



Over 25 years of
Research and Education

Summer Camp 2010

Nisqually Reach Nature Center





A big thanks to...





Summer Camp 2010



Nisqually ^{33 cm} Shore Crab Survey

Recorder: SC SHF

SURVEY # 1-4

Habitat Information: Station #

Location: Lurch beach

Type of Habitat: Rock

Date: 6/21/08

Weather: overcast

Time: 1:10 pm

Tide: -.5 FT

Question: What is the proportion of ♂ vs. ♀ on Lurch beach -
above habitat

Nisqually Reach Nature Center
Surveys at the Beach
Crab, Fish, Bivalve, Plankton and
Birds

♂ (Male)	Size	Notes
Total # of males =	Total size of males =	
♀ (Female)	Size	Notes
Total # of females =	Total size of females =	



Summer Camp 2010

Crab Surveys

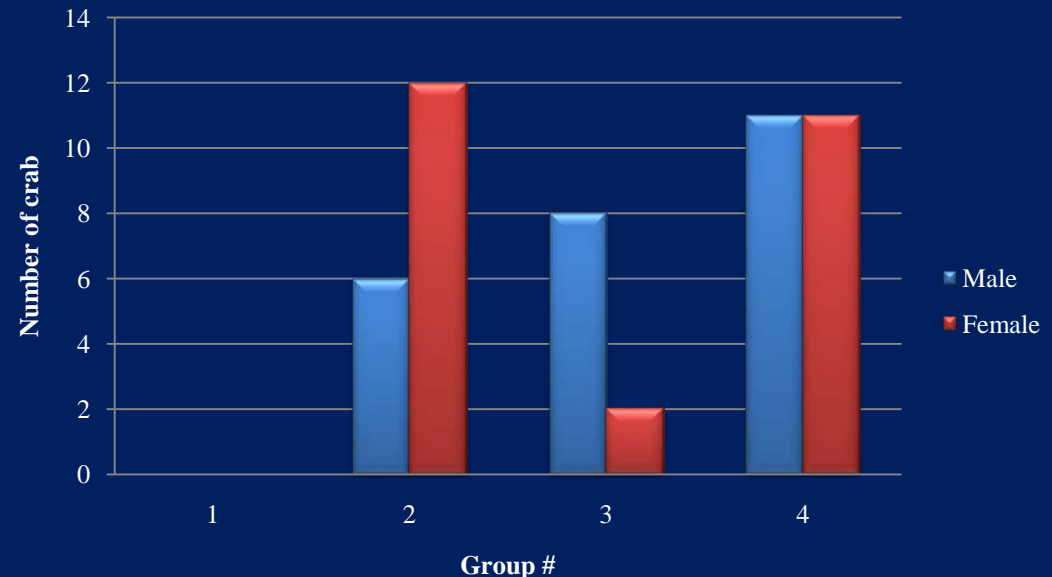




Date: 7/12/10
Time: 3:00 pm
Weather: Sunny 71.6 F
Tide: 1.4 ft, Incoming

- 4 Survey quadrants were distributed across rocky habitat on Luhr Beach
- crabs were collected from within the quadrant, sexed and counted
- of the 50 total crabs, 4 were gravid (pregnant)
- no crabs were collected by group 1 – group noted there was little seaweed present

