2015

Living with A Changing Bay (2015 State of the Bay Presentation)

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LIVING WITH A CHANGING BAY:

State of the Bay and the New *Casco Bay Plan*

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Director, Casco Bay Estuary Partnership

Welcome

- State of the Bay 2015

- What can we do today to build the Bay we will want in 2050? In 2100?

Looking Back, Looking Forward

- State of the Bay 2015
- Draft Casco Bay Plan

Portland Community Rowing Association Regatta, 2011

A Changing Bay

- We are in an unprecedented period of change
  - Climate
  - Invasive species
  - Coastal development
  - Coastal Acidification
  - Altered marine food webs

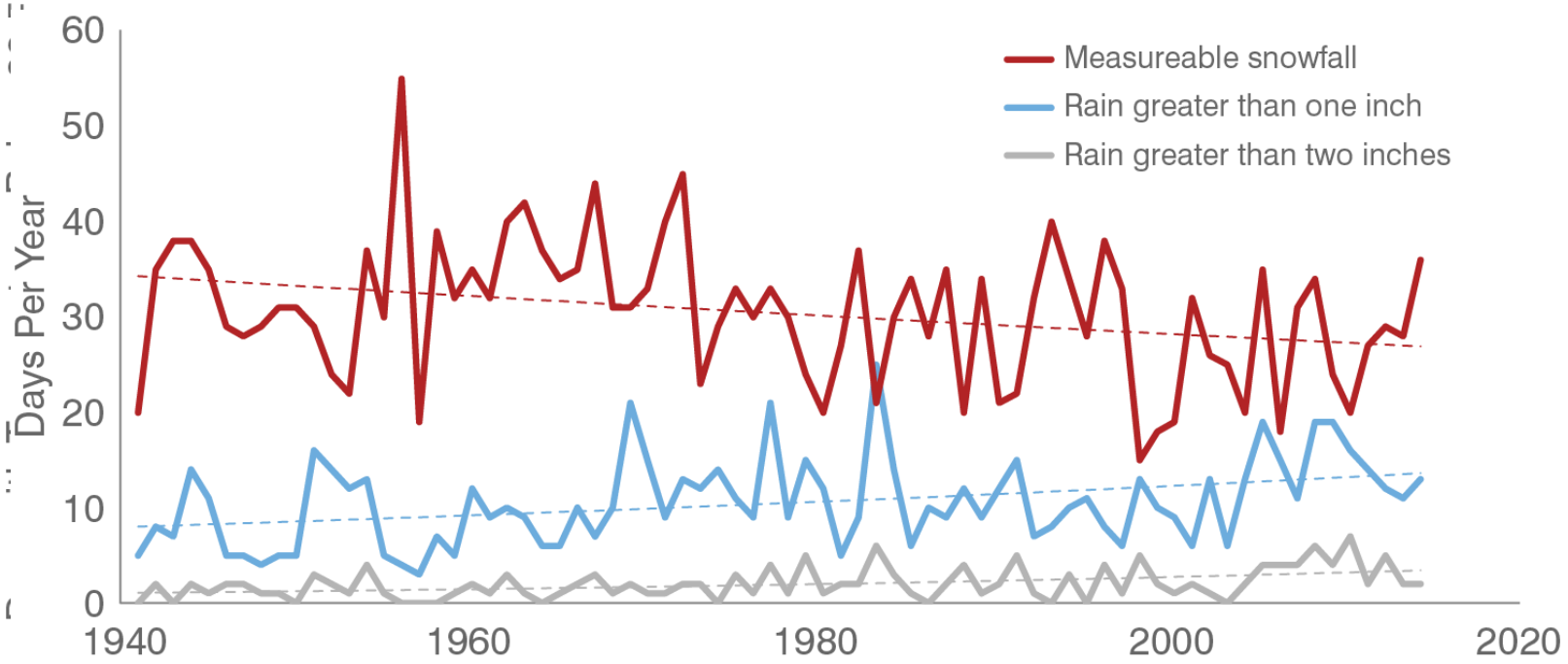
Shifting Abundance of Marine Species







Yes It's Warmer….



- Climate has been warming for decades
- Annual minimum temperatures up more than 8°F In 65 years
- Freezes less common in spring and fall
- Fewer days with snow, but more large rain storms
- Bay ~ 3.5°F warmer in 20 years

