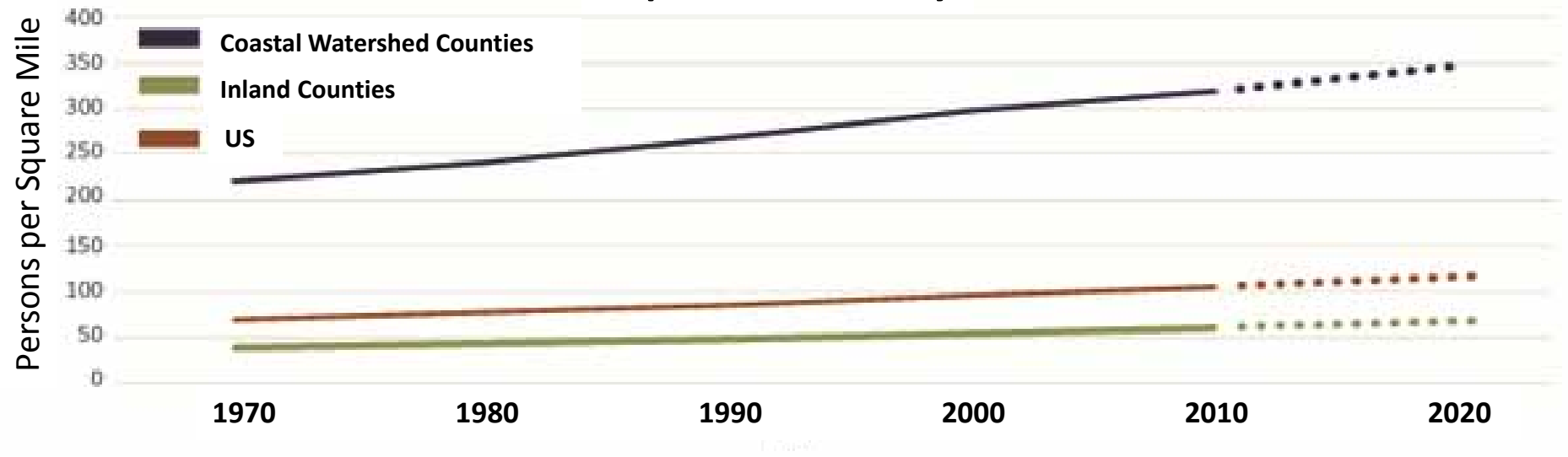


# COASTAL AND MARINE SPATIAL PLANNING

natural  
capital  
PROJECT



## Population Density









Sustain ocean productivity for the  
needs of present and future  
generations



# Coastal and Marine Spatial Planning

- Streamline organization of marine space across sectors
- Balance demands for development with desires for protection
- Achieve social and economic objectives in a transparent manner





how should we zone our marine space in ways that:

- 1 minimize conflicts between users
- 2 get us what we want

- Establish authorities & funding
- Engage stakeholders
- Establish objectives
- Assemble data
- Synthesize data (make sense of technical info, develop metrics)
- Evaluate alternatives
- Select plan
- Ratification
- Implementation
- Monitoring
- Adaptation

- Some magic happens
- Engage stakeholders/establish objectives
- Assemble data/synthesize data
- Evaluate alternatives
- Select plan
- More magic happens



# OUR PLAN

- Spencer on BC
- Chantalle on BZ (and Katie too)
- Rob on New England
- Coffee break
- Paul on reefs & climate
- Discussion of barriers and opportunities
- Description of new tools under development
- Discussion of new tools

# MSP and Offshore Wind Energy in New England

Robert Griffin

[naturalcapitalproject.org](http://naturalcapitalproject.org)

[rmgriff@stanford.edu](mailto:rmgriff@stanford.edu)