Session 2 Shore Crab Survey

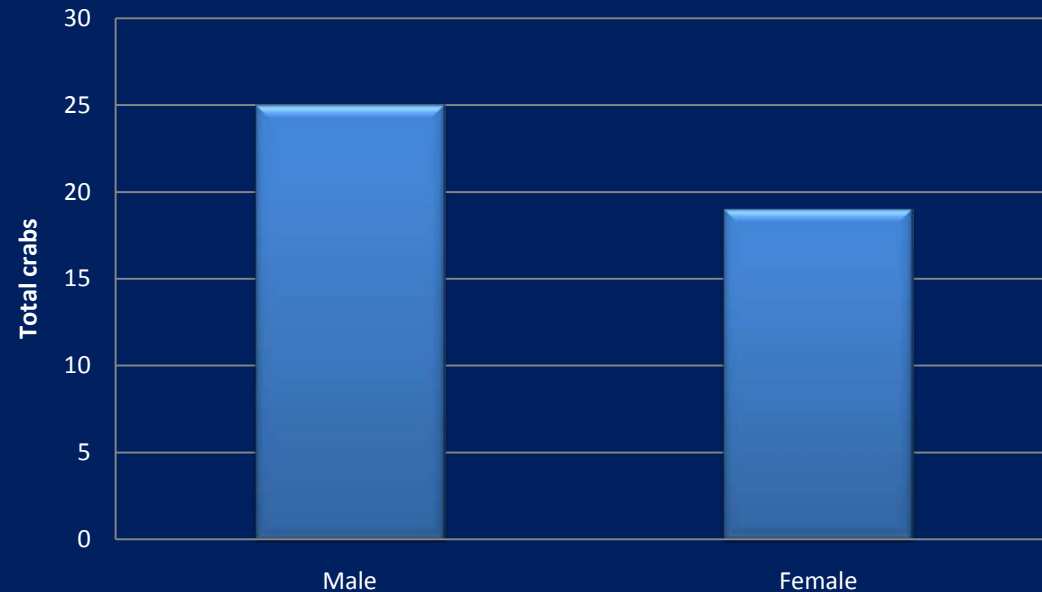




Date: 7/26/10
Time: 2:30 pm
Weather: Sunny 79.3 F
Tide: 1.3 ft, Incoming

- 4 Survey quadrants were distributed across rocky habitat on Luhr Beach
- crabs were collected from within the quadrant, sexed and counted

Session 3 - Total Shorecrab Count



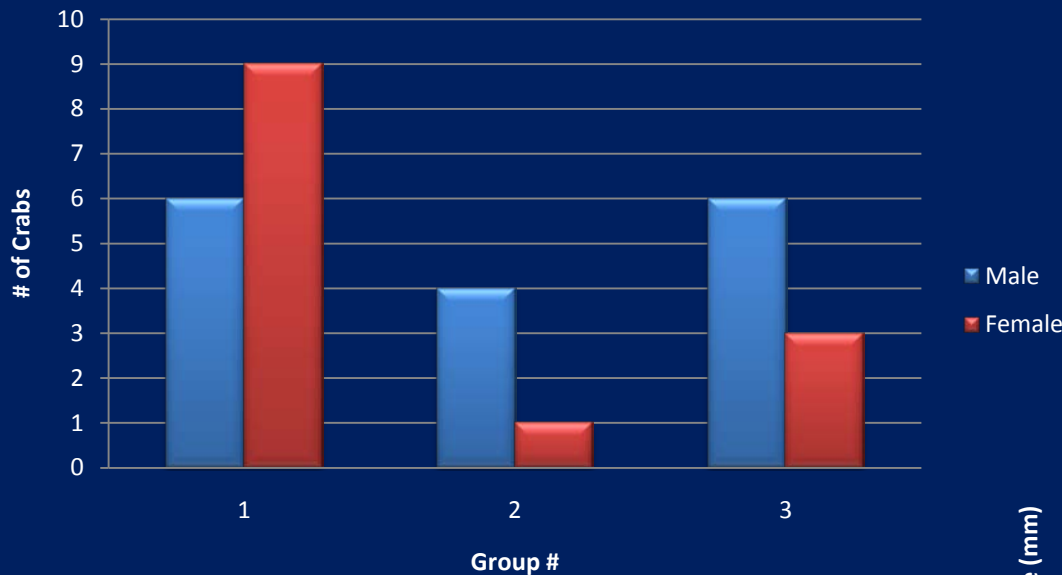


Date: 8/9/10
 Time: 2:00 pm
 Weather: Cloudy
 Tide: 2.1 ft, Incoming

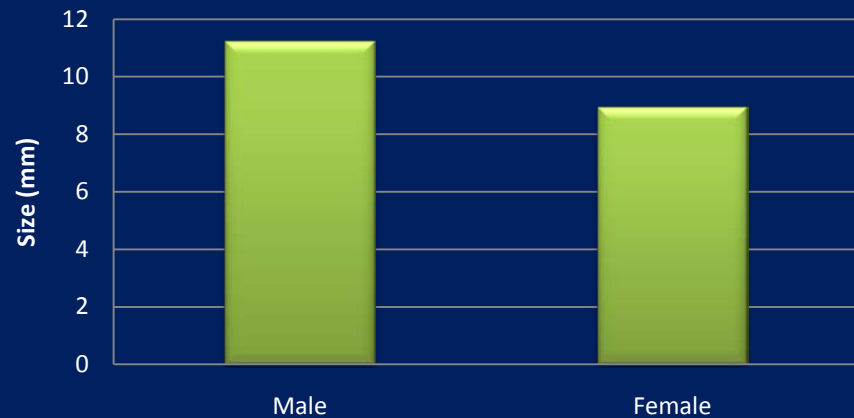
Session 4 - Crab Survey

- 3 Survey quadrants were distributed across rocky habitat on Luhr Beach

- crabs were collected from within the quadrant, sexed and counted



Session 4 - Average Crab size (mm)





