

INDIAN ISLAND 2013



**Looking to the past
and the future**

An aerial photograph of a small, rocky island in the middle of a dark blue sea. The island is covered with sparse, low-lying vegetation in shades of green and brown. The surrounding water shows varying depths, with a lighter greenish-brown area near the island's base, likely representing a meadow or inter-tidal zone. The entire image is set against a dark green background.

Rocky inter-tidal

Terrestrial

Eelgrass meadow

Beach



r-tidal/

- Crab abundance
- Invertebrate diversity
- Midshipman abundance



Eelgrass meadows

- Eelgrass density
- Pipefish abundance
- Fish species diversity



- Bivalve composition
- Bivalve toxic loading
- Plankton blooms

Beach

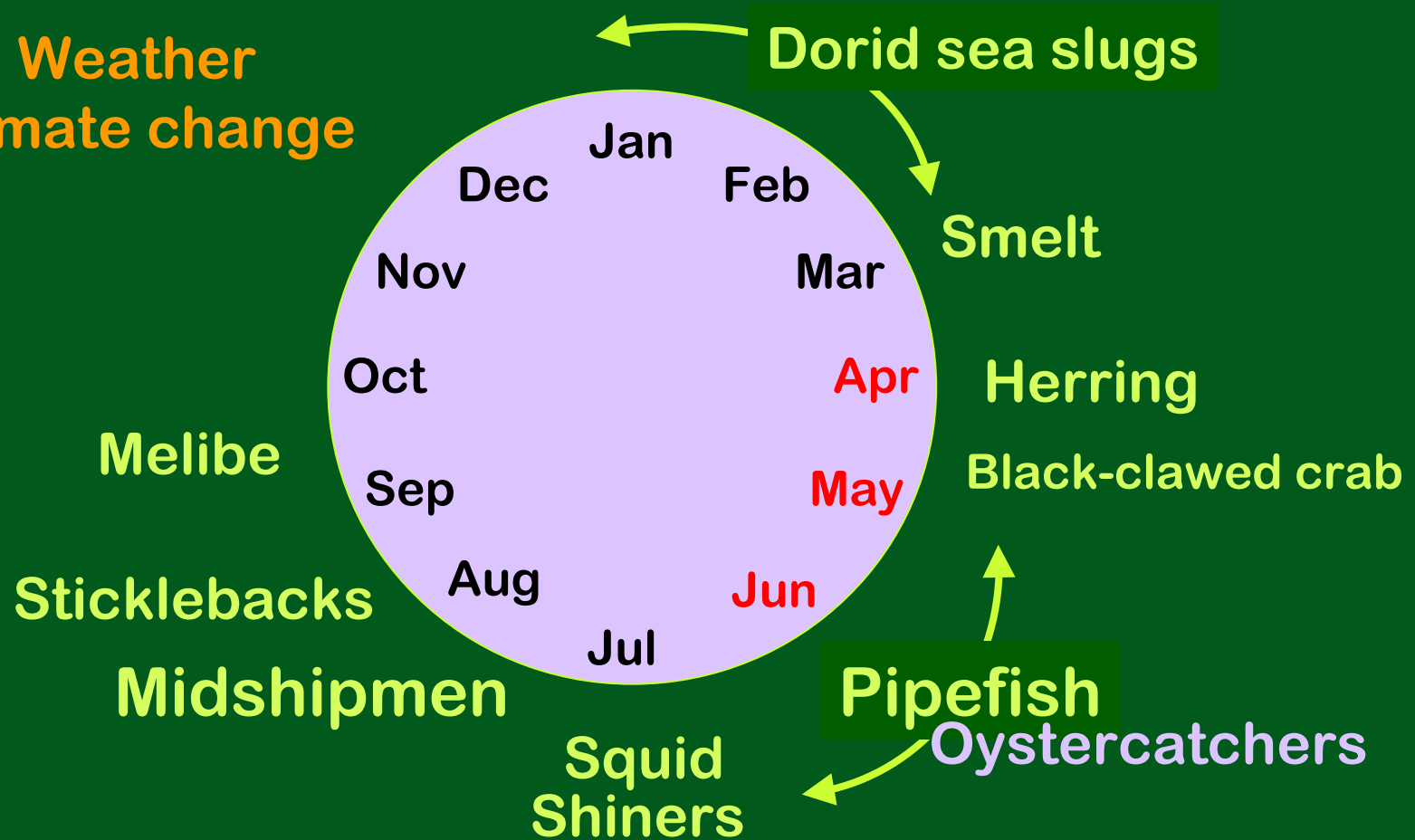


Terrestrial

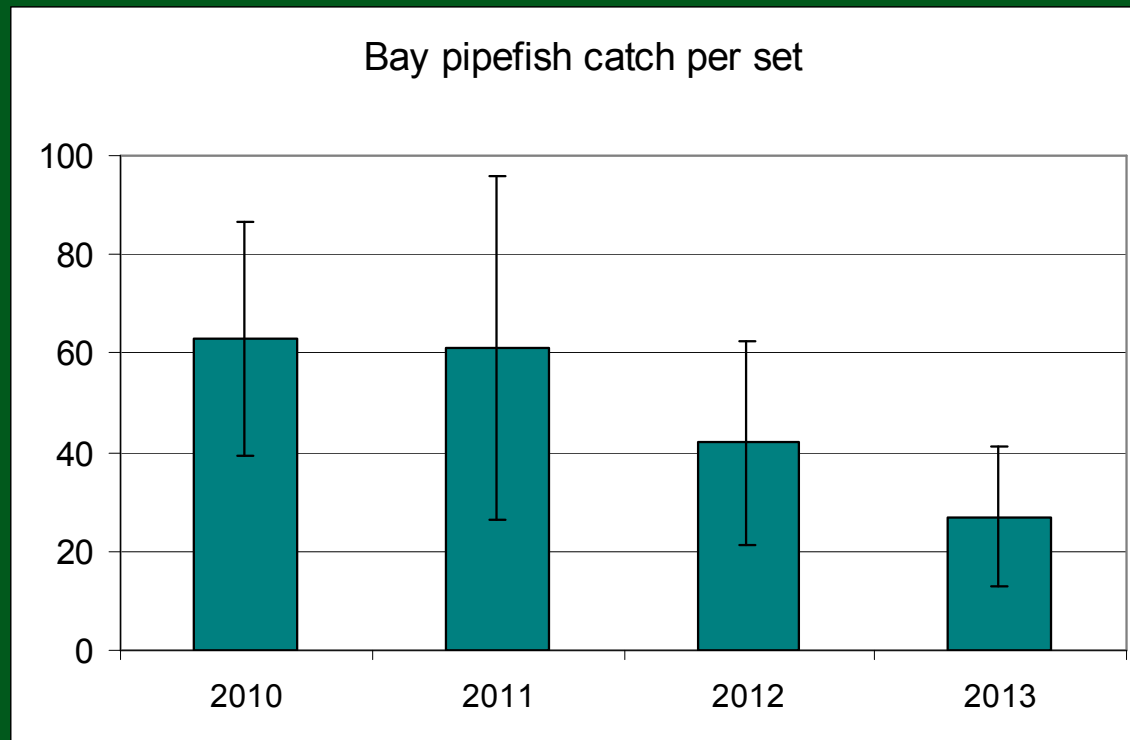
- Bird recruitment
- Wildflower area

Reproductive year at the Island

Weather
Climate change

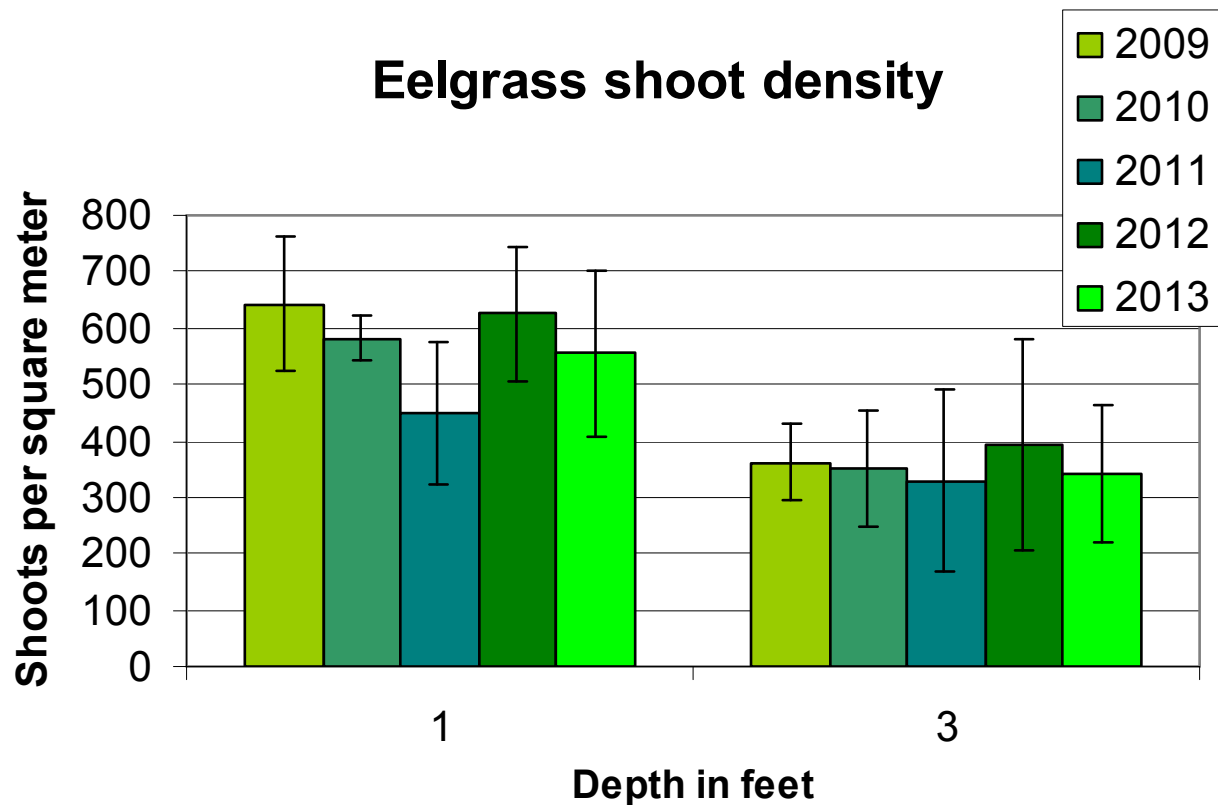


This year's top story:

