

# Landscape-scale inequities in Rhode Island coastal access

Kate Mulvaney<sup>1</sup>, Julia Twichell<sup>2</sup>, Nate Merrill<sup>1</sup>, Justin Bousquin<sup>3</sup>

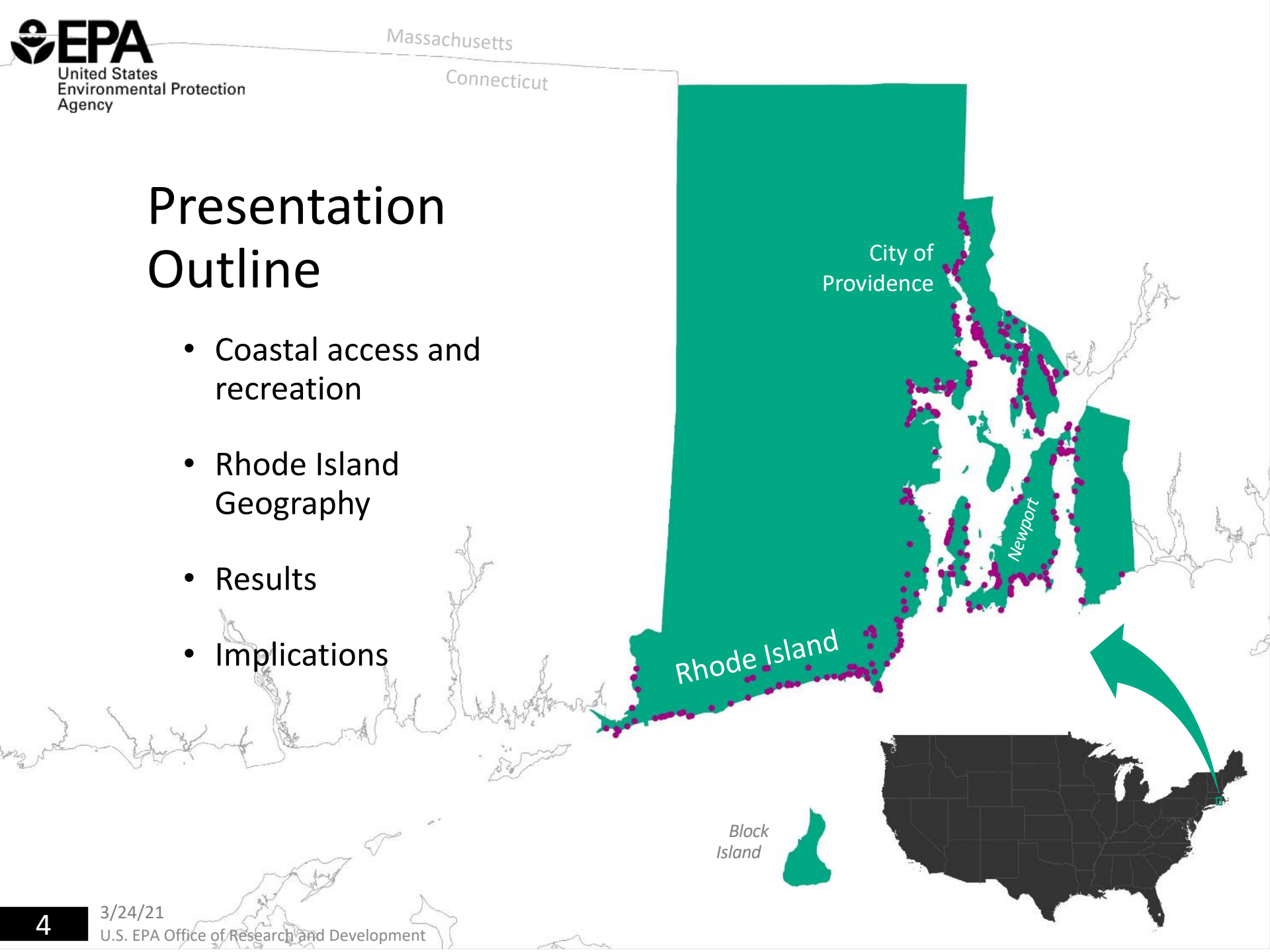
<sup>1</sup> U.S. EPA, Office of Research and Development, Atlantic Coastal Environmental Sciences Division

<sup>2</sup> Narragansett Bay Estuary Program

<sup>3</sup> U.S. EPA, Office of Research and Development, Gulf Ecosystem Measurement and Modeling Division

# Presentation Outline

- Coastal access and recreation
- Rhode Island Geography
- Results
- Implications



# Environmental Justice

**Distributional Justice:** the benefits and burdens of environmental resources are distributed fairly among all people, regardless of gender, age, national origin, sexual orientation, social class, race, or ethnicity