Bivalve Surveys





Date: 6/29/10

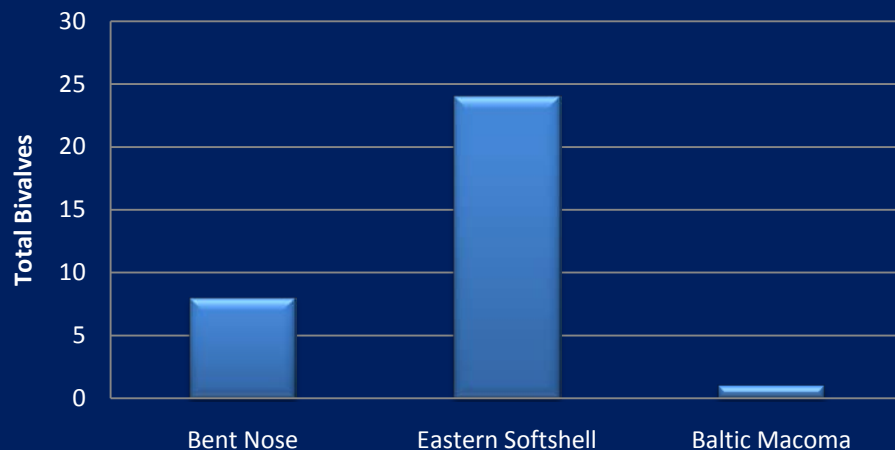
Time: 3:05 pm

Weather: Partly Sunny 67.5 F

Tide: -0.5 ft, Outgoing

- 4 Survey quadrants were distributed across muddy habitat on Luhr Beach

Session 1 - Total Bivalves

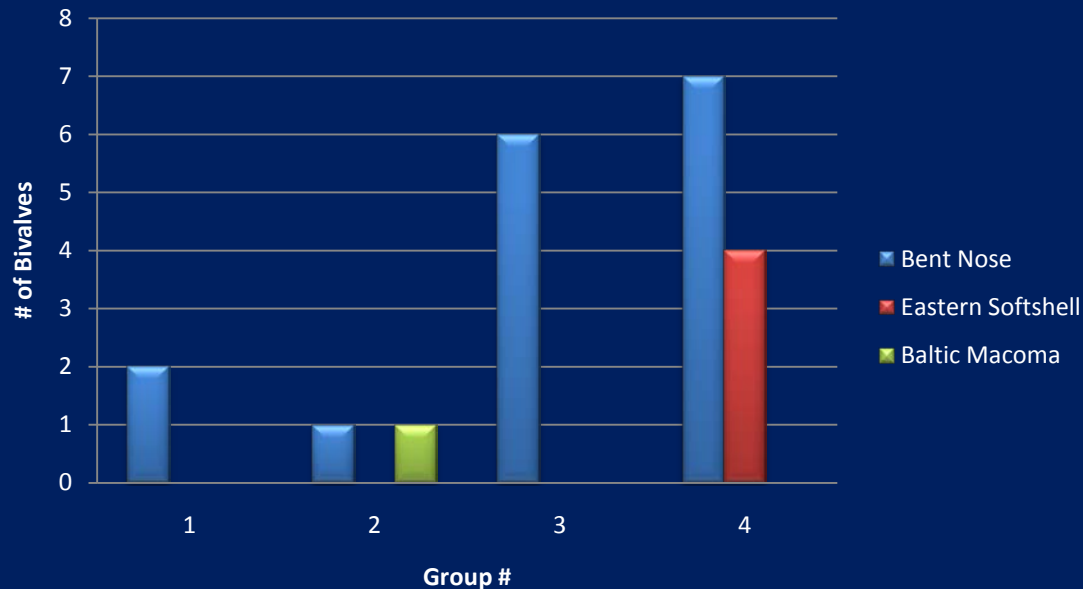


- a hole was dug 10-12 in deep, clams and other invertebrates were collected
- outliers such as worms, barnacles and ghost shrimp were also found
- a total of 8 ghost shrimp were found, 1 was gravid (pregnant)



Date: 7/13/10
Time: 3:00 pm
Weather: Sunny 71.6 F
Tide: -0.4 ft, Incoming

Session 2 - Bivalve Survey



- 4 Survey quadrants were distributed across muddy habitat on Luhr Beach

- a hole was dug 10-12 in deep, clams and other invertebrates were collected

- outliers such as worms, ghost shrimp, a periwinkle and a live moon snail were also found