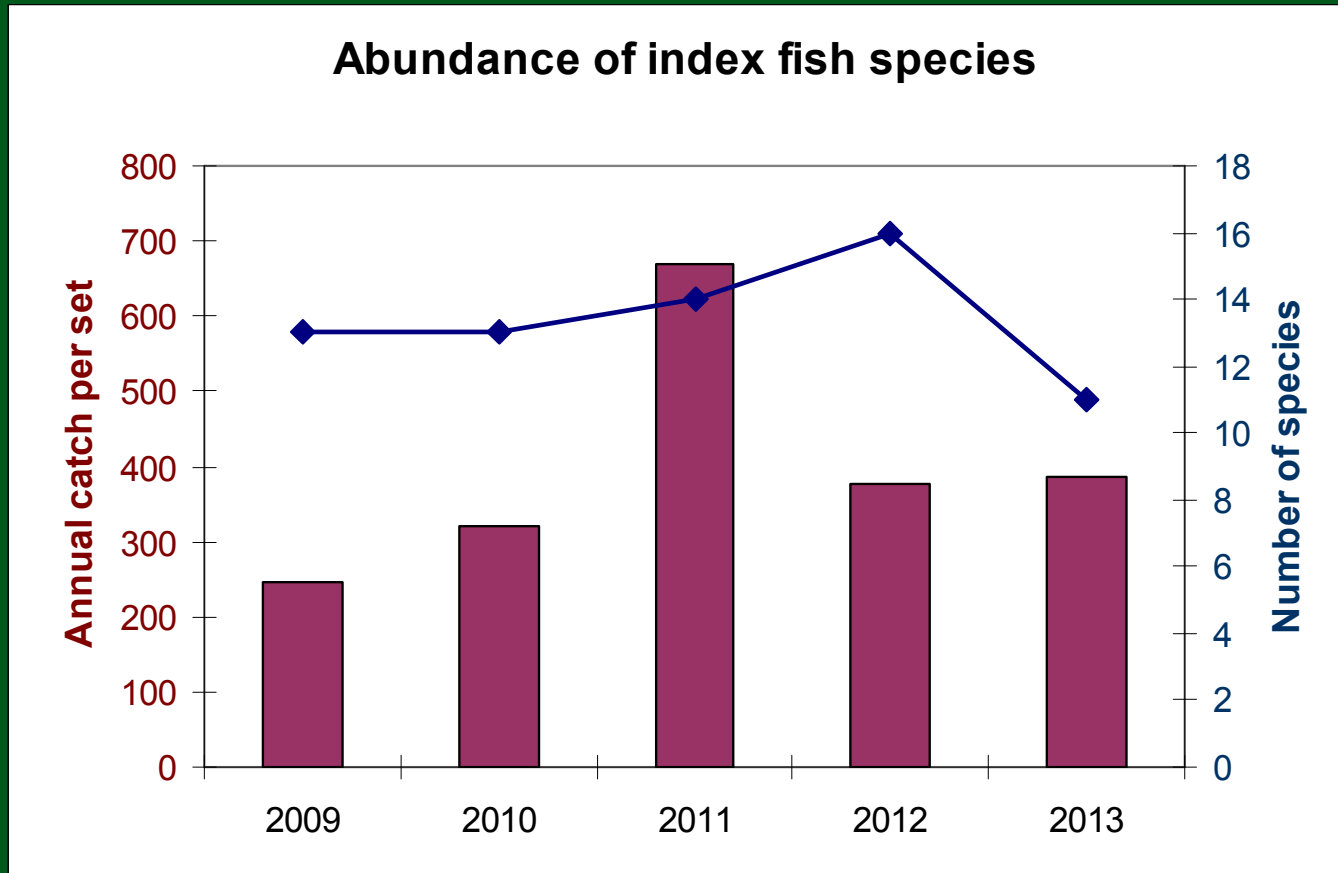


Pipefish decline?

How stable is our eelgrass?



Overall, fish have not declined



First observed 2012!

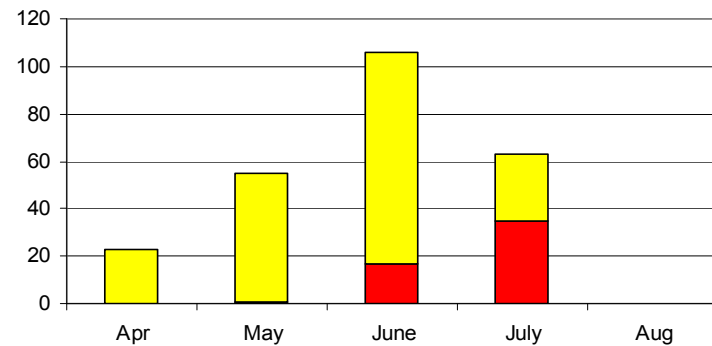


Haemobaphes diceraus in Shiner perch

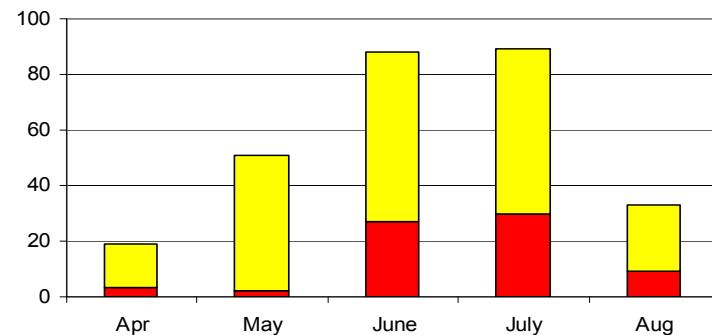
More male pipefish were gravid for more months in 2013 than 2011-2012

Stress response?