## Disamenities

Pollution  
Contaminated sites  
Environmental  
hazards

## Amenities

Parks  
Restoration projects  
Green space  
Coastal Access

Definition: [Macklin & Greenwood 2003](#),

Examples: [United Church of Christ 2007](#), [Faber & Krieg 2002](#), [Mikati et al. 2018](#), [Huang et al. 2017](#), [Dernoga et al. 2015](#)



## Coastal blue space benefits

Recreation

Physical and mental health

Nature experiences

Social spaces

Resource harvest

++++





## What impacts access and recreation on the coast?

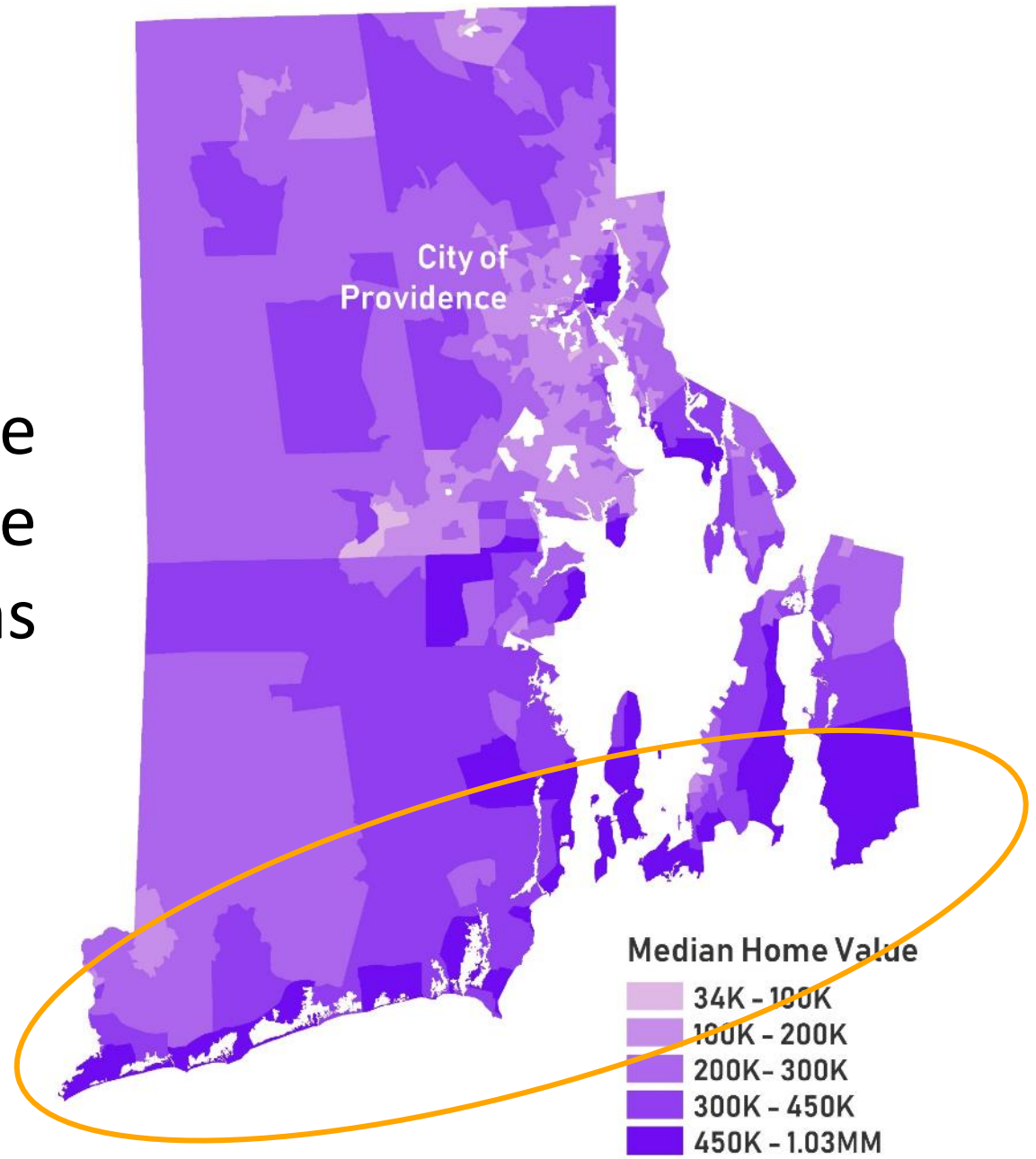
- Accessibility
  - Public availability
  - Time, cost, transportation
  - Those living closer are more likely to go
- Site quality
- **Who you are?**

Cox et al. 2006, Haeffner et al. 2017, Ashbullby et al. 2013, Montgomery et al. 2015