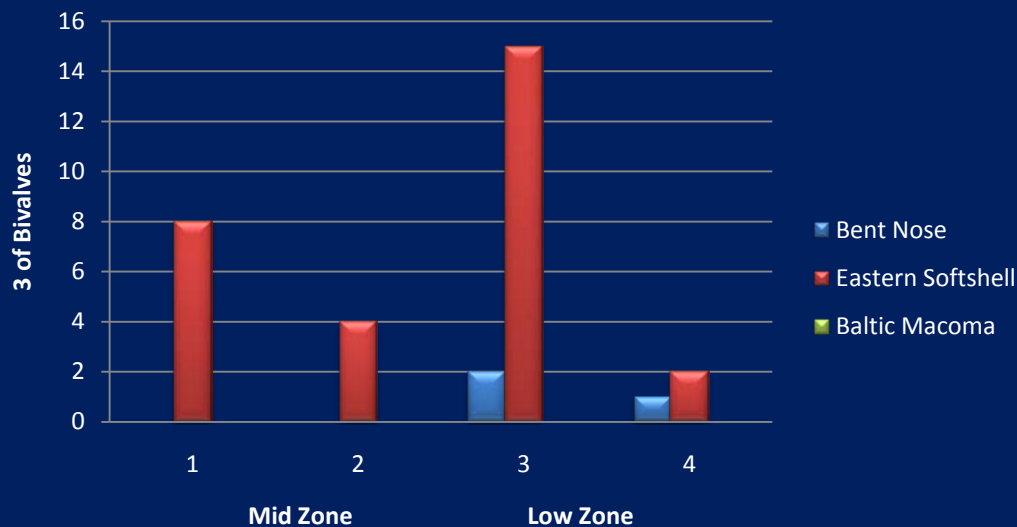
- Group 3 found the moon snail, along with 52 shells, 12 had been drilled



Date: 7/27/10
 Time: 3:00 pm
 Weather: Sunny
 Tide: 1.6 ft, Incoming

- 4 Survey quadrants were distributed across muddy habitat on Luhr Beach
- a hole was dug 10-12 in deep, clams and other invertebrates were collected

Session 3 - Bivalve Survey



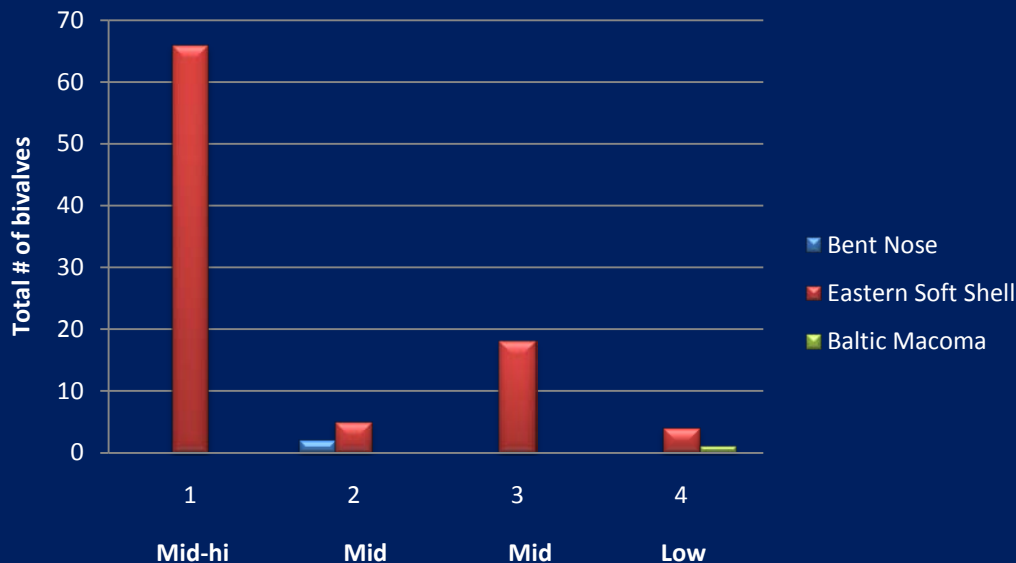
- outliers such as worms, ghost shrimp, barnacles, and various shells were found (in group 4, most were drilled by moon snail)
- note that in this session, Eastern soft shells were widely distributed across zones, whereas bent nose were not



Date: 8/10/10
 Time: 1:45 pm
 Weather: Partly Sunny 68.0 F
 Tide: -0.3 ft, Incoming

- 4 Survey quadrants were distributed across muddy habitat on Luhr Beach

Session 4 - Bivalve Survey



- a hole was dug 10-12 in deep, clams and other invertebrates were collected

- outliers such as worms and ghost shrimp

- Group 1 set a record for the largest number of bivalves discovered in 1 quadrant, most were juvenile



