ECOLOGICAL & ECONOMIC IMPACTS OF LAND USE AND CLIMATE CHANGE ON COASTAL FOOD WEBS & FISHERIES

SUWANNEE RIVER ESTUARY NON-MARKET VALUATION STUDIES OF RECREATIONAL SALTWATER FISHERIES

Roberto Koeneke, Olesya Savchenko, Kelly Grogan, Christa Court, Jana Hilsenroth, and Holden Harris

UF | IFAS
UNIVERSITY of FLORIDA

Suwannee River Estuary

Photo by Marisol Amador; UF/IFAS

- Recreational saltwater fishing
  - Spending of $1.8 billion in 2019 (Gulf Coast of Florida)
    [*NOAA, 2022*]
  - Economic impact (in 2020):
    $9.2 billion (statewide)
    [*FWC, 2021*]

Environment and Land Use

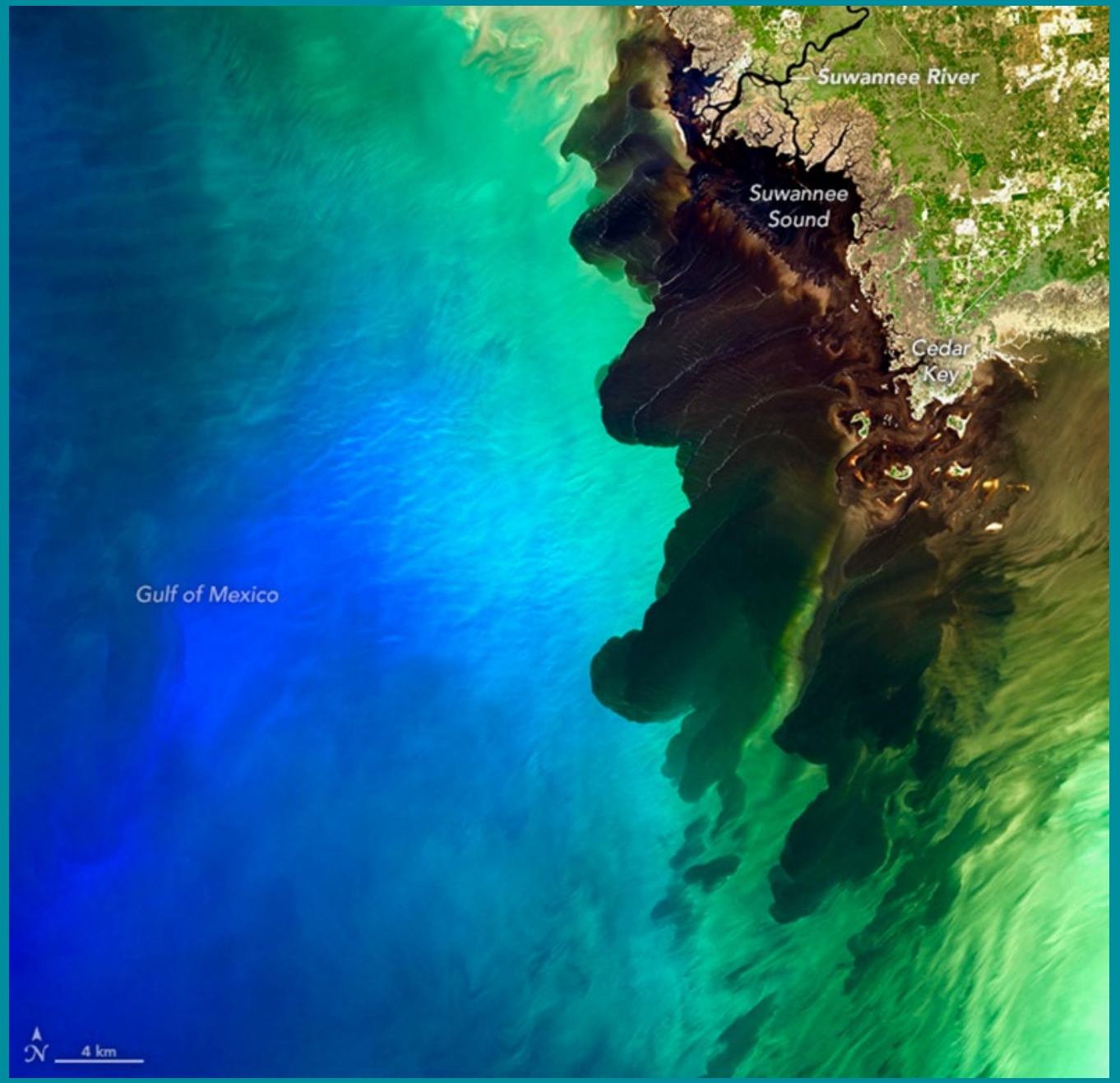
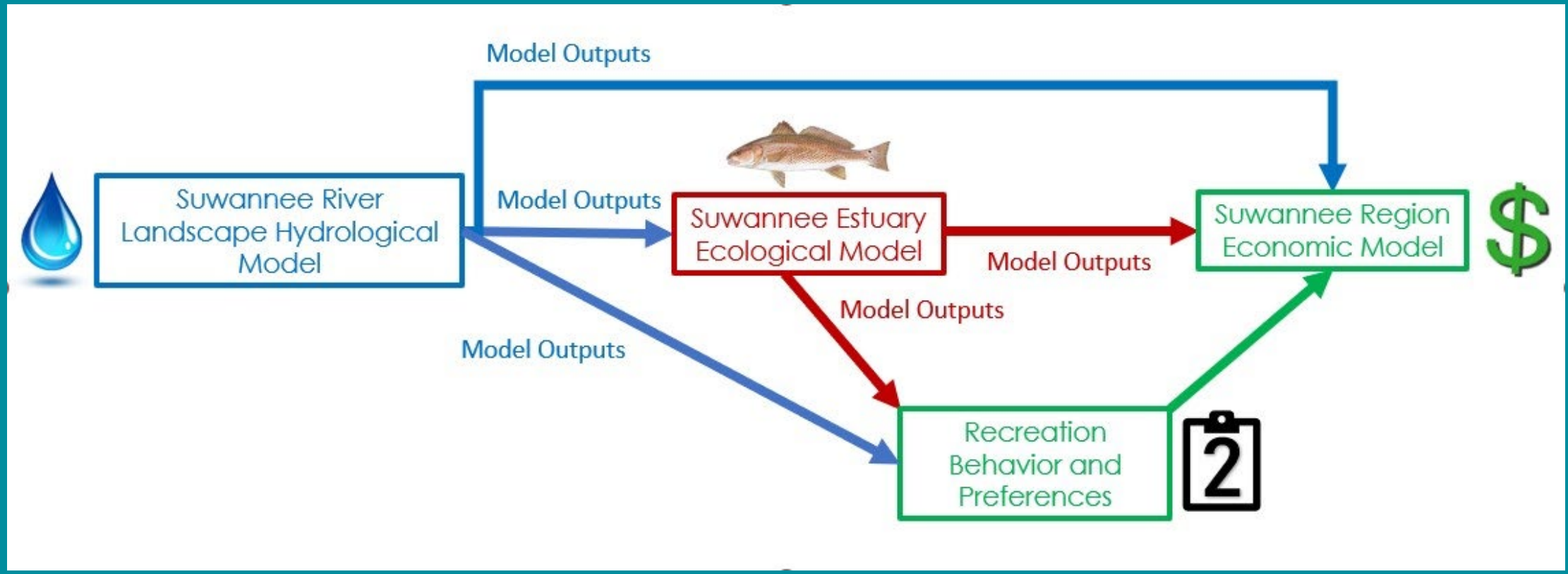


