



The Casco Bay Regional Ocean Model

High resolution ocean model

Saco Bay to Boothbay

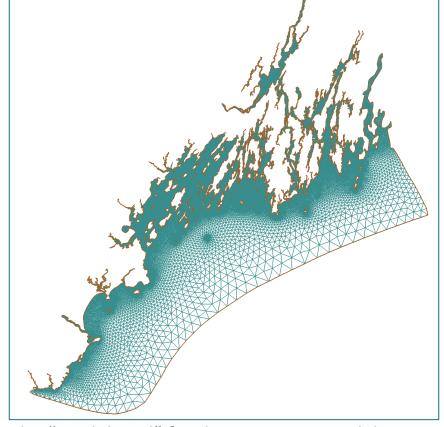
Daily three-day forecast

- Ocean height
- Wave height and period
- Currents (3-D, Surface and at depth)
- Salinity and temperature (Surface and at depth)

Predictions about every 10 meters inshore

Original motivation was for water quality





The "Model Grid" for the Casco Bay Model



What Other Problems Can Models Help Solve?

Three community workshops

Focused on Portland Harbor Flooding Water Quality

Port Activities

Follow-up interviews



Flooding at high tide during December 23, 2022 Nor'easter





Community Centered Ocean Models



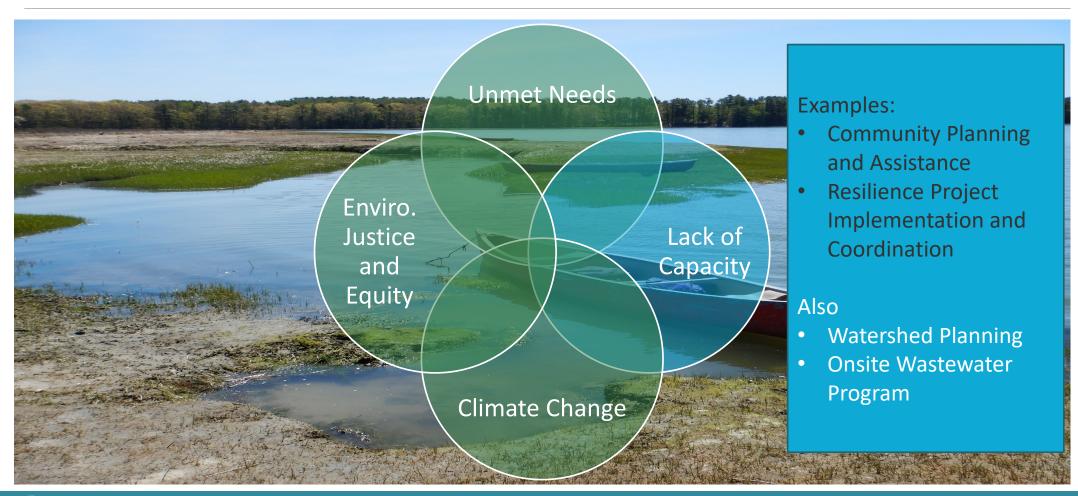
Maps, Visualizations, Apps, Etc.

Forecasts

Long Term Pattern and Risk

- Not one model or tool, but many
- Updated and extended with new information as needs change
- Requires ongoing dialog, new institutions





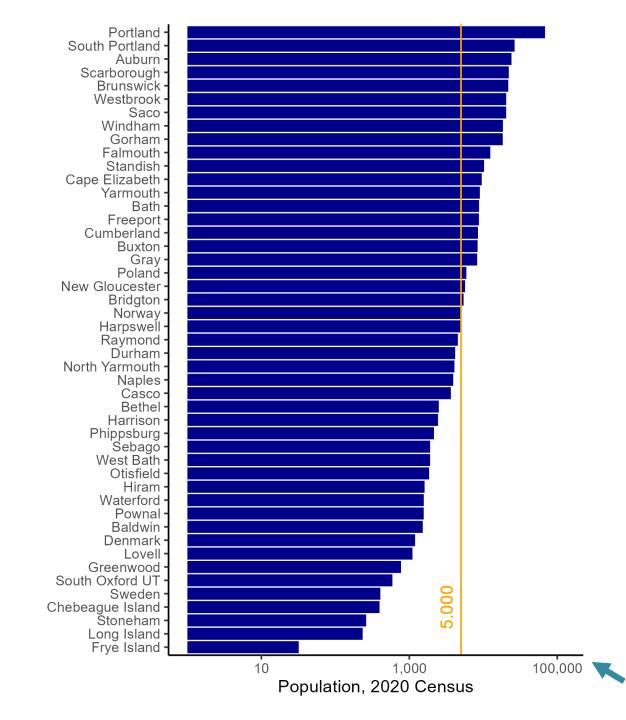
Municipal Assistance

Half our towns have a population of under 5,000

Most have few staff to tackle:

- Climate, water quality or open space planning
- Implement resilience projects

Funds are available, but towns can't access them



Note the log scale!



Restoration and Resilience Coordination

Federal funding opportunities are offering more money, but they often don't fund small projects

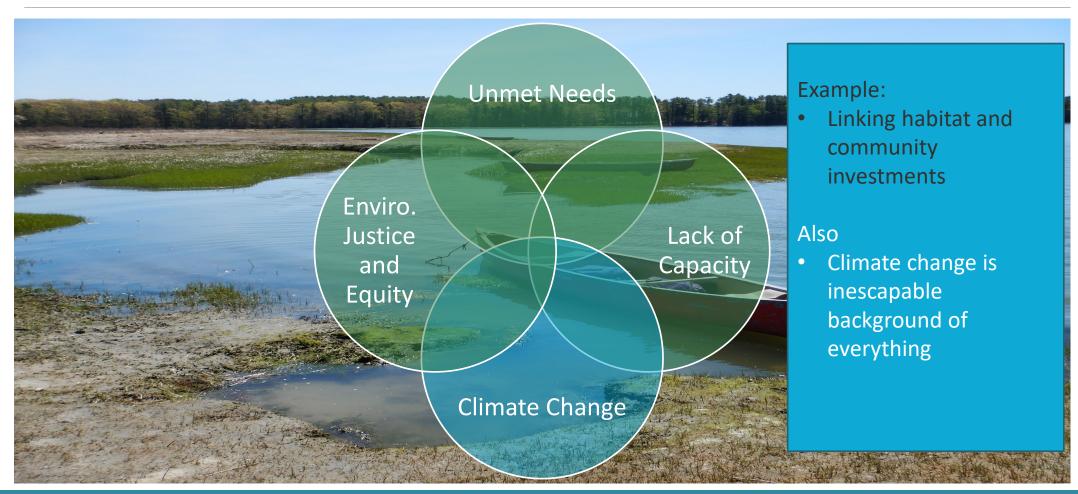
- Many Maine organizations have no ability to apply for or manage multi million-dollar grants
- Need to assemble collections of related activities to be more attractive to funders

Increasing need for coordination and capacity to access available funds



Kate Furbish Preserve, Brunswick, Maine, part of the Maquoit and Middle Bay Conservation Focus Area

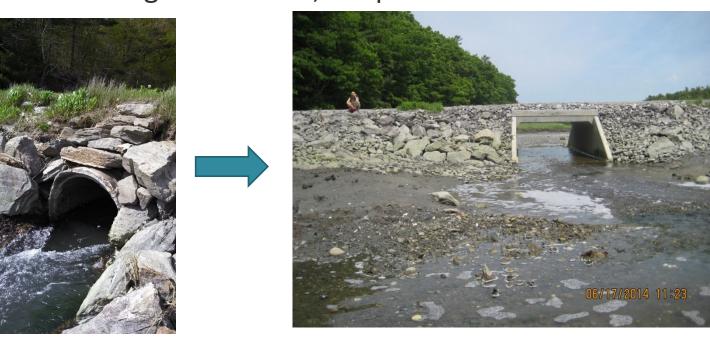




Partners: Maine DOT, Baxter State Park Authority Landowners

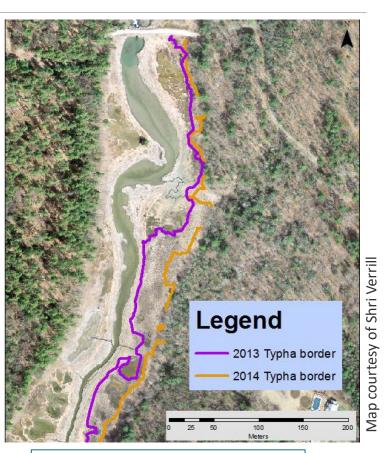
Tidal Marsh Restoration, 2013

Long Reach Lane, Harpswell



Infrastructure Upgrade





Habitat Restoration Habitat Resilience

What were we missing?

