Edenton National Fish Hatchery

Phase II Striped Bass HACCP Plan

Updated 11/18/05

Step 1 – Activity Description

Activity Description		
Project Leader:	Stephen Jackson	
Address:	1102 W. Queen St Edenton, NC 27932	Activity: Fisheries
Phone:	(252) 482-4118	

Project Description
Edenton NFH was authorized by Congress (71 Stat 264-July 7,1898) with the specific purpose of rearing warm water fish. The hatchery consists of approximately 63.59 acres of fee-title land. There are 36 ponds covering 25 acres of water. The hatchery has a public aquarium, and two fish holding/spawning facilities. A handicapped accessible boardwalk is in place and winds through a portion of bottomland hardwood forest terminating in a fishing pier for use by special needs persons. Water for production comes from a creek pump which delivers 1500 gals/min from Pembroke Creek; a deep well (600') delivers 600 gal/ min of saline water (3PPT). The holding house-spawning building receives fresh water from a well (200') at 400 gal/min.

Step 2 – Identify Potential Hazards

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

Hazards: Species Which May Potentially Be Moved/Introduced
Vertebrates: Non-target fish species (various minnows, sunfishes, temperate basses, herrings, suckers, catfishes, and perches), amphibians, turtles
Invertebrates: Various pond shrimp species, crayfish, aquatic insects
Plants: Various algaes and water plants
Other Biologics (e.g. disease, pathogen, parasite):
Others (e.g. construction materials, etc.):

Step 3 – Flow Diagram

Flow Diagram Outlining Sequential Tasks to Complete Activity/Project
Described in HACCP Step 1 – Activity Description

Task 1	Ponds are filled
⇓	
Task 2	Striped bass from Phase I production are stocked into ponds
⇓	
Task 3	Fish are monitored and water added to ponds as needed
⇓	
Task 4	Phase II striped bass are harvested to raceways approx 24 hours before stocking
⇓	
Task 5	Bass are sample counted
⇓	
Task 6	Distribution trucks are filled and fish are loaded
⇓	
Task 7	Striped bass are stocked into receiving waters
⇓	
Task 8	
⇓	
Task 9	
⇓	
Task 10	

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)
Task 1 Ponds are filled	Vertebrates Non-target fish species	No	Ponds are only filled with well water		No
	Invertebrates	No	Species are already in ponds, even when dry		
	Plants	No	Species are already in ponds, even when dry		
	Others	No			
Task 2 Striped bass from Phase I production are stocked into ponds	Vertebrates	Yes	Only if species get through Phase I Haccp Plan	Fish are graded and any non-targets removed before stocking	Yes
	Invertebrates	No	Species are already in ponds, even when dry		
	Plants	No	Species are already in ponds, even when dry		
	Others	No			

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)
Task 3 Fish are monitored and water added to ponds as needed	Vertebrates Non-target fish species	No	Only well water is used to keep ponds filled.		No
	Invertebrates	No	Already in ponds		
	Plants	No	Already in ponds		
	Others	No			
Task 4 Phase II striped bass are harvested to raceways approx 24 hours before stocking	Vertebrates Non-target fish species, Amphibians, Turtles	Yes	Fish may be netted out of ponds along with striped bass.	Hand pick out non target species seen during harvest and in the harvest truck	No
	Invertebrates Various pond shrimp species, Aquatic insects	Yes	Animals may be netted out of ponds along with striped bass.	Hand pick out non target species seen during harvest and in the harvest truck	
	Plants Various algaes and water plants	Yes	Plants/fragments may be netted out of ponds along with striped bass.	Hand pick out non target species seen during harvest and in the harvest truck	
	Others	No			

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)
Task 5 Bass are sample counted	Vertebrates	Yes	Vertebrates missed in task 4 could still be in tanks	Hand pick non-target species, and give a salt treatment to STB	No
	Invertebrates	Yes	Invertebrates missed in task 4 could still be in tanks	Hand pick non-target species, and give a salt treatment to STB	
	Plants	Yes	Plants/fragments missed in task 4 could still be in tanks	Hand pick non-target species, and give a salt treatment to STB	
	Others	No			
Task 6 Distribution trucks are filled and bass are loaded	Vertebrates	No	Vertebrates missed in task 5 could still be in tanks	Hand pick non-target species, and load fish in salt bath	No
	Invertebrates	No	Invertebrates missed in task 5 could still be in tanks	Hand pick non-target species, and load fish in salt bath	
	Plants	No	Plants/fragments missed in task 5 could still be in tanks	Hand pick non-target species, and load fish in salt bath	
	Others	No			

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)
Task 7 Striped bass are stocked into receiving waters	Vertebrates	No	Crop should have already been cleared of any potential problems		No
	Invertebrates	No	Crop should have already been cleared of any potential problems		
	Plants	No	Crop should have already been cleared of any potential problems		
	Others	No			
Task 8	Vertebrates				
	Invertebrates				
	Plants				
	Others				

Step 5 – HACCP Plan Form

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)**
Task 2	Non-target fish species	Zero tolerance	Grading	Checked visually	Before stocking	All staff	When grading Phase I STB, remove any ANS by hand.	

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Address: 1102 W. Queen St Edenton, NC 27932 (252) 482-4118	
Signature: **S. C. Jackson, Project Leader**	**Date:**