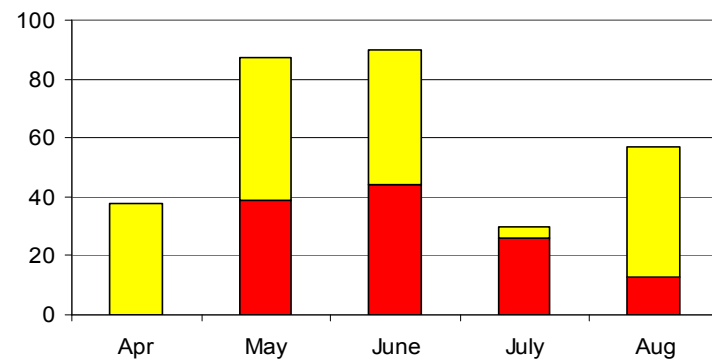
Gravid Bay pipefish by month 2011



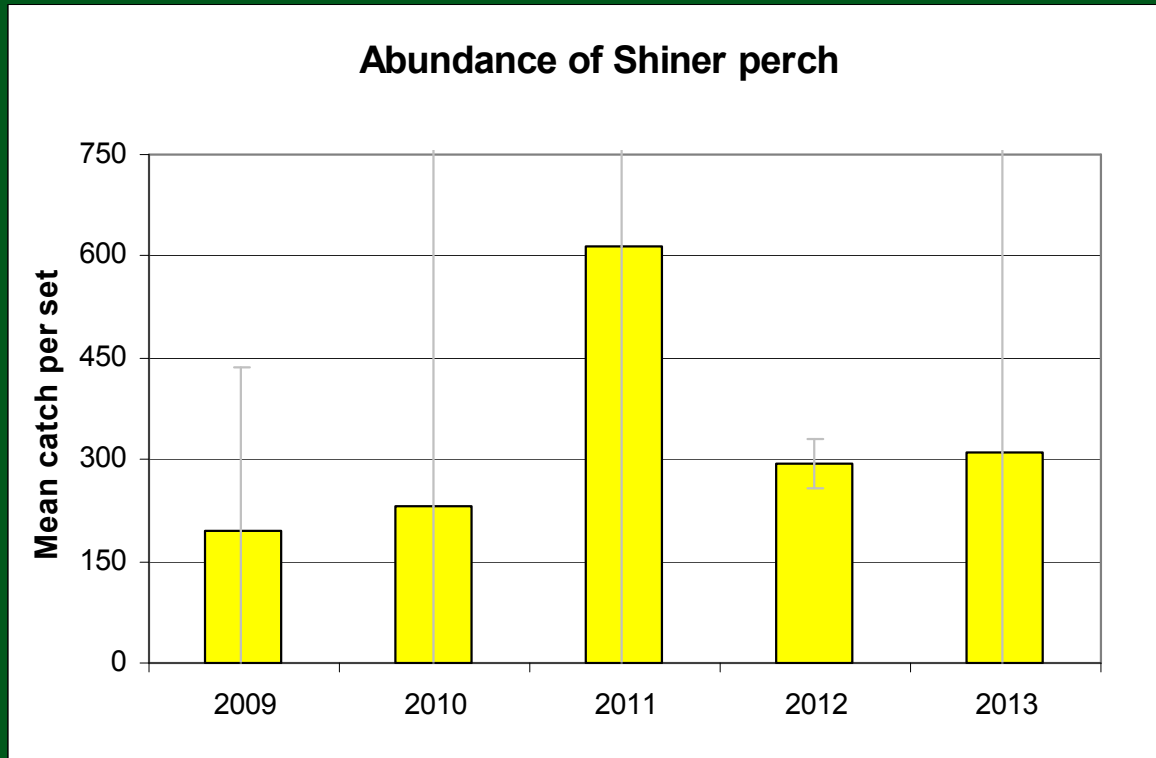
Gravid pipefish by month 2012