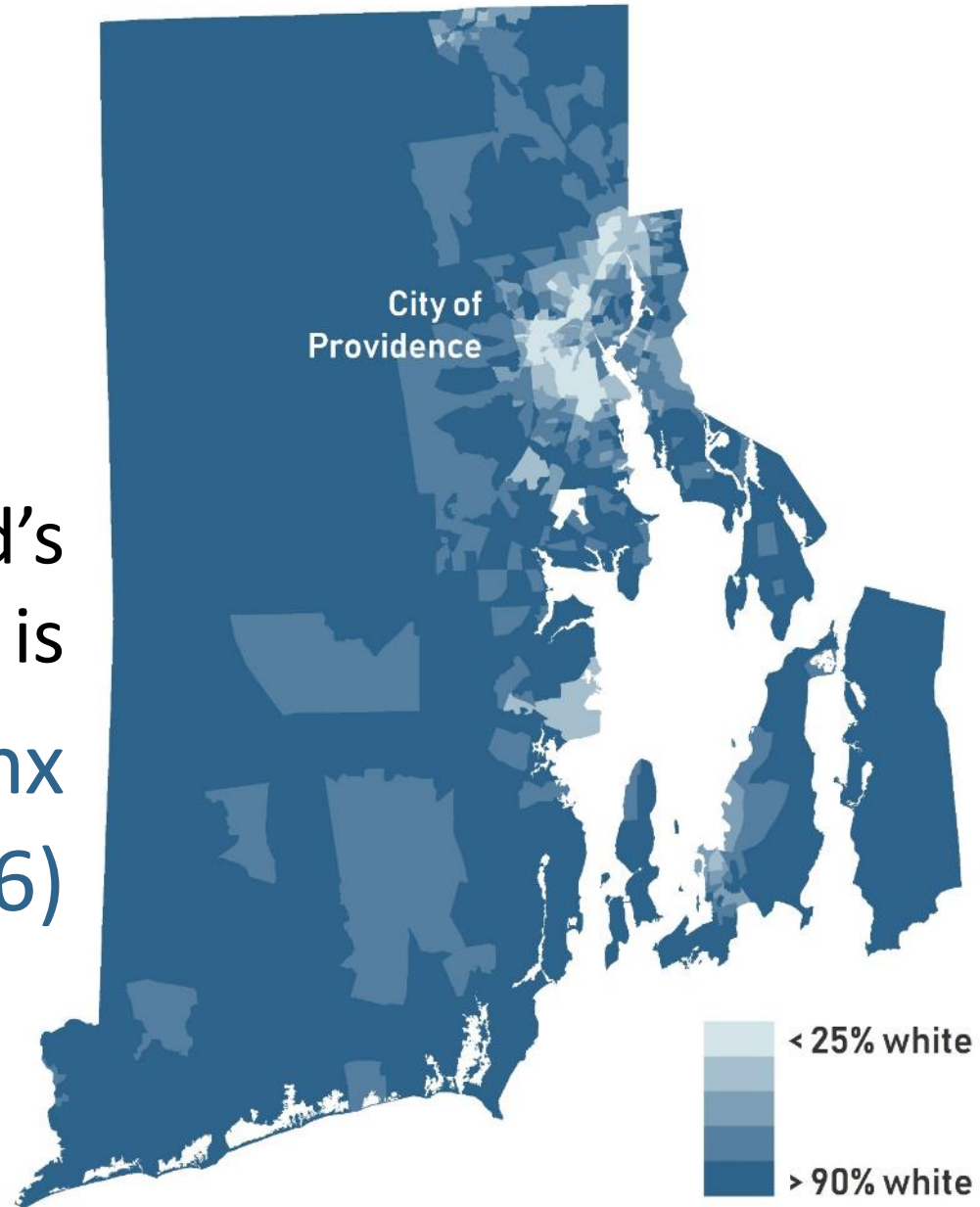
## Research question

Do different demographic groups have **equitable opportunities to access and recreate on the coast in Rhode Island?**

