

Razorback Sucker HACCP Plan

(Hazard Analysis and Critical Control Point)

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1. Product Description

Firm Name:	Willow Beach National Fish Hatchery
Firm Address:	HC 37 PO Box 17 Willow Beach, AZ, 86445
Species of fish:	Razorback Sucker
Cultured, wild harvested, or both:	Cultured
Harvest method:	Crowding, netting, and or seining
Method of distribution and storage:	Raceway reared, distributed by truck
Intended use and consumer:	Restoration and recovery, no consumer

2. Flow Diagram

Step 1	Wild adults are brought into hatchery in February and/or March and spawned
Step 2	Eggs are rolled until hatching is complete
Step 3	Lar vae are reared in aquaria for approximately 2 months
Step 4	Fry are moved to indoor re-use raceways and reared for approximately 3 months
Step 5	Fingerlings are moved to outdoor re-use raceways
Step 6	Fish are fed daily and raceways are cleaned periodically
Step 7	Fish are monitored for growth monthly
Step 8	Fish are split as needed
Step 9	Suckers are harvested to indoor raceways
Step 10	Fish are held in indoor raceways for 48 hours
Step 11	Fish are loaded into distribution tanks
Step 12	Fish are stocked into public waters or transported to other facilities

3. Potential Hazards

List aquatic species here that are found in hatchery water supply or local waters that could potentially hitchhike to receiving waters and cause ecological harm. These are called *Aquatic Nuisance Species (ANS)*.

- a. **ANS Fish:** Includes common carp, striped bass, and red shiner
- b. **ANS Other Vertebrates:** none
- c. **ANS Invertebrates:** Includes snails
- d. **ANS Plants:** Includes algae (*Spyrogyra*)

4. Hazard Analysis Worksheet

(1) Harvest or Aquaculture Step	(2) Identify potential ANS hazards introduced or controlled at this step (1)	(3) Are any potential ANS hazards significant? (Yes/No)	(4) Justify your decisions for column 3.	(5) What preventive measures can be applied to prevent the significant hazards?	(6) Is this step a critical control point? (Yes/No)
1) Wild adults are brought to hatchery in February and/or March and spawned	Fish	No	No ANS can be introduced	n/a	No
	Other Vertebrates	No	at this step	n/a	No
	Invertebrate	No	A	n/a	No
	Plant	No	A	n/a	No
2) Eggs are rolled until hatching is complete	Fish	No	Water passes through UV	n/a	No
	Other Vertebrates	No	sterilizer prior to use	n/a	No
	Invertebrate	No	A	n/a	No
	Plant	No	A	n/a	No
3) Larvae are reared in aquaria for approximately 2 months	Fish	No	Water passes through UV	n/a	No
	Other Vertebrates	No	sterilizer prior to use	n/a	No
	Invertebrate	No	A	n/a	No
	Plant	No	A	n/a	No
4) Fry are moved to indoor re-use raceways and reared for approximately 3 months	Fish	No	Water passes through UV	n/a	No
	Other Vertebrates	No	sterilizer prior to use	n/a	No
	Invertebrate	Yes	ANS could be present	Tanks cleaned daily to remove ANS	No
	Plant	No	A	n/a	No
5) Fingerlings are moved to outdoor re-use raceways	Fish	yes	ANS could be present	Thoroughly clean and dry raceways before fingerlings are introduced	No
	Other Vertebrates	No	Not present in our water supply	n/a	No
	Invertebrate	Yes	ANS could be present	Thoroughly clean and dry raceways before fingerlings are introduced	No
	Plant	yes	A	A	No
6) Fish are fed daily and raceways are cleaned periodically	Fish	No	No ANS can be introduced at	n/a	No
	Other Vertebrates	No	this step	n/a	No
	Invertebrate	No	A	n/a	No
	Plant	No	A	n/a	No
7) Fish are monitored for growth monthly	Fish	No	No ANS can be	n/a	No
	Other Vertebrates	No	introduced at this step	n/a	No
	Invertebrate	No	A	n/a	No
	Plant	No	A	n/a	No
8) Fish are split as needed	Fish	Yes	ANS could be present	No preventative measures	No
	Other Vertebrates	No	at this step	can be applied at this step	No
	Invertebrate	Yes	A	A	No
	Plant	Yes	A	A	No
9) Suckers are harvested to indoor raceways	Fish	Yes	ANS could be present	Use proper size mesh seine to grade out smaller ANS	Yes
	Other Vertebrates	No	Not present in our water supply	n/a	No

(1) Harvest or Aquaculture Step	(2) Identify potential ANS hazards introduced or controlled at this step (1)	(3) Are any potential ANS hazards significant? (Yes/No)	(4) Justify your decisions for column 3.	(5) What preventive measures can be applied to prevent the significant hazards?	(6) Is this step a critical control point? (Yes/No)
	Invertebrate	Yes	A	Visually pick out larger ANS	Yes
	Plant	Yes	A	A	Yes
10) Fish are held in indoor raceways for 48 Hours	Fish	Yes	ANS could have gotten by previous step	Hand pick to remove	Yes
	Other Vertebrates	No	Not present in our water supply	n/a	No
	Invertebrate	Yes	ANS could have gotten by previous step	Proper flow will push non-mobile ANS to rear screen	Yes
	Plant	Yes	A	and can easily be picked out	Yes
11) Fish are loaded into distribution tanks	Fish	No	Well water is used for filling	n/a	No
	Other Vertebrates	No	tanks and previous screenings	n/a	No
	Invertebrate	No	have removed any	n/a	No
	Plant	No	potential hazards	n/a	No
12) Fish are stocked into public waters or transported to other facilities	Fish	No	No ANS can be	n/a	No
	Other Vertebrates	No	introduced or is present	n/a	No
	Invertebrate	No	at this step	n/a	No
	Plant	No	A	n/a	No

5. HACCP Plan Form

(1) Critical Control Point (CCP)	(2) Significant Hazard(s)	(3) Control Measures	Monitoring				(8) Corrective Actions(s)	(9) Records	(10) Verification
			(4) What	(5) How	(6) Frequency	(7) Who			
9) Suckers are harvested to indoor raceways	Fish, invertebrates, and plants	Use largest mesh size net and seine that is practical. Remove any ANS seen during harvest	Ensure that nets and seine allow escape of small ANS, and hand-pick larger ANS	Equipment preparation and visual alertness during harvest	Before, during, and after harvest	Hatchery employees	Sort with larger net and seine if existing one is inadequate	Records of ANS to be kept in hatchery log book.	Hatchery Manager to review records and ensure that measures are taken
10) Fish are held in indoor raceways for 48 Hours	Fish, invertebrates, and plants	Hold fish in high flow raceway. Siphon and net out plant fragments and non-target fish species. Conduct a visual sort	Ensure that non-target species are removed from raceway prior to loading.	Visual inspection	When fish first placed in raceway, while creatures are disoriented. Again after 24 hours when flow has pushed non-mobiles to screen.	Hatchery employees	Hold longer, repeat process. Grade fish if necessary and will not induce too much stress.	Hatchery log and trip record.	Hatchery Manager to review records and ensure that measures are taken

Firm Name: Willow Beach National Fish Hatchery	Species of Fish: Razorback sucker
Firm Address: HC 37 PO Box 17 Willow Beach, AZ, 86445	Method of Storage and Distribution: Indoor and outdoor raceways, and distribution truck
Signature:	Intended Use and Consumer: Restoration and recovery
Date:	