
Address: 1500 Fish Hatchery Rd Jackson, Wyoming	
Phone: 307-733-2510	

Project Description (Who, What, Where, When, How & Why)
<p>Who: Jackson NFH staff, seasonal volunteers, Bozeman FHC, local anglers, hatchery visitors</p> <p>What: Prevent ANS from entering Jackson NFH facility and production water.</p> <p>Where: Jackson NFH and local stocking waters</p> <p>When: On-going</p> <p>How: Broodstock and production fish are verified WD free by Fish Health Inspection Report. Broodstock are then spawned, eggs collected and incubated for 5 weeks. Fry/small fingerlings are raised inside until density levels reach 0.35. Fish are then moved to outdoor raceways for up to 6 months until stocked in local rivers and lakes. Public fishing opportunities on hatchery grounds are monitored and managed by hatchery staff.</p> <p>Why: If Jackson NFH is found to be ANS positive the entire station will be closed, all fish will be destroyed and the facility will have to be disinfected or rebuilt.</p>

Jackson NFH HACCP Plan

HACCP Step 2 - Potential Hazard Identification	
Vertebrates:	
Invertebrates:	New Zealand Mud Snail, Quagga Mussel
Plants:	Eurasian Water Milfoil
Other Biologics:	whirling disease
Others:	

Jackson NFH HACCP Plan

HACCP Step 3 - Flow Diagram

Task # 1	Spawn hatchery broodstock, take eggs and incubate inside for 5 weeks.
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Task # 2	Rear fry/fingerlings until overall density is too high for circular tanks.
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Task # 3	Rear in raceways until time for stocking.
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Task # 4	Stock production fish in local lakes and streams.
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Task # 5	Manage public fishing opportunities on/near hatchery grounds.
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Jackson NFH HACCP Plan

HACCP Step 4 - Hazard Analysis

Task	Hazard	Probable?	Justification	Control Measures	CCP?
Spawn hatchery broodstock, take eggs and incubate inside for 5 weeks.	Other Biologic: whirling disease	No	Disinfection of eggs through iodine. No vertical transmission from broodstock to progeny.		No
	Plant: Eurasian Water Milfoil	No	No occurrence of EWM yet.		No
	Invertebrate: New Zealand Mud Snail, Quagga Mussel	No	Not yet present.		No
Rear fry/fingerlings until overall density is too high for circular tanks.	Other Biologic: whirling disease	Yes	WD is downstream from hatchery. Visitor traffic increases.	Foot baths and visitor education.	No
	Plant: Eurasian Water Milfoil	Yes	Visitor traffic increases.	Proper cleaning. Observation.	No
	Invertebrate: New Zealand Mud Snail, Quagga Mussel	Yes	Visitor traffic increases.	Proper cleaning. Observation.	No
Rear in raceways until time for stocking.	Other Biologic: whirling disease	Yes	WD is downstream from hatchery. Visitor traffic increases.	Foot baths and visitor education.	Yes
	Plant: Eurasian Water Milfoil	Yes	Visitor traffic increases.	Proper cleaning. Observation.	No
	Invertebrate: New Zealand	Yes	Visitor traffic	Proper cleaning.	No

Jackson NFH HACCP Plan

	Mud Snail, Quagga Mussel		increases.	Observation.	
Stock production fish in local lakes and streams.	Other Biologic: whirling disease	Yes	Unknown WD status of stocking sites. Potential for infected equipment. Fish may be positive.	Disinfect equipment, follow best mgmt practices including separate stocking equipment. Fish health inspection.	Yes
	Plant: Eurasian Water Milfoil	Yes	Potential infected equipment.	Separate stocking equipment. Best mgmt practices.	Yes
	Invertebrate: New Zealand Mud Snail, Quagga Mussel	Yes	Potential infected equipment.	Separate stocking equipment. Best mgmt practices.	Yes
Manage public fishing opportunities on/near hatchery grounds.	Other Biologic: whirling disease	Yes	WD is downstream from hatchery. Visitor traffic increases.	Foot baths. Education. Observation.	Yes
	Plant: Eurasian Water Milfoil	Yes	Potential infected equipment.	Foot baths. Education. Observation.	Yes
	Invertebrate: New Zealand Mud Snail, Quagga Mussel	Yes	Potential infected equipment.	Foot baths. Education. Observation.	Yes

Jackson NFH HACCP Plan

HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 3: Rear in raceways until time for stocking.