Gravid pipefish by month 2013

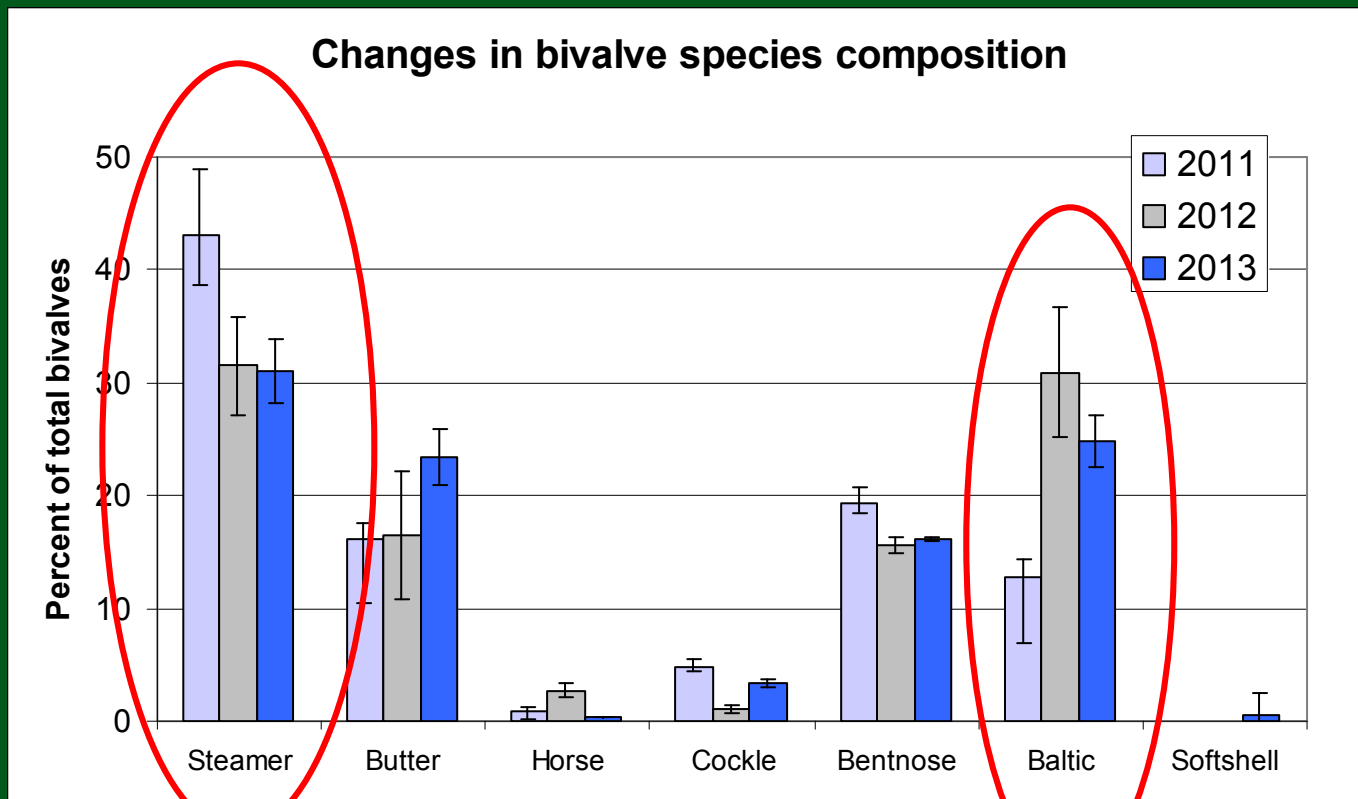


No decline in Shiners



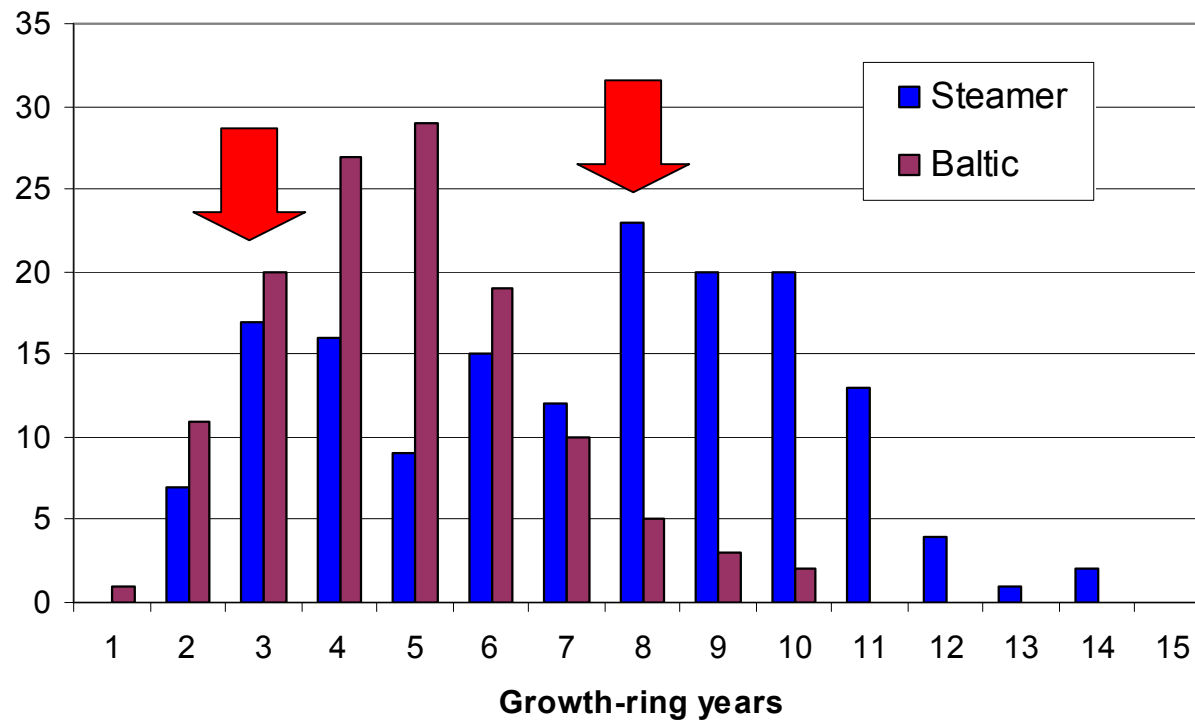
Does this suggest some other change?