But it's not just climate

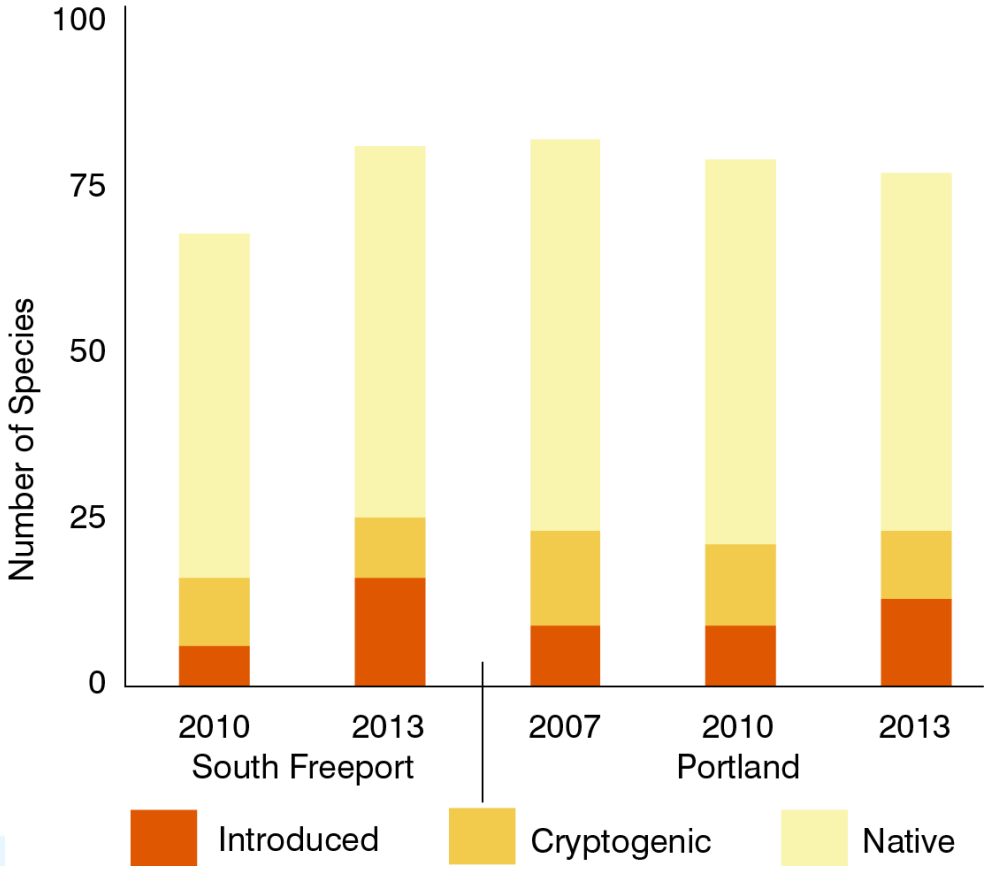
P. Erickson for MIT Sea Grant College Program (from NEANS website)

Eurasian Green Crab

- Climate will interact with other forces
  - Invasive species
  - Demographic forces
  - Nutrients and Water Quality
  - Acidification
  - Habitat loss

- (See all 16 SotB Indicators)

Marine Invasives



Botryllus schlosseri

About one sixth of species at two Casco Bay sites are introduced, with nearly as many of uncertain origin.

Demographics

- Cumberland County Population
  - Up 8.5% since 2000
  - Annual Growth ~ 0.5%
- ~ 22% more people in the watersheds by 2050
  - 22% more sewage
- Urban areas growing, but a majority of growth continues to be suburban
  - Increased construction
  - Increased runoff

Interacting Changes

- Multiple sources of change make prediction and understanding harder
- We will be surprised