Property values are  
higher in prime  
coastal areas

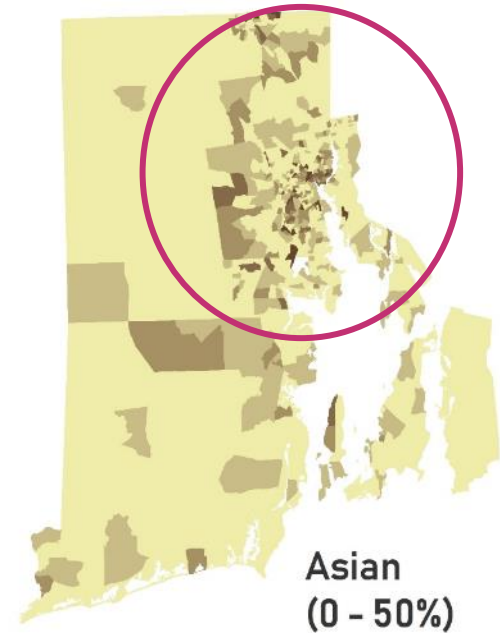
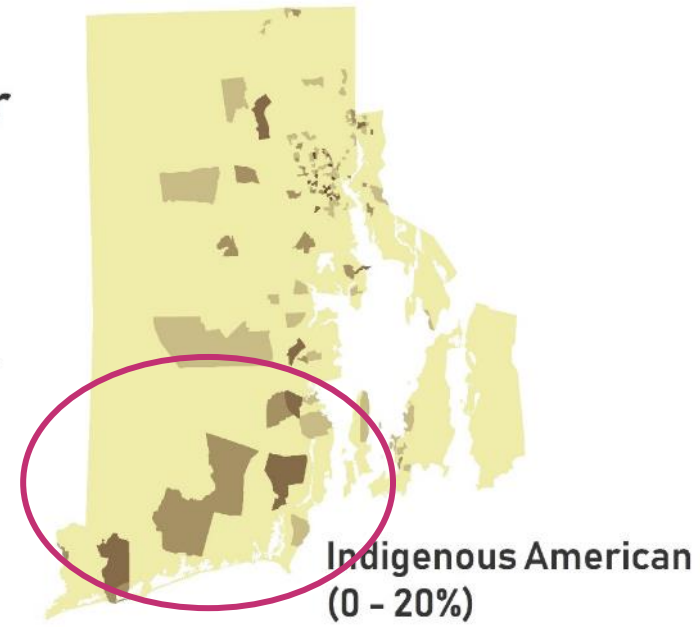
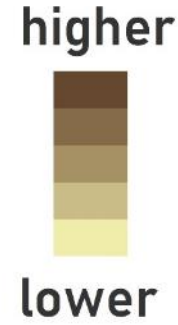
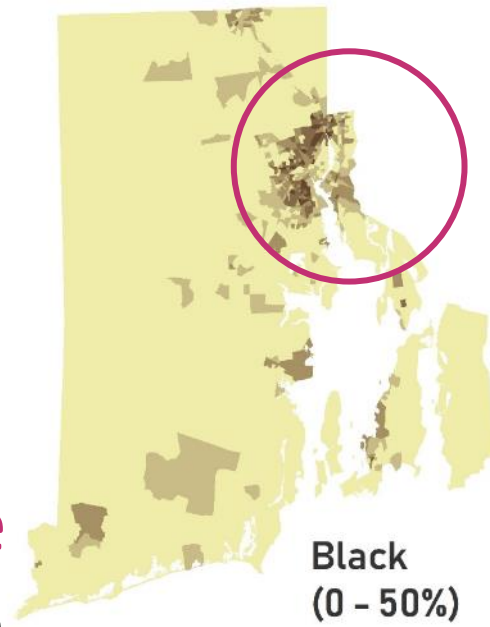


Rhode Island's  
population is  
**74% non-Latinx  
white (2016)**





Most **people of color** live in urbanized areas



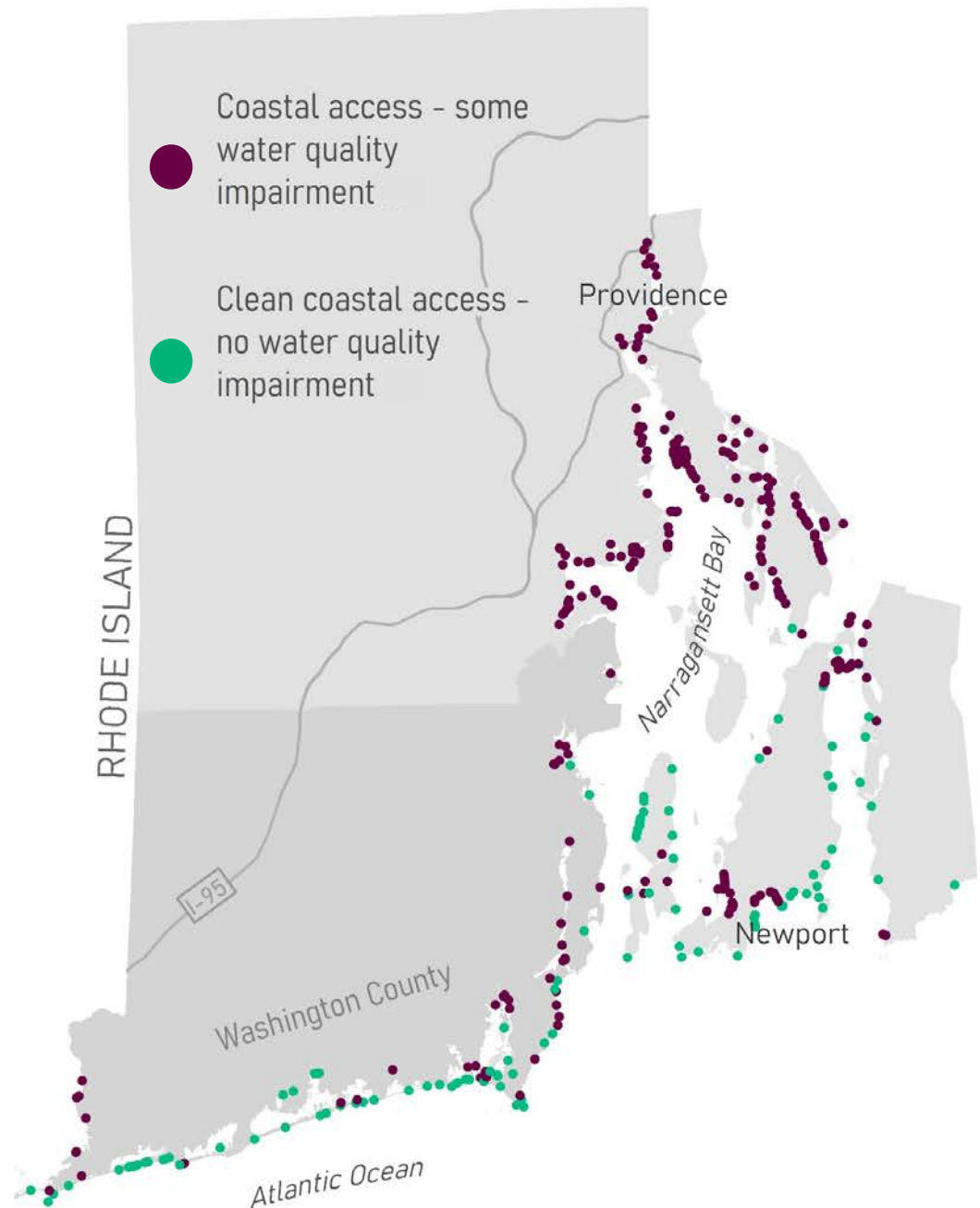
[U.S. Census](#)