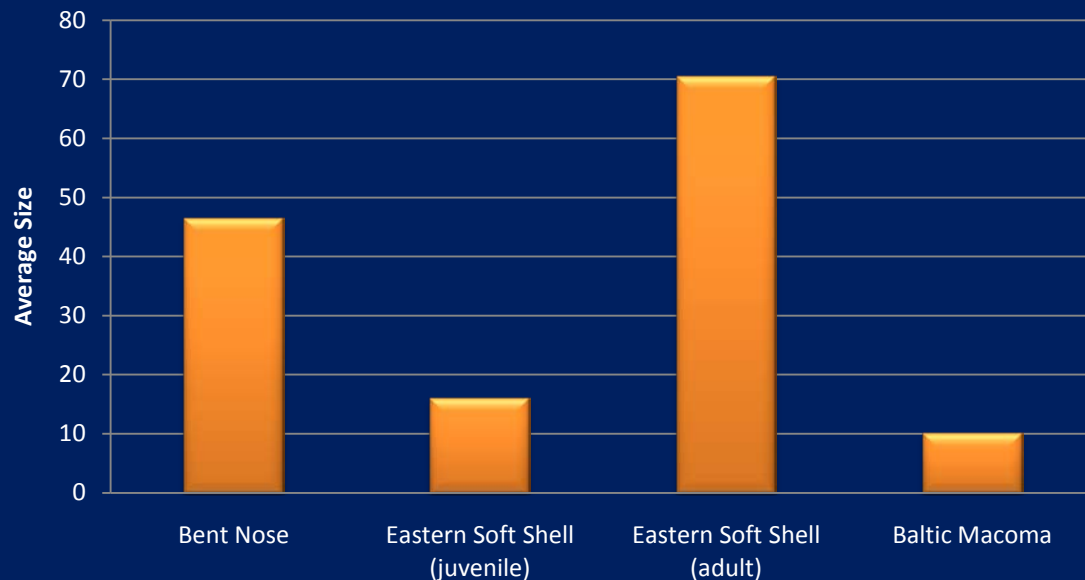
Date: 8/10/10

Time: 1:45 pm

Weather: Partly Sunny 68.0 F

Tide: -0.3 ft, Incoming

Average Size of Bivalves (Session 4)





Fish Seining



Session 1 - Seine Survey

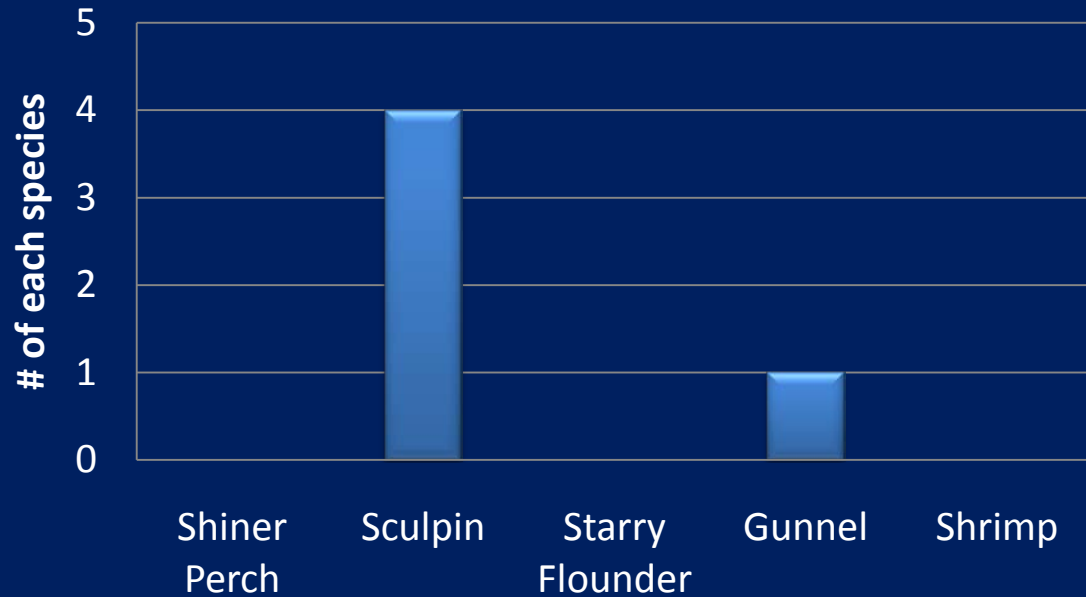
Date: 6/30/10

Time: 2:30 pm

Weather: Cloudy, 65.8 F

Tide: -0.5 ft, Incoming

- a 40 ft seine net was set from the shore against a strong prevailing current Mud/ Sand Silt