Significant Hazards:

Other Biologic: whirling disease

Control Measures:

Foot baths and visitor education.

Limits for Control Measures:

Proper chemical concentration and maintenance.

Monitoring: What?

Foot bath

Monitoring: How?

Visual inspection and scheduled changes.

Monitoring: Frequency?

As needed.

Monitoring: Who?

Station Staff

Evaluation & Corrective Actions:

Deny access

Supporting Documentation: Manufacturer's recommended concentration.

Critical Control Point #2:

Task # 4: Stock production fish in local lakes and streams.

Significant Hazards:

Other Biologic: whirling disease

Control Measures:

Disinfect equipment, follow best mgmt practices including separate stocking equipment. Fish health inspection.

Limits for Control Measures:

Proper chemical concentration and maintenance.

Monitoring: What?

equipment condition and chemical solution

Monitoring: How?

visual inspection

Monitoring: Frequency?

every stocking

Monitoring: Who?

Station staff

Evaluation & Corrective Actions:

remove contaminated equipment, extreme disinfection

Jackson NFH HACCP Plan

Supporting Documentation: Manufacturer's recommended concentration, fish health report

Critical Control Point #3:

Task # 4: Stock production fish in local lakes and streams.

Significant Hazards:

Plant: Eurasian Water Milfoil

Control Measures:

Separate stocking equipment. Best mgmt practices.

Limits for Control Measures:

Proper chemical concentration and maintenance.

Monitoring: What?

equipment condition and chemical solution

Monitoring: How?

visual inspection

Monitoring: Frequency?

every stocking

Monitoring: Who?

Station staff

Evaluation & Corrective Actions:

remove contaminated equipment, extreme disinfection

Supporting Documentation: Manufacturer's recommended concentration, fish health report

Critical Control Point #4:

Task # 4: Stock production fish in local lakes and streams.

Significant Hazards:

Invertebrate: New Zealand Mud Snail, Quagga Mussel

Control Measures:

Separate stocking equipment. Best mgmt practices.

Limits for Control Measures:

Proper chemical concentration and maintenance.

Monitoring: What?

equipment condition and chemical solution

Monitoring: How?

visual inspection

Monitoring: Frequency?

every stocking

Monitoring: Who?

Station staff

Jackson NFH HACCP Plan

<p>Evaluation & Corrective Actions: remove contaminated equipment, extreme disinfection</p>
<p>Supporting Documentation: Manufacturer's recommended concentration, fish health report</p>
<p>Critical Control Point #5: Task # 5: Manage public fishing opportunities on/near hatchery grounds.</p>
<p>Significant Hazards: Other Biologic: whirling disease</p>
<p>Control Measures: Foot baths. Education. Observation.</p>
<p>Limits for Control Measures: Proper disinfection stations and limited exposure</p>
<p>Monitoring: What? proper use of foot baths, no fence jumping</p>
<p>Monitoring: How? observation</p>
<p>Monitoring: Frequency? always</p>
<p>Monitoring: Who? staff, volunteers, anglers</p>
<p>Evaluation & Corrective Actions: Close pond to fishing</p>
<p>Supporting Documentation: Manufacturer's recommended concentration.</p>
<p>Critical Control Point #6: Task # 5: Manage public fishing opportunities on/near hatchery grounds.</p>
<p>Significant Hazards: Plant: Eurasian Water Milfoil</p>
<p>Control Measures: Foot baths. Education. Observation.</p>
<p>Limits for Control Measures: Proper disinfection stations and limited exposure</p>
<p>Monitoring: What? proper use of foot baths, no fence jumping</p>
<p>Monitoring: How? observation</p>