## 400 public access points

- Paths to shore
- Boat ramps
- Fishing sites
- Scenic viewpoints
- Swimming areas
- Public parks
- Conservation areas

### Water quality:

- State waterbody assessments
- State shellfish area classifications

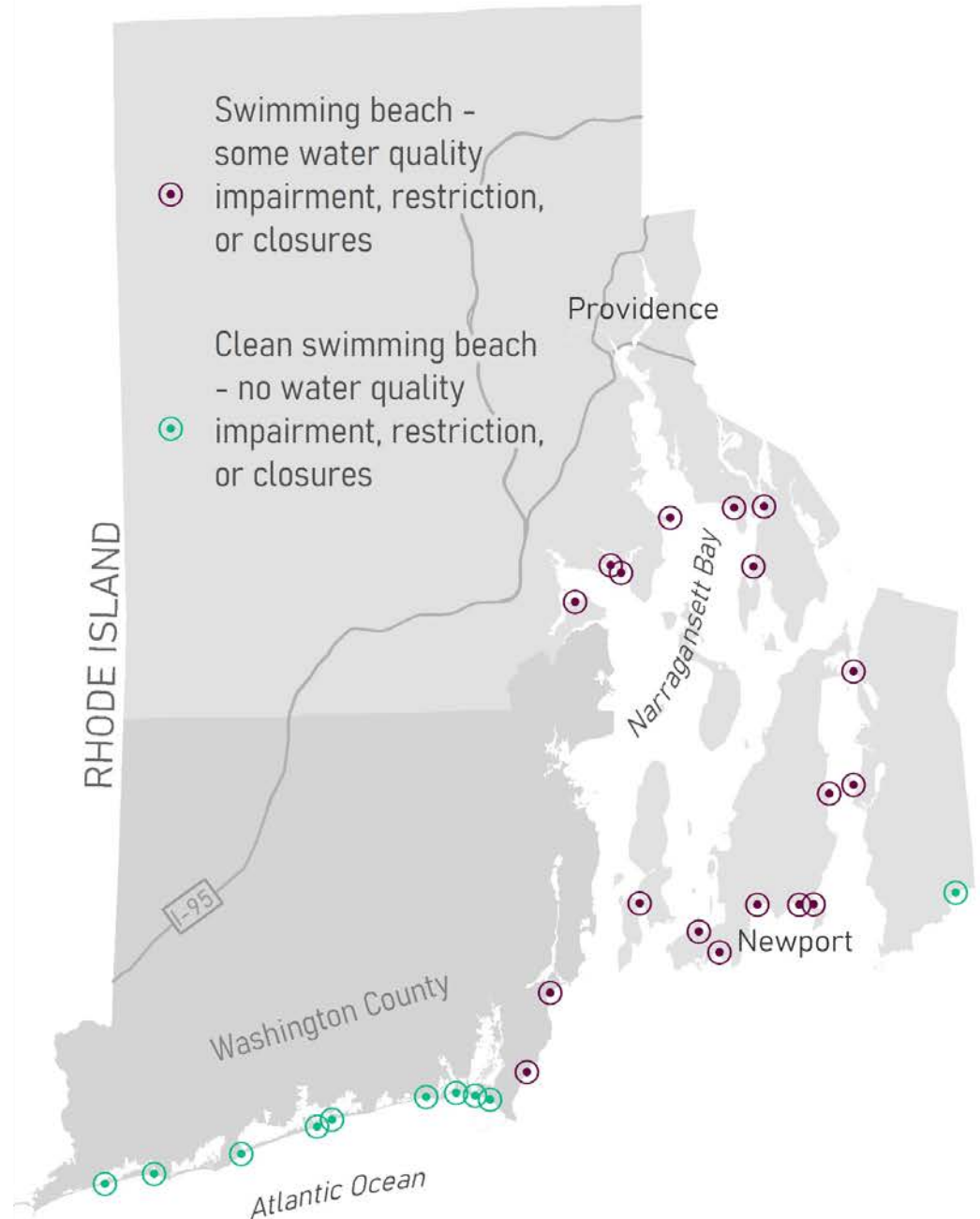