Image source: NASA Earth Observatory

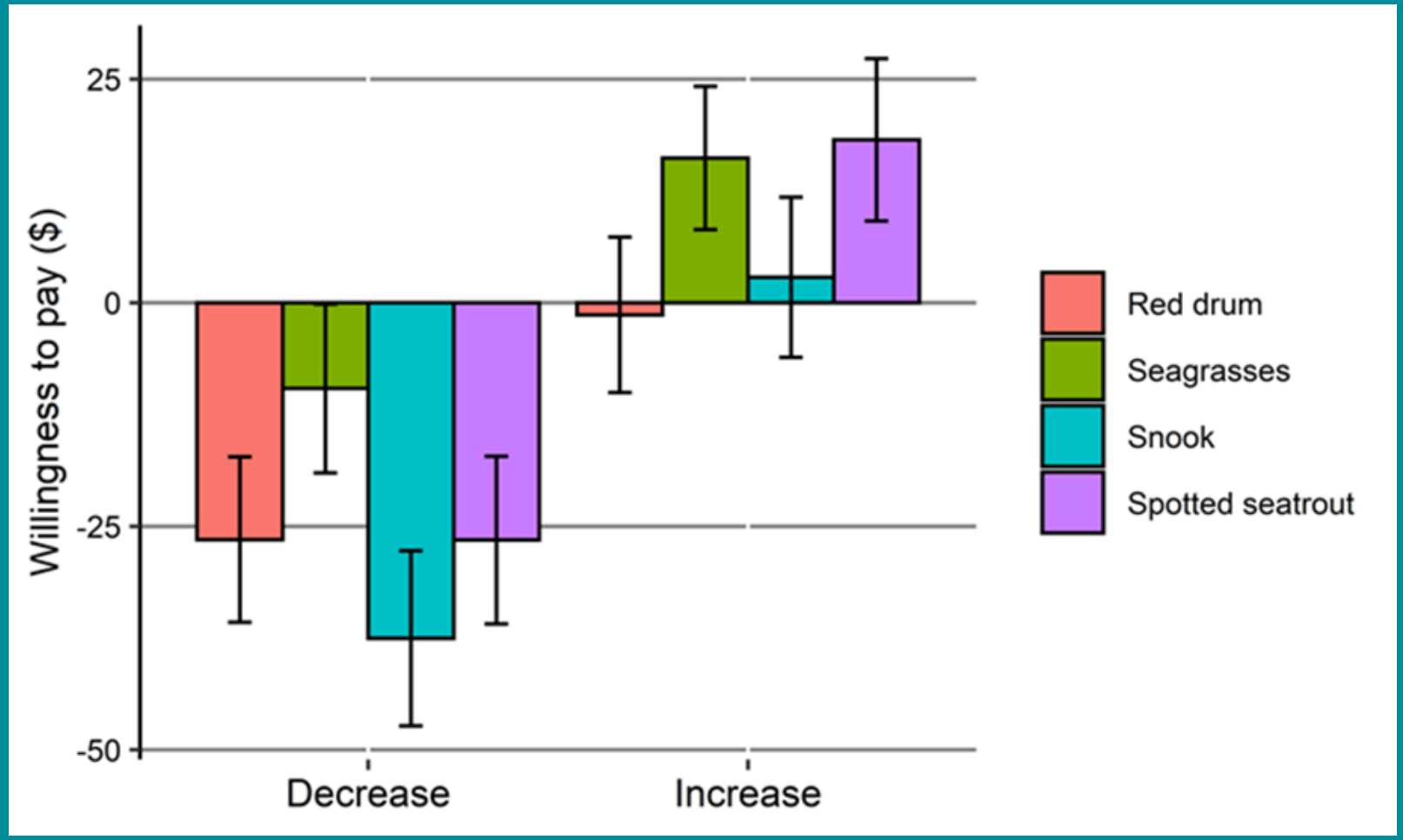
Integrated Modeling Framework



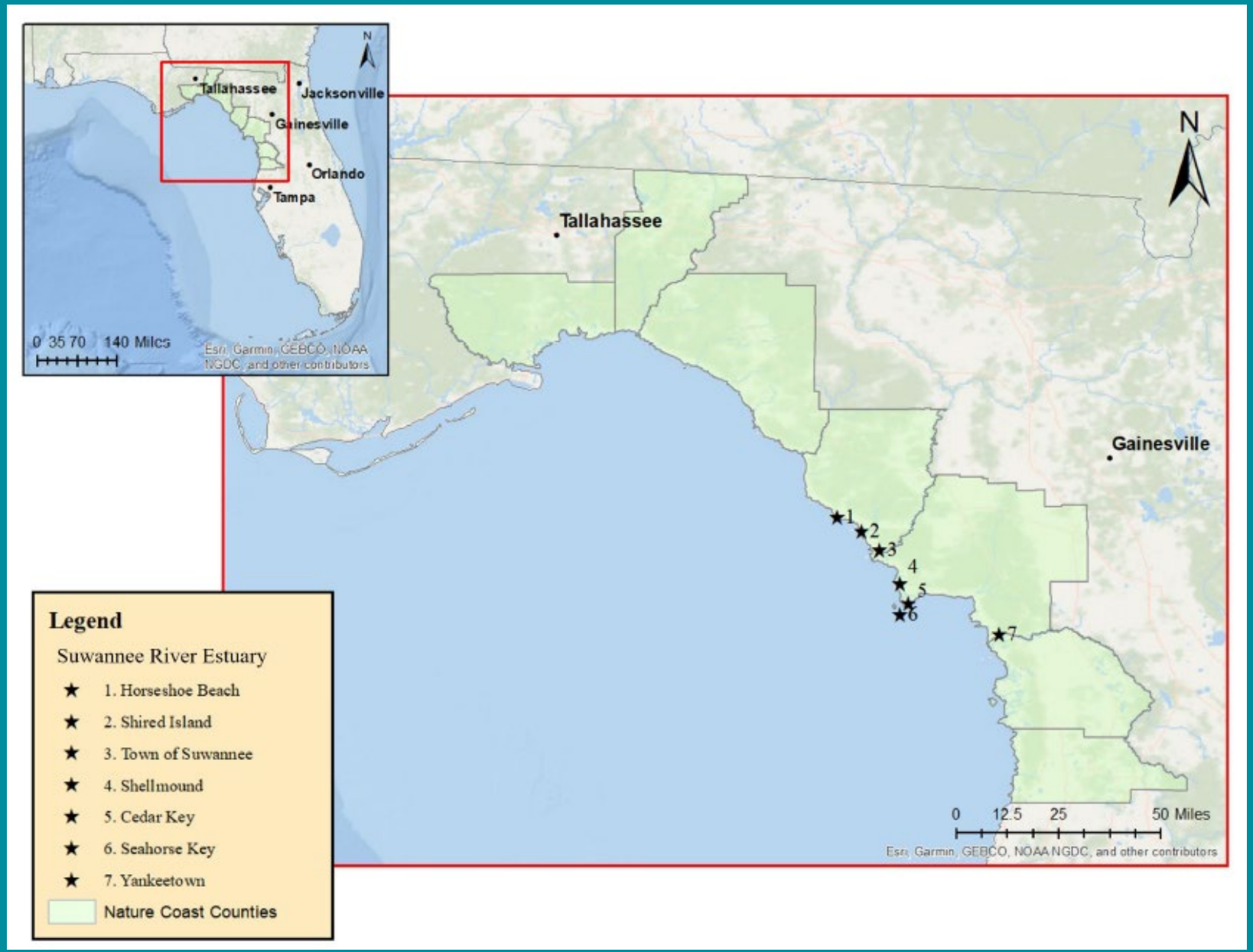
Choice Experiment

	Program A	Program B	No Management Actions Taken
Snook Population 	Doubles	Stays the same (i.e., today's population)	Declines by 50%
Red Drum Population 	Declines by 50%	Stays the same (i.e., today's population)	Declines by 50%
Seatrout Population 	Stays the same (i.e., today's population)	Declines by 50%	Declines by 50%
Seagrass Percent Abundance			
Annual Cost to Your Houshold	$10	$85	$0