The beach may be getting softer

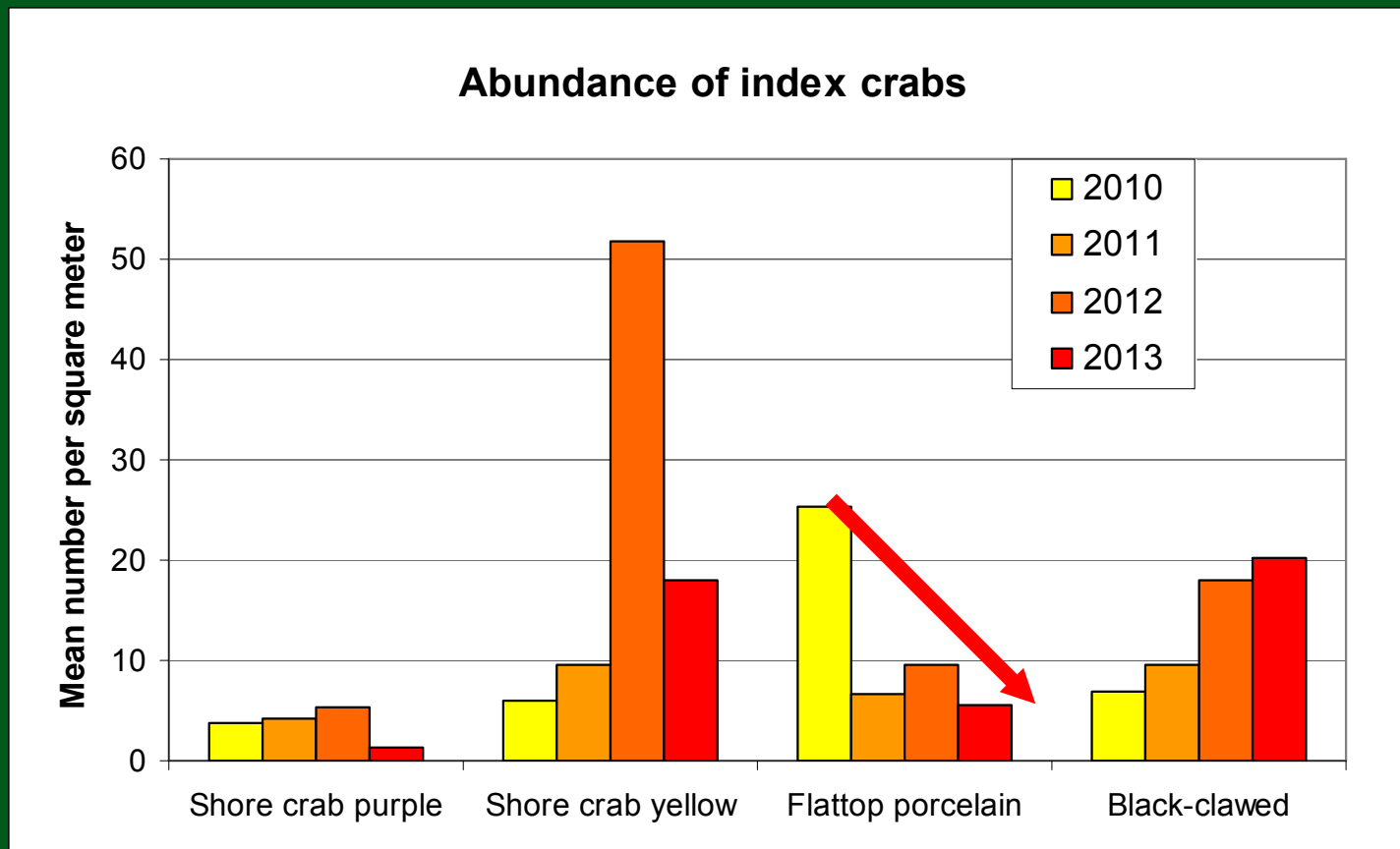


Steamers are still recruiting, however

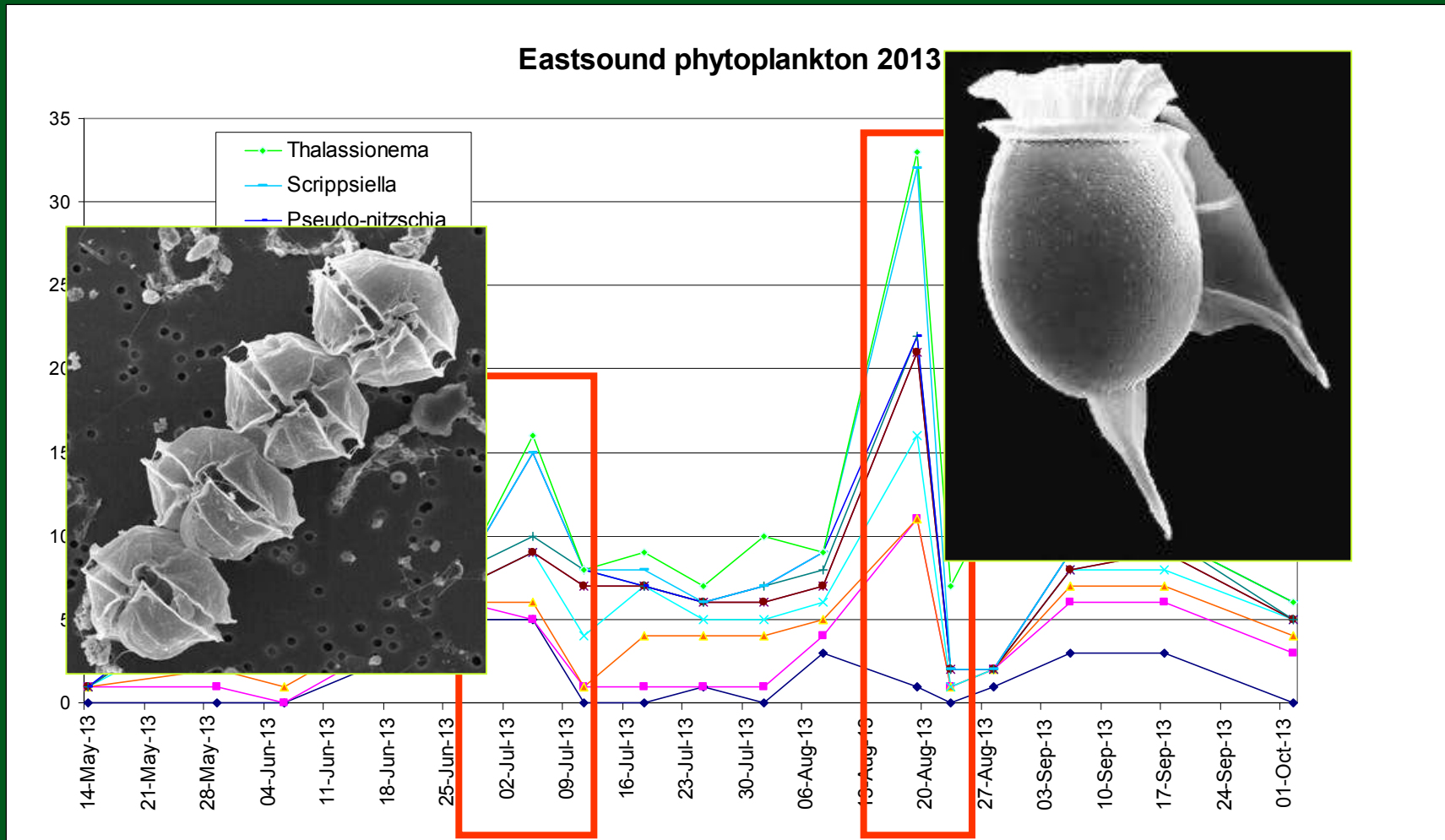
Age distribution of infaunal bivalves 2013



Porcelain crabs are sensitive to turbidity



Toxic blooms may be increasing



Alexandrium
Pseudo-nitzschia

Dinophysis
Gonyaulax



Driftwood Trail

Wildflowers

Nesting

2014 Objectives

- More chemistry data
- More plankton data
- 100% low-tide presence
- Comparison site

Microplate
reader

Volunteers!

Volunteers
Coordination
(OICF)