### [NBEP Recreational Use Story Map](#)

## 30 state & town beaches

### Water quality:

- State beach advisories
- State water body assessments
- State shellfish area classifications



## Research question

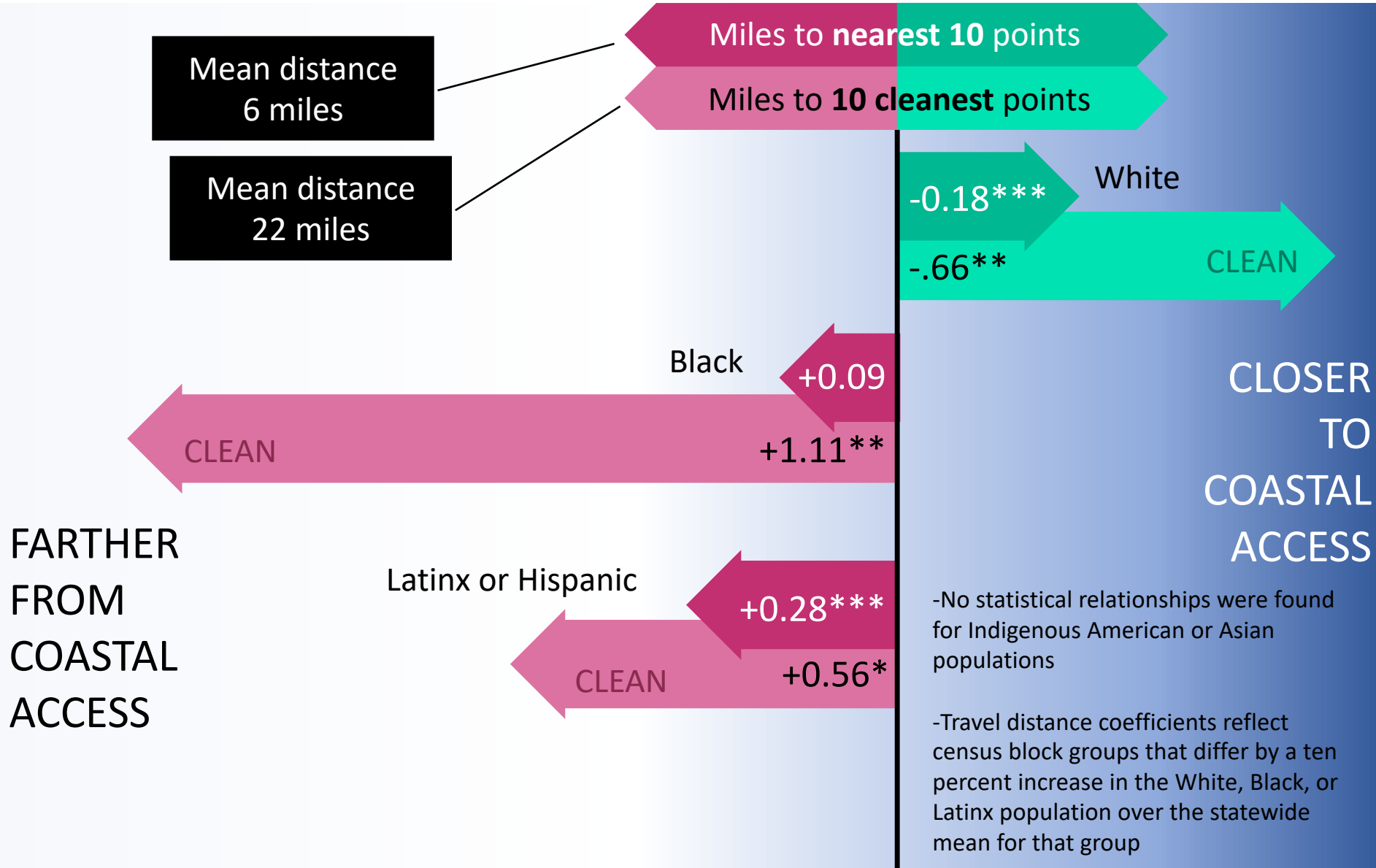
Do different demographic groups have **equitable opportunities to access and recreate on the coast in Rhode Island?**