Partners:
CCSWCD
Town of Harpswell
Landowners



Long Reach Lane



Wallace Shore Road

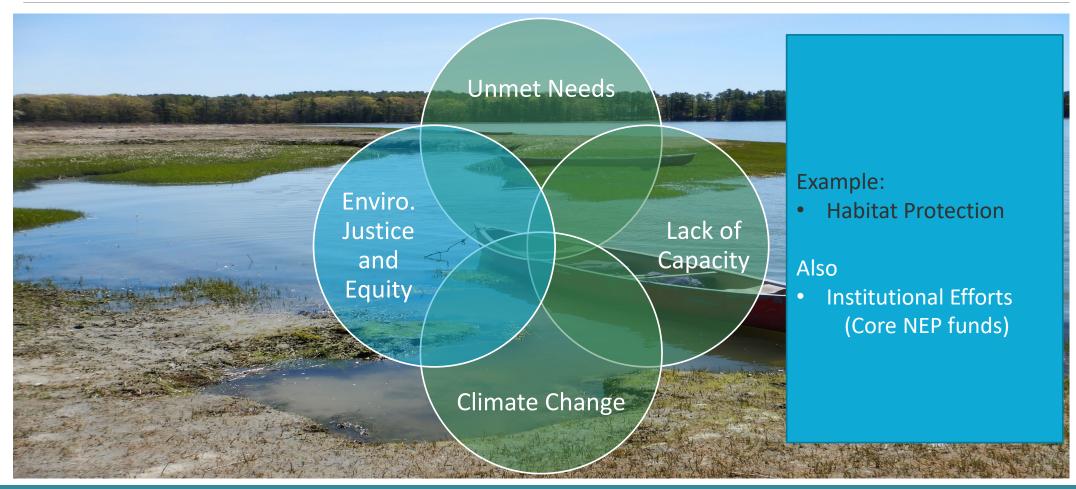
The Sweet Spot: Combined Priorities



BURGESS BROOK DAM REMOVAL, SEPTEMBER 2022









Grants for "Habitat Protection"

CBEP Habitat Protection Fund

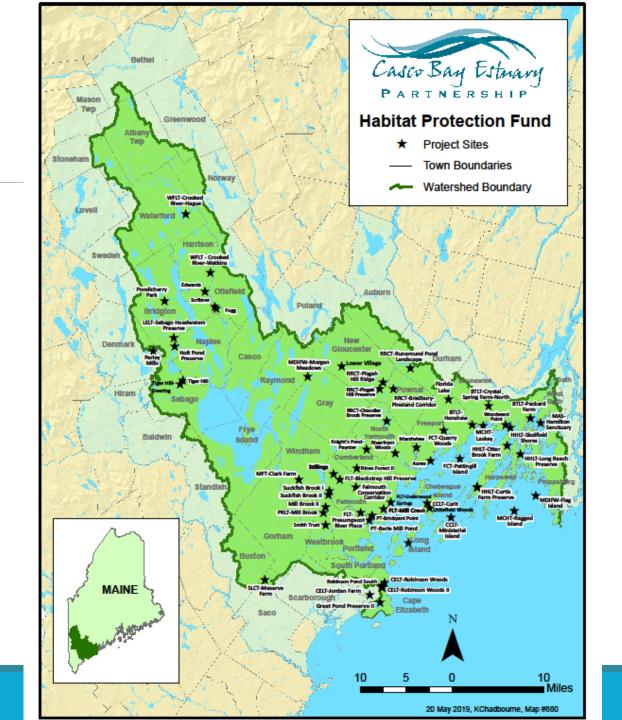
- 20 years and counting
 - 56 Projects
 - 27 Partners
 - 27 Municipalities
- 10,429 acres

Casco Bay Watershed 20% by 2030?

Significant increase in funding thanks to BIL funds

Equity analysis raises questions of purpose of these grants

Focus on communities with limited access to open space





Equity and Access to Conserved Land

Inland towns are less wealthy and more economically dependent on tourism

Recreational access to conserved lands is concentrated along the coast.

But access to private forestland is higher inland (but going away as culture changes)