Willingness to Pay for Target Species



- Angler interest in maintaining favorable fishing conditions
- Anglers value increases in seagrass and spotted seatrout



Angler Survey

Angler Survey Variables

Angler characteristics

- State of residence
- Vacation property
- Zip code
- Primary reason for fishing in Nature Coast
- Educational attainment
- Gender
- Race/ethnicity
- Household income
- Year of birth

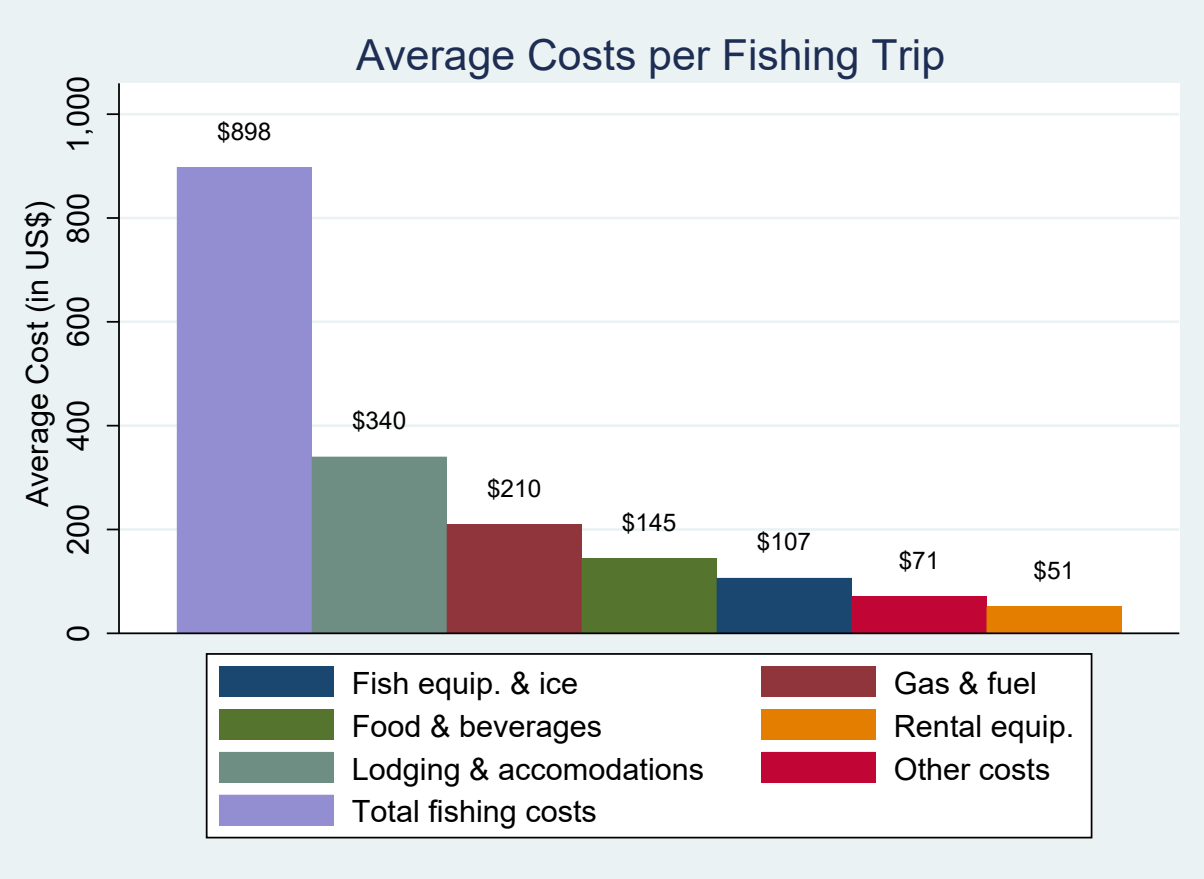
Trip characteristics

- Catch by species
  - Expected/caught
  - Average trip
- Fishing trip costs
  - Fishing equipment and ice
  - Fuel and gas
  - Food and beverages
  - Lodging/accommodation
  - Rental equipment
  - Other