# Equity Mapping Methods

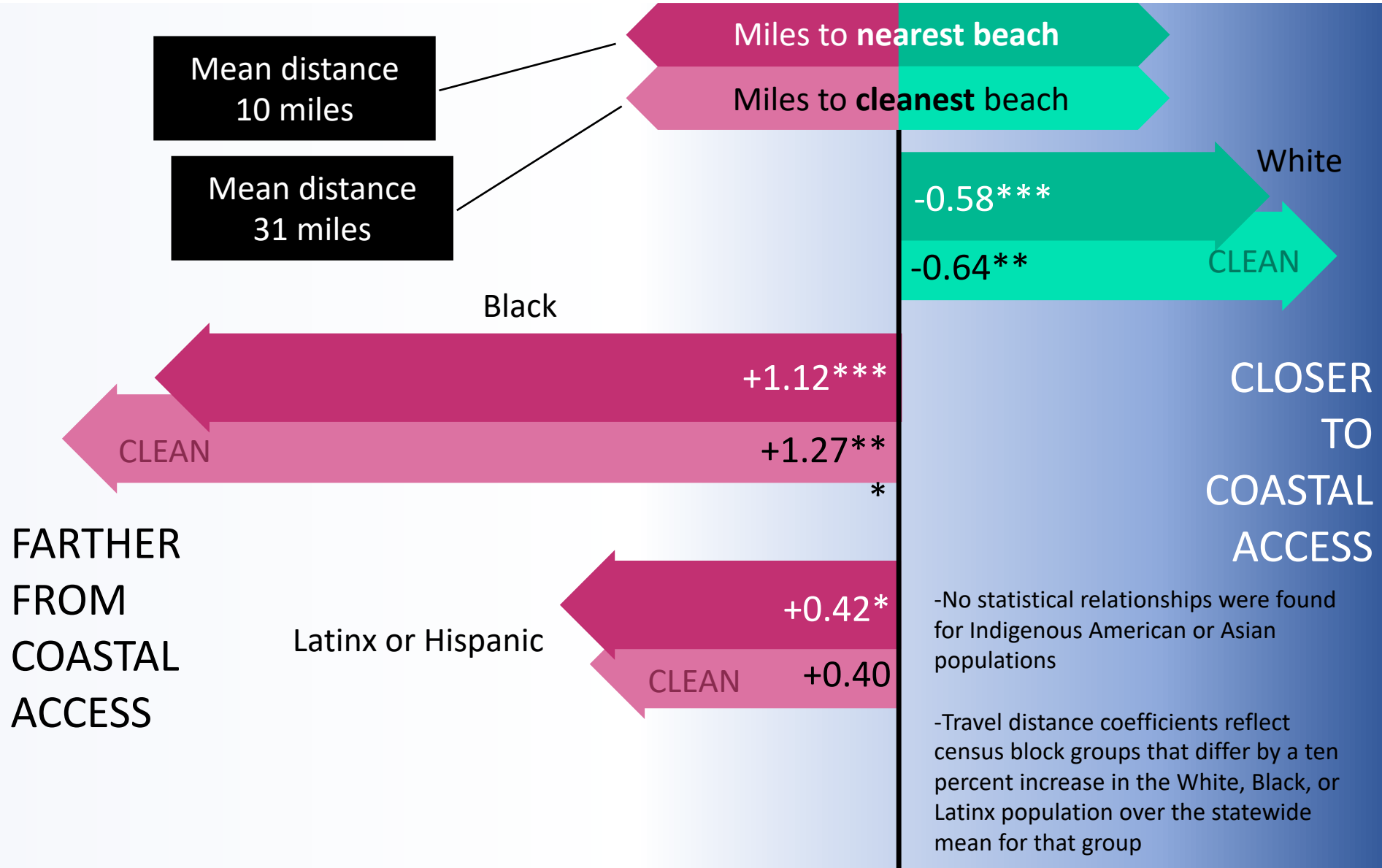
1. Census blockgroup-level travel distance
  - Mean distance to the NEAREST beach/10 public access points
  - Mean distance to the CLEANEST beach/10 public access points
2. What factors change the travel distance? (linear regression)
  - Race or ethnicity
  - Income, home value, unemployment
  - Seasonal housing
  - Vehicle
  - Urbanized areas
  - Population density
  - County

References: [Rigolon 2016](#), [Montgomery et al. 2015](#), [Kim et al. 2019](#)