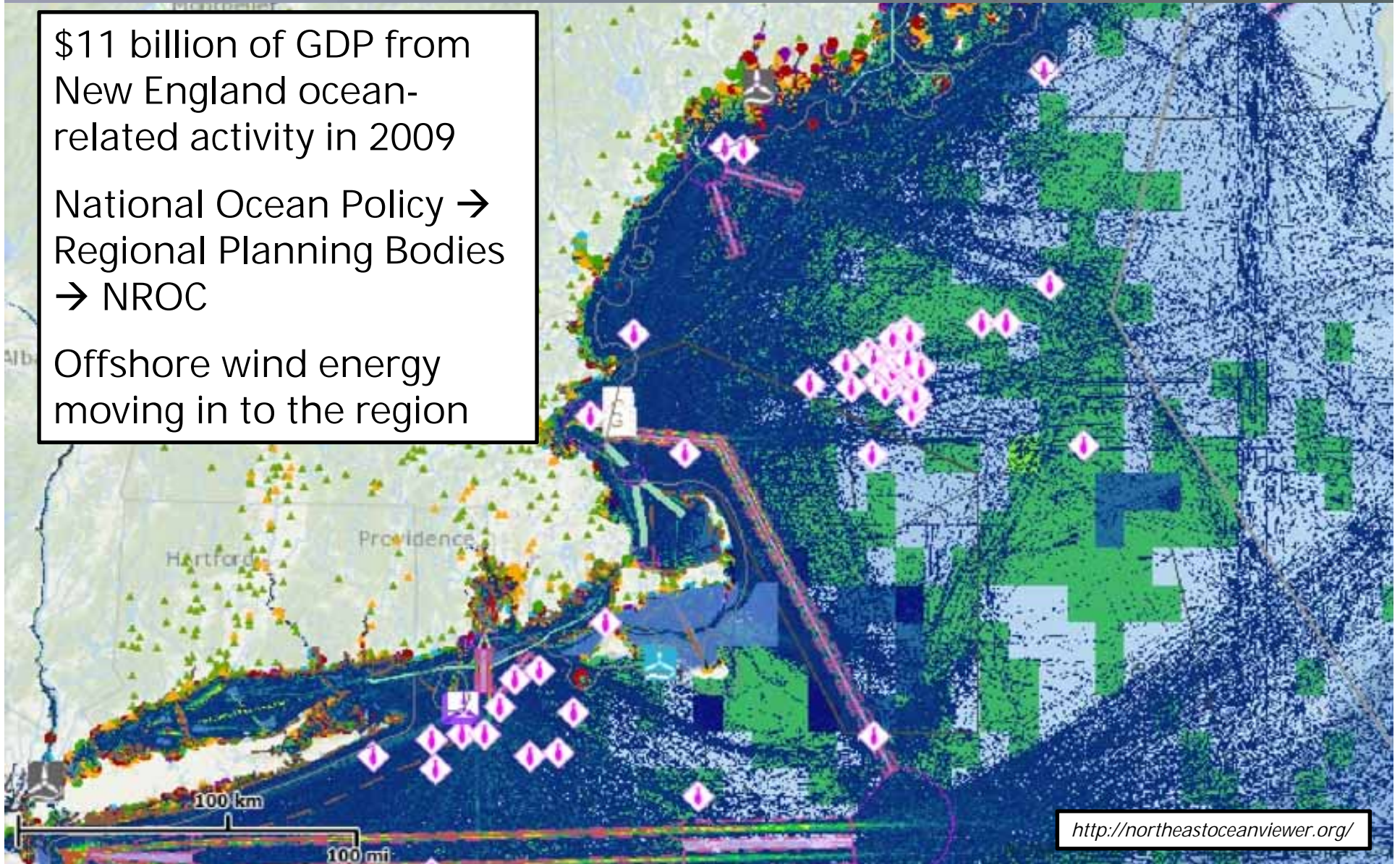


# Context

\$11 billion of GDP from  
New England ocean-  
related activity in 2009

National Ocean Policy →  
Regional Planning Bodies  
→ NROC

Offshore wind energy  
moving in to the region