Session 2 - Seine Survey

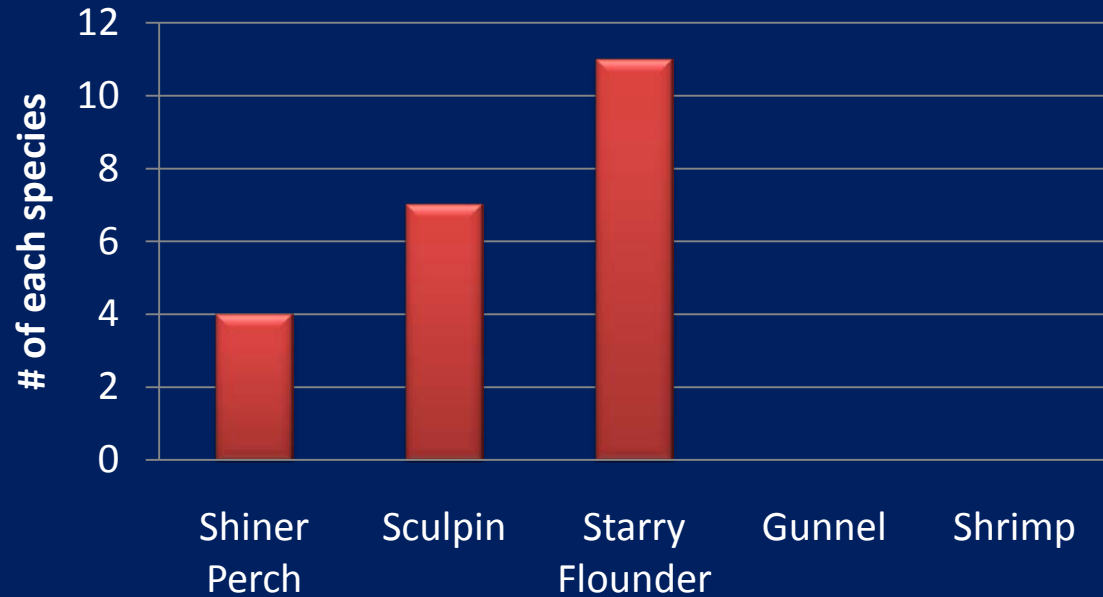
Date: 7/14/10

Time: 2:30 pm

Weather: Sunny, 75.6 F

Tide: -1.7 ft, Outgoing

- a 40 ft seine net was set from the shore against the prevailing current
a muddy/eelgrass habitat

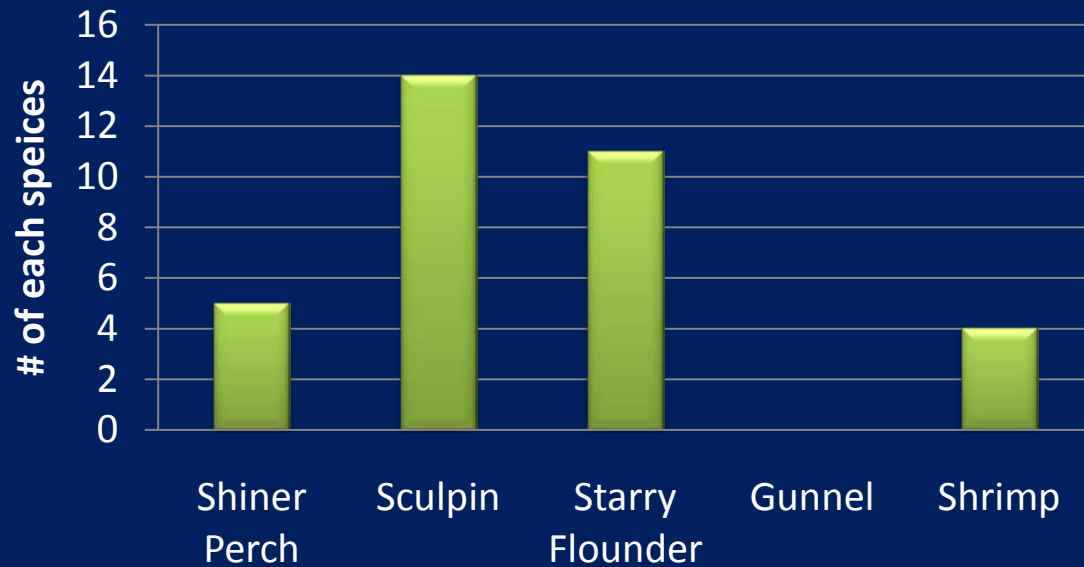




Session 3 - Seine Survey

Date: 7/28/10
Time: 2:00 pm
Weather: Sunny
Tide: 0.0 ft, slack

- a 40 ft seine net was set from the shore against the prevailing current in a muddy/eelgrass habitat