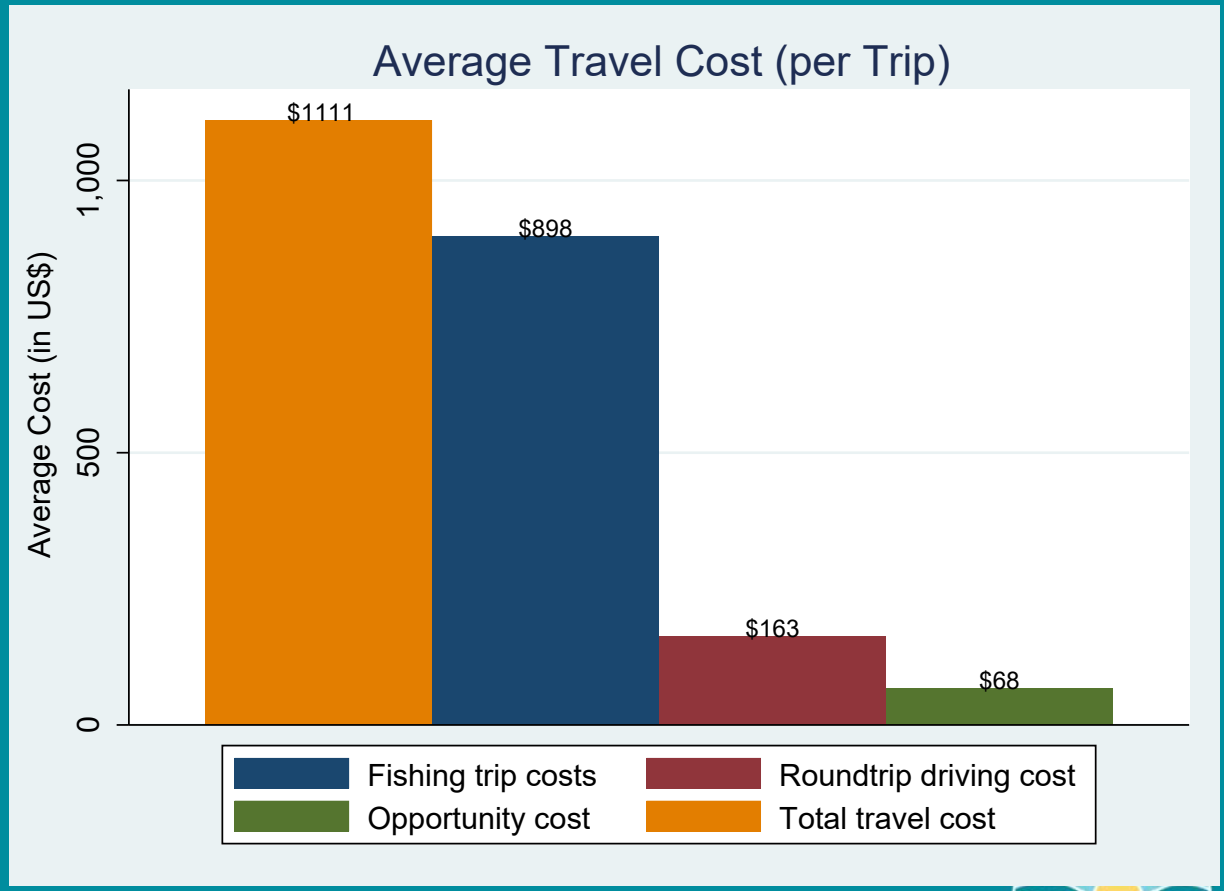
Number of trips

- Last month
- Last 12 months
- Expected: next 12 months
  - ➢Status quo
  - ➢Fish populations double
  - ➢Fish populations halve
  - ➢Fish populations ↑ 20%
  - ➢Fish populations ↓ 20%

