

Arcata Fish and Wildlife Office
Tidewater Goby (*Eucyclogobius newberryi*) Recovery
Hazard Analysis Critical Control Point Plan
Tidewater Goby Surveys

Last Revised July 2007



HACCP Step 1 - Activity Description

Facility: Arcata Fish and Wildlife Office	Site: Coastal/Brackish water Habitat
Field Supervisor: Michael Long	Project Description: Seining, trawling, dip-netting, and trapping for tidewater goby
Project Coordinator: Greg Goldsmith	
Address: 1655 Heindon Road Arcata, California 95521	
Phone: 707-822-7201	

Project Description (Who, What, Where, When, How & Why)

The Arcata Fish and Wildlife Office staff conducts surveys for the tidewater goby (*Eucyclogobius newberryi*) within the northern California counties of Del Norte, Humboldt, and Mendocino. The surveys are accomplished using seines, trawls, minnow traps, dip nets, as well as water quality monitoring instruments, deployed both from shore and from small boats. The surveys are conducted in brackish water coastal estuarine habitats. Surveys are typically conducted from July 1 to October 31, based on the approved presence/absence survey protocol in the recovery plan for the species. Surveys may occasionally be conducted outside this period. Surveys are conducted for purposes of accomplishing recovery goals 1 and 2 in the recovery plan, as well as for section 7 consultation, and additional research.

HACCP Step 2 - Potential Hazard Identification

Vertebrates:

exotic gobies
centrarchid fishes
Gambusia affinis
Pimephales promelas

Invertebrates:

Cryptocotyle lingua
various mollusc species

Plants:

Spartina densiflora

Other Biologics:

Kabatana newberryi

Others:

Small amounts of petroleum waste compounds (from sediments)

HACCP Step 3 - Flow Diagram

Task # 1	Gather equipment and load vehicle/boat
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Task # 2	Drive to survey site
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Task # 3	Walk/boat to sample location
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Task # 4	conduct surveys using seines, dip nets, trawls, traps, water quality instruments
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Task # 5	Crew and gear travel to next site (repeat steps 2-5) or office
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Task # 6	Clean and store boat and gear
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HACCP Step 4 - Hazard Analysis

1 Tasks (from HACCP Step 3 - Flow Diagram)	2 Potential hazards identified in HACCP Step 2	3 Are any potential hazards significant? (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 Gather equipment and load vehicle/boat	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	No	Equipment is cleaned after previous use in Task 5		
	Invertebrates Cryptocotyle lingua, mollusc species,	No	Equipment is cleaned after previous use in Task 5		
	Plants Spartina densiflora	No	Equipment is cleaned after previous use in Task 5		
	Other Biologics Kabatana newberryi	No	Equipment is cleaned after previous use in Task 5		
	Others Petroleum waste compounds	No	Equipment is cleaned after previous use in Task 5		

Task 2 Drive to survey site	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	No	Equipment is cleaned after previous use in Task 5		
	Invertebrates Cryptocotyle lingua, mollusc species,	No	Equipment is cleaned after previous use in Task 5		
	Plants Spartina densiflora	No	Equipment is cleaned after previous use in Task 5		
	Other Biologics Kabatana newberryi	No	Equipment is cleaned after previous use in Task 5		
	Others Petroleum waste compounds	No	Equipment is cleaned after previous use in Task 5		

HACCP Step 4 – 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 significant? (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 3 Walk/boat to sample location	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	No	Equipment is cleaned after previous use in Task 5		
	Invertebrates Cryptocotyle lingua, mollusc species,	No	Equipment is cleaned after previous use in Task 5		
	Plants Spartina densiflora	No	Equipment is cleaned after previous use in Task 5		
	Other Biologics Kabatana newberryi	No	Equipment is cleaned after previous use in Task 5		
	Others Petroleum waste compounds	No	Equipment is cleaned after previous use in Task 5		

Task 4 conduct surveys using seines, dip nets, trawls, traps, water quality instruments	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	No	Equipment is cleaned after previous use in Task 5		
	Invertebrates Cryptocotyle lingua, mollusc species,	No	Equipment is cleaned after previous use in Task 5		
	Plants Spartina densiflora	No	Equipment is cleaned after previous use in Task 5		
	Other Biologics Kabatana newberryi	No	Equipment is cleaned after previous use in Task 5		
	Others Petroleum waste compounds	No	Equipment is cleaned after previous use in Task 5		

HACCP Step 4 – 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 significant? (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 5 Crew and gear travel to next site or office	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	Yes	Equipment from previous site could be contaminated	Use a different clean dry seine, dip nets, and buckets at each new site, clean waders with a nylon brush and water with a dilute (0.5% - 1%) bleach solution	Yes
	Invertebrates Cryptocotyle lingua, mollusc species,	Yes	Equipment from previous site could be contaminated	Use clean dry seines, dip nets, and buckets	Yes
	Plants Spartina densiflora	Yes	Equipment from previous site could be contaminated	Use clean dry seines, dip nets, and buckets	Yes
	Other Biologics Kabatana newberryi	Yes	Equipment from previous site could be contaminated	Use clean dry seines, dip nets, and buckets	Yes
	Others Petroleum waste compounds	Yes	Equipment from previous site could be contaminated	Use clean dry seines, dip nets, and buckets	Yes

Task 6 Clean and store boat and gear	Vertebrates exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas	No	Equipment is cleaned after previous use in step 6		
	Invertebrates Cryptocotyle lingua, mollusc species,	No	Equipment is cleaned after previous use in step 6		
	Plants Spartina densiflora	No	Equipment is cleaned after previous use in step 6		
	Other Biologics Kabatana newberryi	No	Equipment is cleaned after previous use in step 6		
	Others Petroleum waste compounds	No	Equipment is cleaned after previous use in step 6		

HACCP Step 5 - HACCP Plan

Critical Control Point #1:

Task # 5: Crew and gear travel to next site or office

Significant Hazards:

exotic gobies, centrarchid fishes, Gambusia affinis, Pimephales promelas, Cryptocotyle lingua, mollusc species, Spartina densiflora, Kabatana newberryi, Petroleum waste compounds

Control Measures:

Use new clean dry seines, dip nets, buckets, and clean waders

Limits for Control Measures:

Use clean nets and buckets for each new site

Monitoring: What?

seine nets, dip nets, buckets

Monitoring: How?

Visually

Monitoring: Frequency?

prior to use at each site

Monitoring: Who?

Field Crew

Evaluation & Corrective Actions:

Remove any identified hazards from sampling equipment. Visually inspect and re-clean until all identified hazards are removed.

Supporting Documentation:

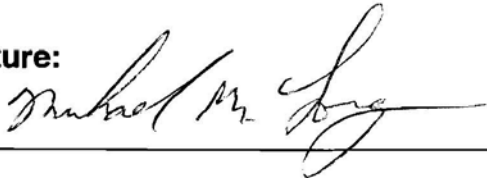
Facility: Arcata Fish and Wildlife Office

Address: 1655 Heindon Road, Arcata, CA 95521

Activity/Management Objective: Conducting field surveys for the tidewater goby without transferring invasive and non-target species.

This HACCP Plan is in use and will be adhered to.

Signature:



Date:

7/15/07