1st Seine Set

Date: 8/11/10

Time: 2:00 pm

Weather: Sunny

Tide: -0.5 ft, Incoming

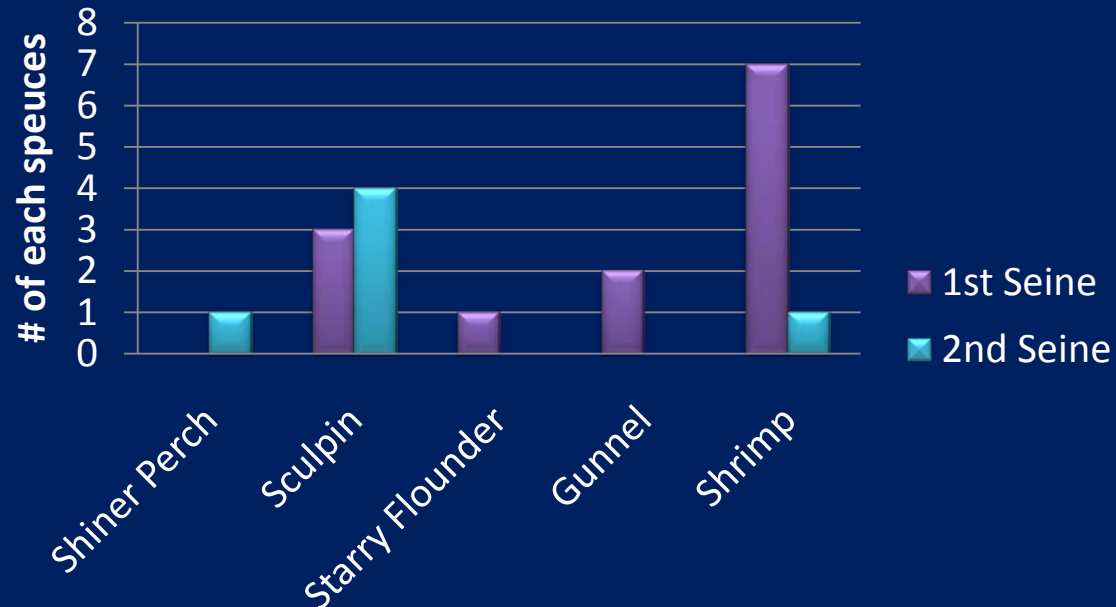
2nd Seine Set

Time: 2:19 pm

Tide: 0.3 ft, Incoming

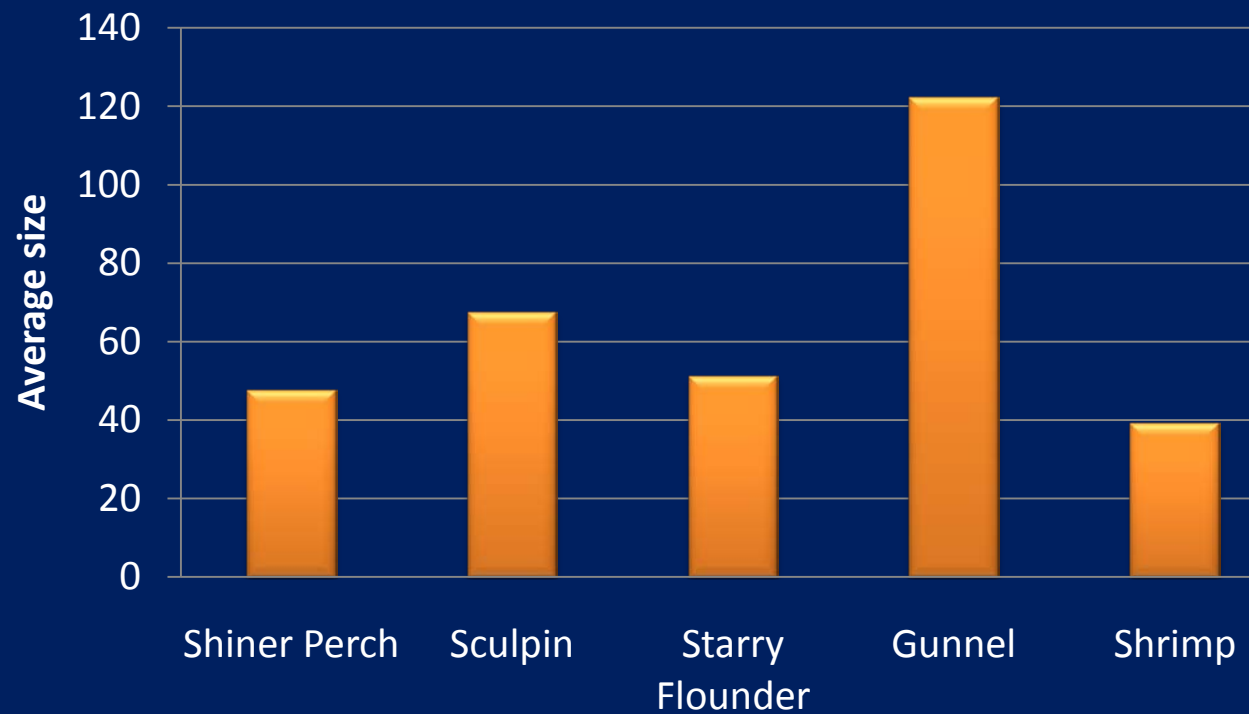
- a 40 ft seine net was set from the shore against the prevailing current in a muddy/eelgrass habitat