<http://northeastoceanviewer.org/>



# Research Questions



*How to appropriately site wind energy in the context of many other uses?*



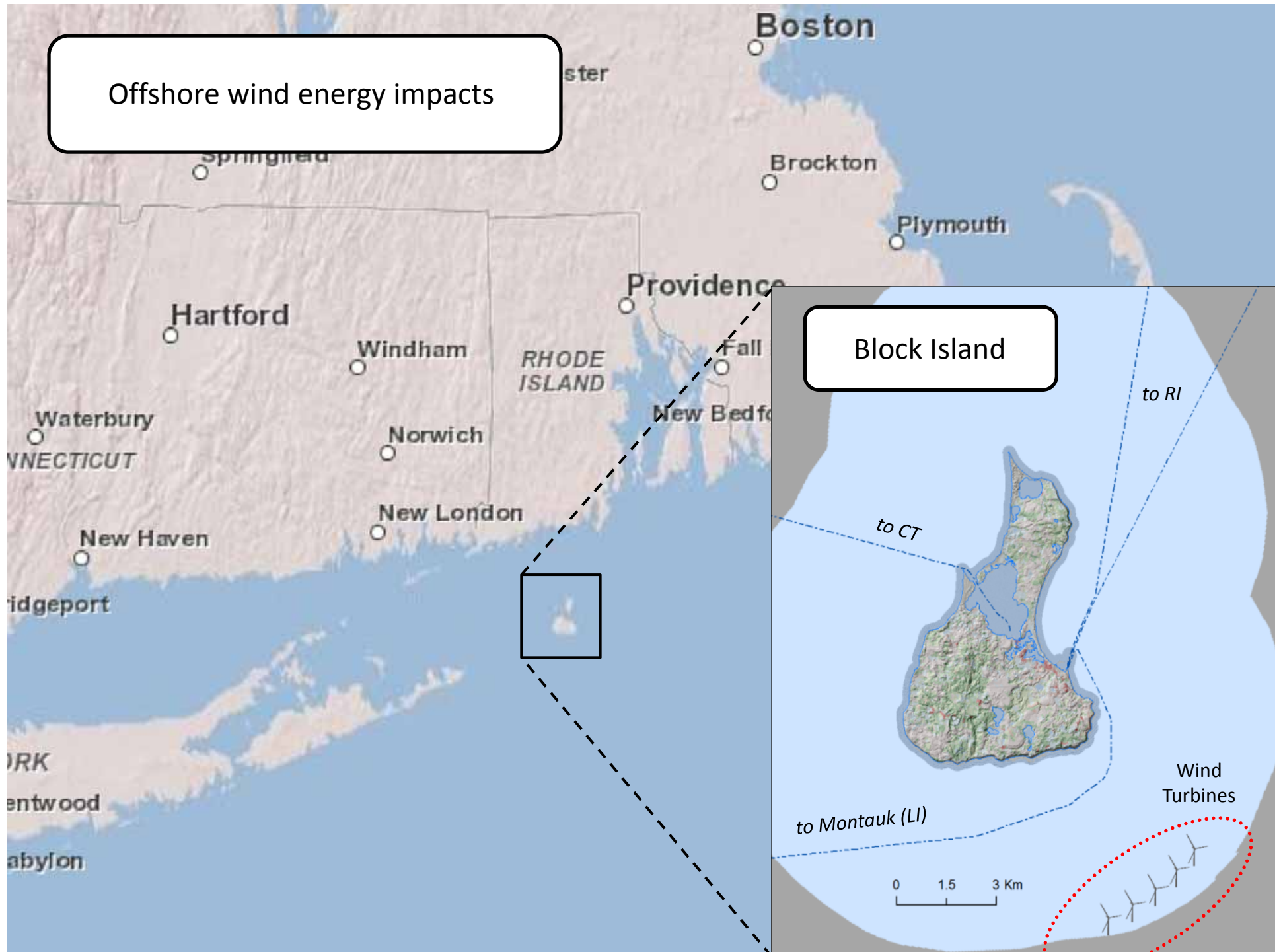
*Where does habitat play a role in protecting coastal communities from storms?*