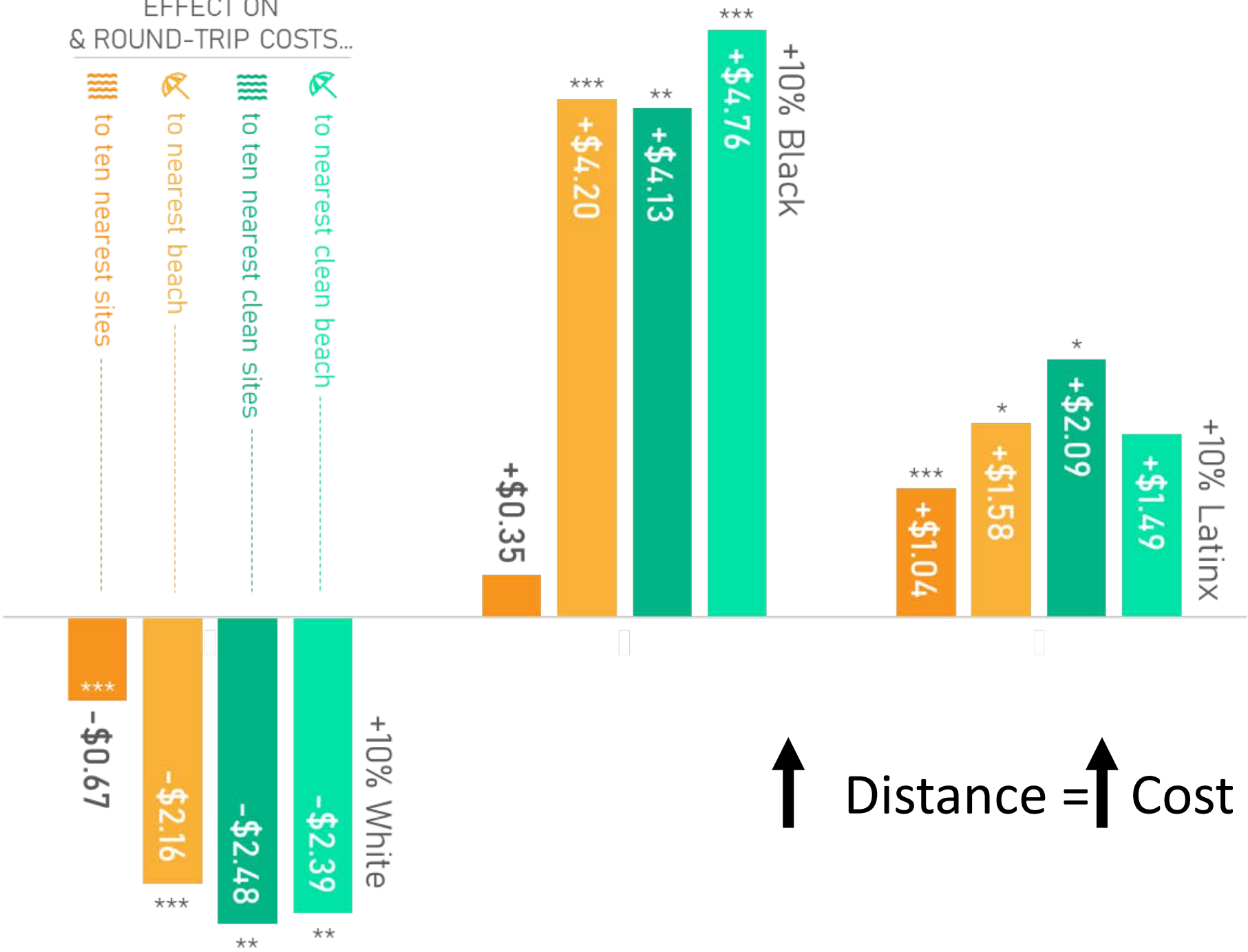
# Results: All Coastal Access



# Results: Beaches



EFFECT ON  
& ROUND-TRIP COSTS...





# Policy & management implications

## What we know

There are state-wide inequities in coastal access opportunities associated with race and ethnicity.



Equality

Everyone is the same distance from access points  
\*\*Can we provide more public access points, and where?\*

# Policy & management implications

## What we know

There are state-wide inequities in coastal access opportunities associated with race and ethnicity.



Equality

Equitability

Everyone is the same distance from access points

\*\*Can we provide more public access points, and where?\*

Everyone has a fair chance to get to high quality shoreline given different resources

\*\*Can we update transportation, parking, fees/permits structures?\*

\*\*Can we improve the environment at the existing/future access points?

\*\*Can we restore coastal sites to enrich rather than exclude?\*

# Thank you!

For more information, please contact:

Kate Mulvaney

[mulvaney.kate@epa.gov](mailto:mulvaney.kate@epa.gov)

Julia Twichell

[julia.twichell@nbep.org](mailto:julia.twichell@nbep.org)

The views expressed in this presentation are those of the authors and do not necessarily represent the views or policies of the U.S. Environmental Protection Agency