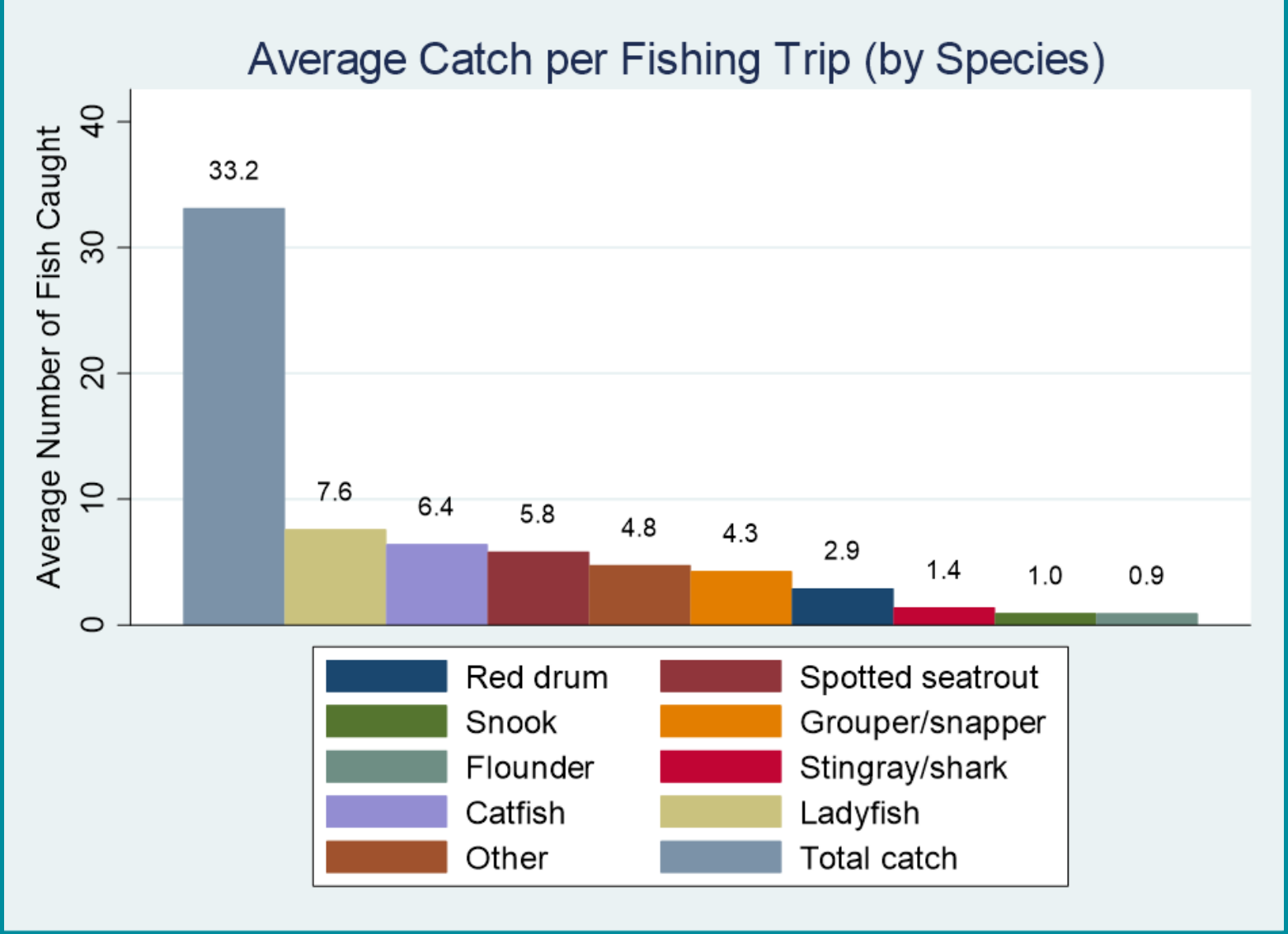
Average Fishing Trip Costs