*How will climate change affect the spatial distribution of marine life?*



## Offshore wind energy impacts



**InVEST**

integrated valuation of  
environmental services  
and tradeoffs

## Offshore Wind Energy



Turbines



Wind NPV

Lo

Hi



InVEST

integrated valuation of  
environmental services  
and tradeoffs

## Recreation



Turbines



Rec/HH viewers



Wind NPV

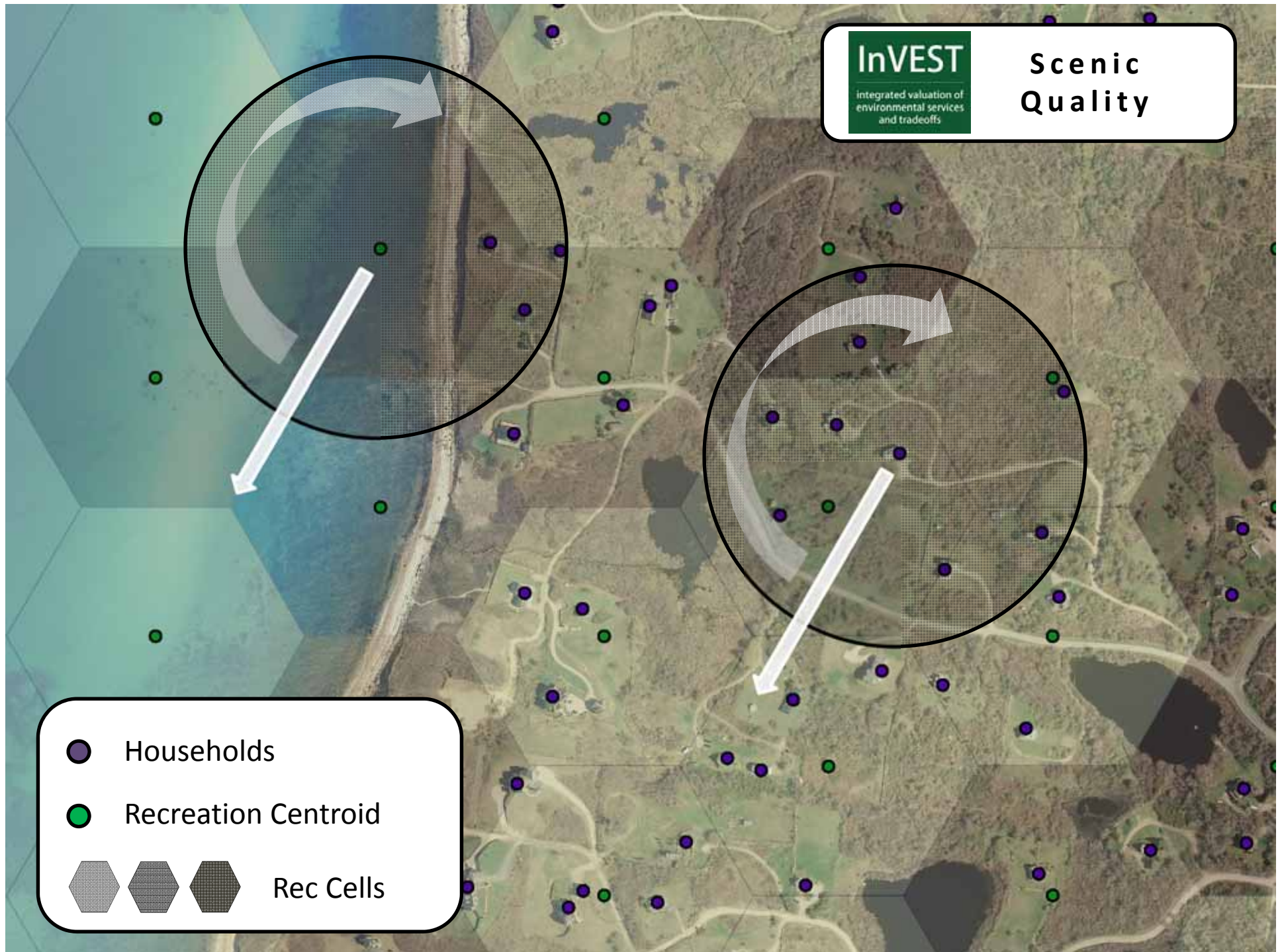
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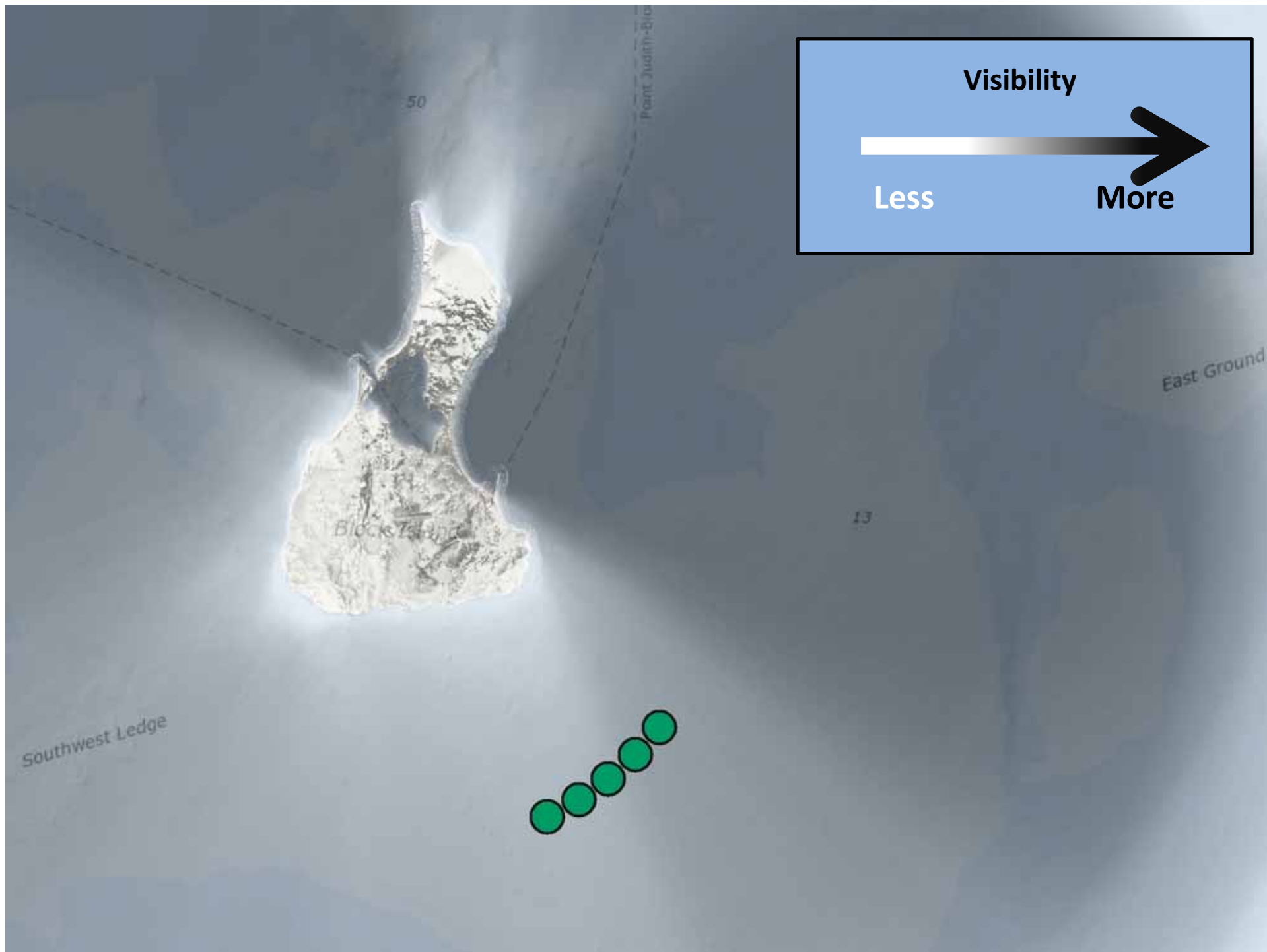