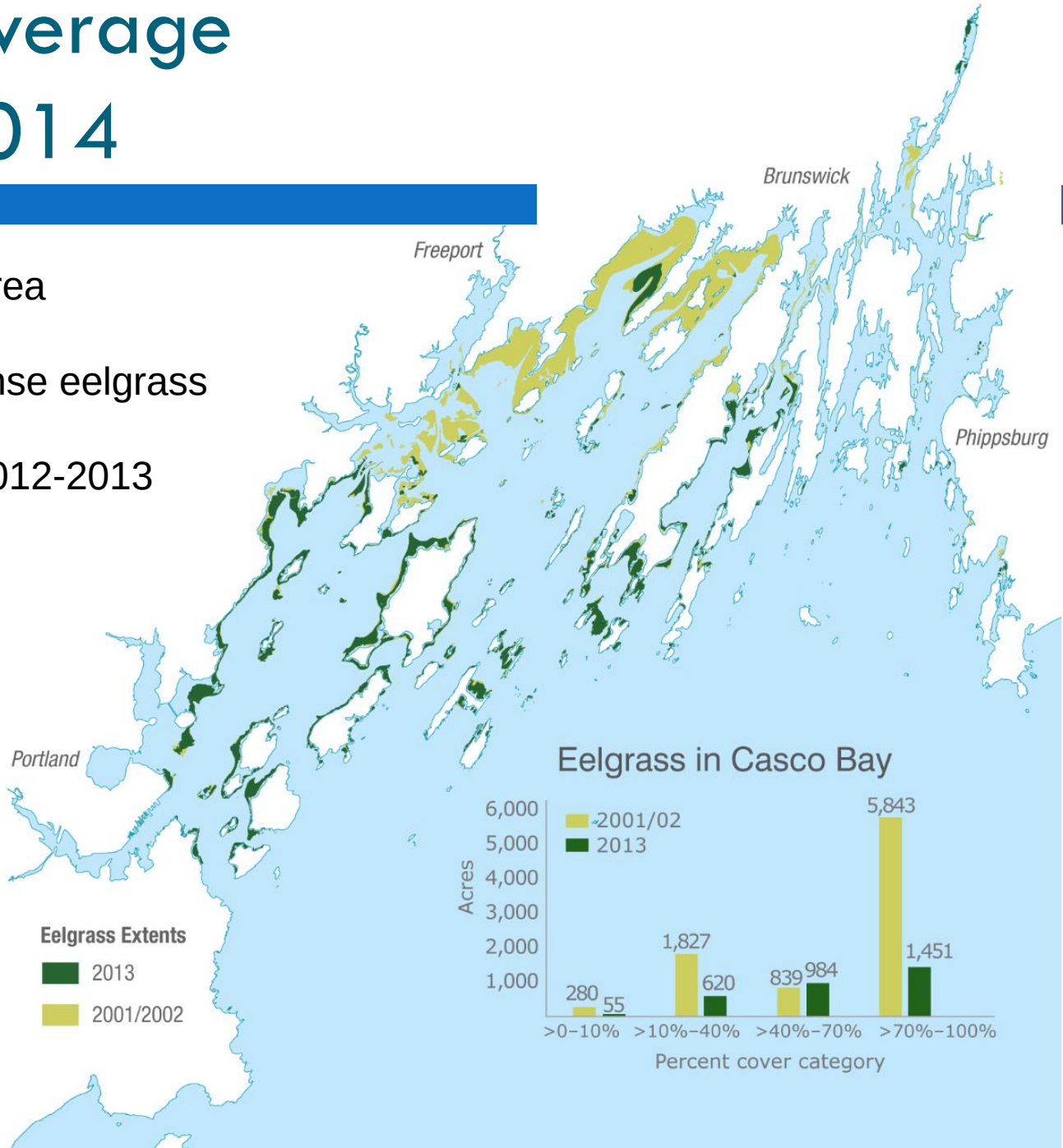
Photos: Hillary Neckles USGS

Eelgrass Coverage ca. 2002-2014

58% decline in eelgrass area

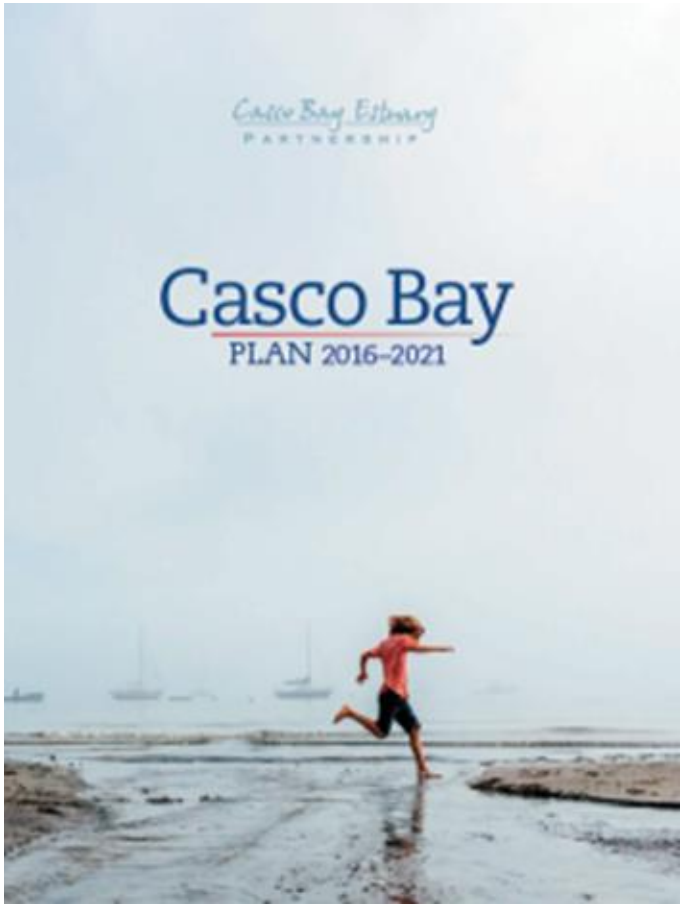
75% decline in area of dense eelgrass

Most losses occurred in 2012-2013



The New Casco Bay Plan

- The world is changing
- The future is uncertain
- What can we do today to build the Bay we want in 2050? In 2100?



Thinking about the Future

- Focus on major long-term threats to health of the Bay
- Increase resilience of the Bay and our communities
- Improve understanding of how the Bay provides benefits to local communities
- Develop better science and more robust monitoring
  - Detect change
  - Understand change
- Engage the public and communities with the Bay

Portland Waterfront, “King Tide”

The New Casco Bay Plan

- **Goal 1:** Protect, restore and enhance key habitats that sustain ecological health
- **Goal 2:** Reduce nutrient pollution and its impacts, including coastal acidification
- **Goal 3:** Foster resilient communities and their connections to Casco Bay
- **Goal 4:** Mobilize collective knowledge and resources to support Casco Bay

- **Hear more and join the discussion 1:00, Breakwater Room**

Thank you.

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