Session 4 - Seine Survey





Average Size - Summer 2010



Plankton: not just a character on SpongeBob

Counselors teach the students about the world of plankton and the use of microscopes





NEW: Purple Martin Behavioral Studies

This year we introduced behavioral surveys with our resident purple martins





Space: The Final Frontier

Students get a lesson in the importance of space in habitat





A Close Encounter...

Up close and personal with
some aquatic species





Free Time

Time to explore the beach!



Free Time





The Totem of thanks Circle

We ended each day of camp by sharing one thing that for which we were thankful.



NISQUALLY REACH AQUATIC RESERVE

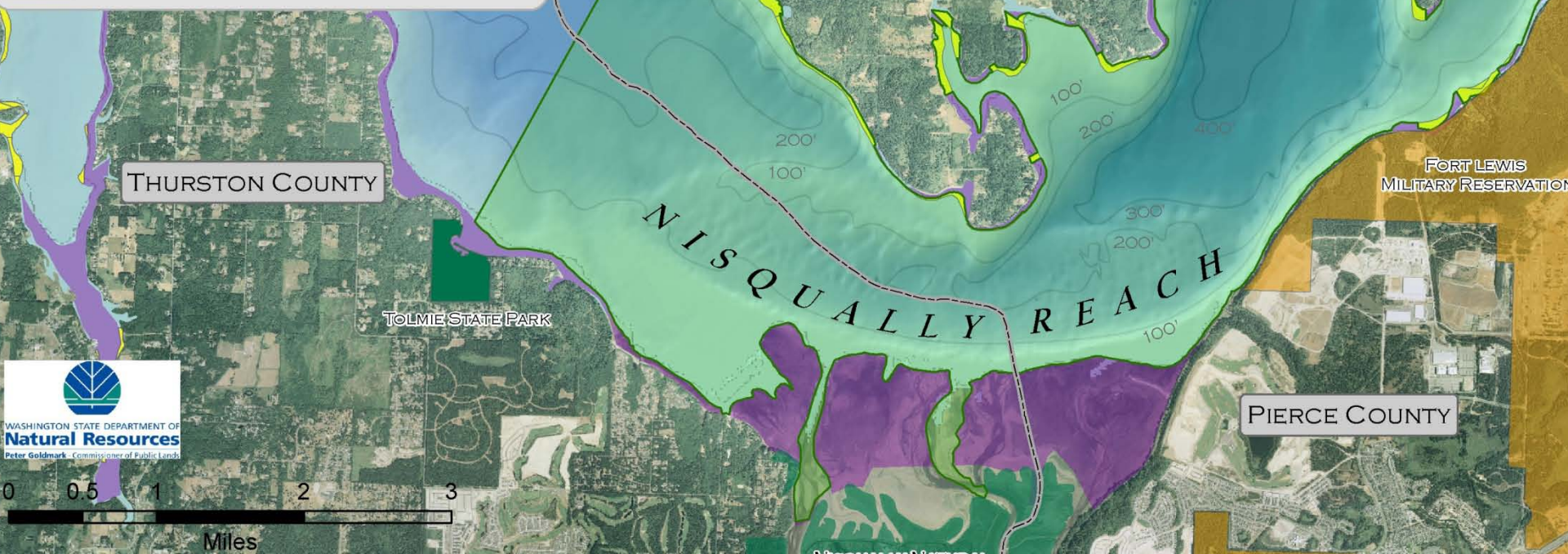
LEGEND

-  PROPOSED AQUATIC RESERVE BOUNDARY
INCLUDES ALL STATE-OWNED DNR
MANAGED TIDELANDS AND BEDLANDS
-  NON DNR MANAGED AQUATIC TIDELANDS
-  STATE-OWNED DNR MANAGED AQUATIC
TIDELANDS
-  COUNTY BOUNDARY

DEPTH

 1 FT

 550 FT



Proposed Nisqually Reach Aquatic Reserve



WASHINGTON STATE DEPARTMENT OF
Natural Resources

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