Jackson NFH HACCP Plan

Monitoring: Frequency? always	
Monitoring: Who? staff, volunteers, anglers	
Evaluation & Corrective Actions: Close pond to fishing	
Supporting Documentation: Manufacturer's recommended concentration.	
Critical Control Point #7: Task # 5: Manage public fishing opportunities on/near hatchery grounds.	
Significant Hazards: Invertebrate: New Zealand Mud Snail, Quagga Mussel	
Control Measures: Foot baths. Education. Observation.	
Limits for Control Measures: Proper disinfection stations and limited exposure	
Monitoring: What? proper use of foot baths, no fence jumping	
Monitoring: How? observation	
Monitoring: Frequency? always	
Monitoring: Who? staff, volunteers, anglers	
Evaluation & Corrective Actions: Close pond to fishing	
Supporting Documentation: Manufacturer's recommended concentration.	
Facility: Jackson National Fish Hatchery	Activity: Rearing and distribution of Snake River cutthroat
Address: 1500 Fish Hatchery Rd Jackson, Wyoming	
Signature:	Date:

Jackson NFH HACCP Plan

HACCP Checklist:

Rearing and distribution of Snake River cutthroat

Facility Jackson National Fish Hatchery
Site Jackson National Fish Hatchery
Coordinator Liz Scriven
Manager Kerry Grande
Address 1500 Fish Hatchery Rd, Jackson, Wyoming

- Task # 1: Spawn hatchery broodstock, take eggs and incubate inside for 5 weeks.**
- Task # 2: Rear fry/fingerlings until overall density is too high for circular tanks.**
- Task # 3: Rear in raceways until time for stocking.**
CRITICAL CONTROL POINT
 - Hazards were contained
Hazards: Other Biologic: whirling disease
 - Control measures were implemented
Control Measures: Foot baths and visitor education.
 - Control limits were maintained
Control Limits: Proper chemical concentration and maintenance.
 - Corrective actions were (performed if necessary)
Corrective Actions: Deny access
- Task # 4: Stock production fish in local lakes and streams.**
CRITICAL CONTROL POINT
 - Hazards were contained
Hazards: Other Biologic: whirling disease
 - Control measures were implemented
Control Measures: Disinfect equipment, follow best mgmt practices including separate stocking equipment. Fish health inspection.
 - Control limits were maintained
Control Limits: Proper chemical concentration and maintenance.
 - Corrective actions were (performed if necessary)

Jackson NFH HACCP Plan

Corrective Actions: remove contaminated equipment, extreme disinfection

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Hazards: Plant: Eurasian Water Milfoil
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Control Measures: Separate stocking equipment. Best mgmt practices.
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Control Limits: Proper chemical concentration and maintenance.
- Corrective actions were (performed if necessary)
Corrective Actions: remove contaminated equipment, extreme disinfection

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Hazards: Invertebrate: New Zealand Mud Snail, Quagga Mussel
- Control measures were implemented
Control Measures: Separate stocking equipment. Best mgmt practices.
- Control limits were maintained
Control Limits: Proper chemical concentration and maintenance.
- Corrective actions were (performed if necessary)
Corrective Actions: remove contaminated equipment, extreme disinfection

- Task # 5: Manage public fishing opportunities on/near hatchery grounds.**
CRITICAL CONTROL POINT
 - Hazards were contained
Hazards: Other Biologic: whirling disease
 - Control measures were implemented
Control Measures: Foot baths. Education. Observation.
 - Control limits were maintained
Control Limits: Proper disinfection stations and limited exposure

Jackson NFH HACCP Plan

- Corrective actions were (performed if necessary)
Corrective Actions: Close pond to fishing

- Hazards were contained
Hazards: Plant: Eurasian Water Milfoil
- Control measures were implemented
Control Measures: Foot baths. Education. Observation.
- Control limits were maintained
Control Limits: Proper disinfection stations and limited exposure
- Corrective actions were (performed if necessary)
Corrective Actions: Close pond to fishing

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Hazards: Invertebrate: New Zealand Mud Snail, Quagga Mussel
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Corrective Actions: Close pond to fishing