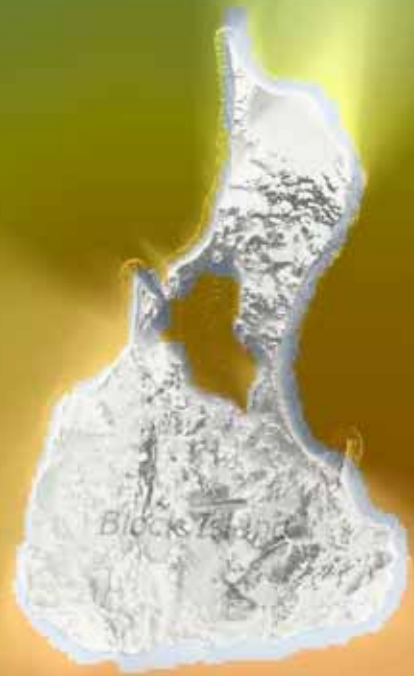


- Households
- Recreation Centroid
- ■ ■ Rec Cells









Validation of RI  
SAMP siting

# Protective coastal habitat in Rhode Island

**InVEST**

integrated valuation of  
environmental services  
and tradeoffs

**Coastal  
Vulnerability**

With  
habitat

Without  
habitat

Coastal Hazard

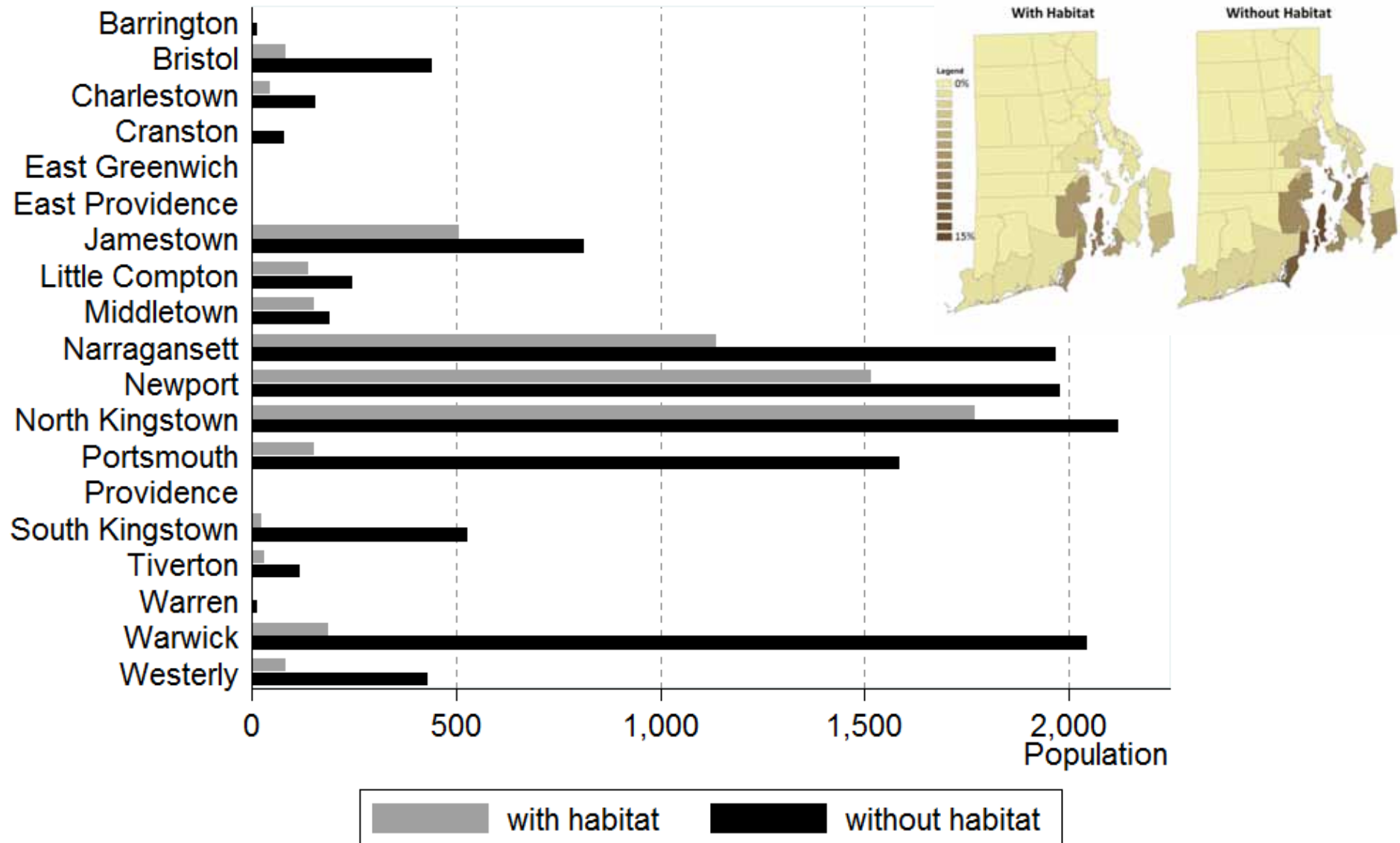
Highest

Intermediate

Lowest



# Population impacted w & w/o habitat





# Fisheries, habitat, and climate

Working with NROC to explore linkages between

- Climate change
- Habitat
- Port communities