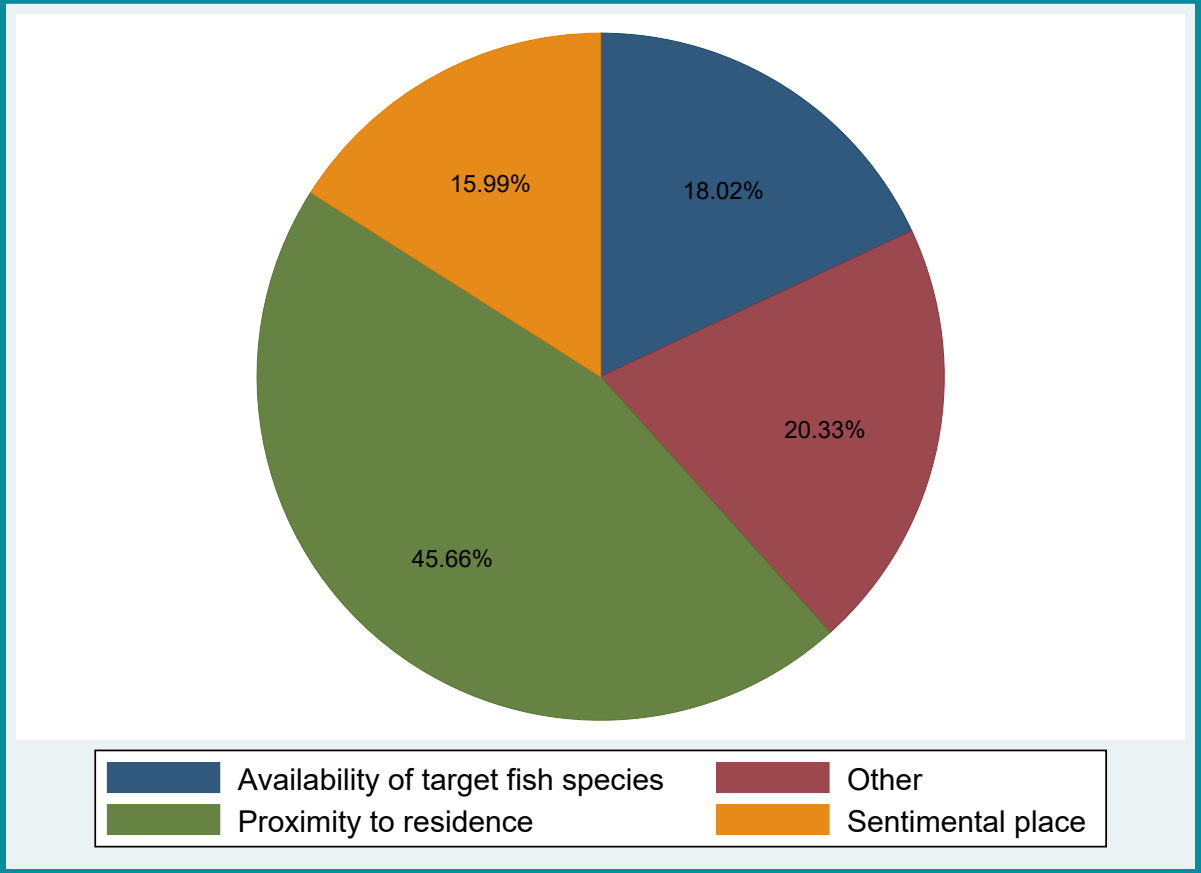
Average Travel Cost per Trip



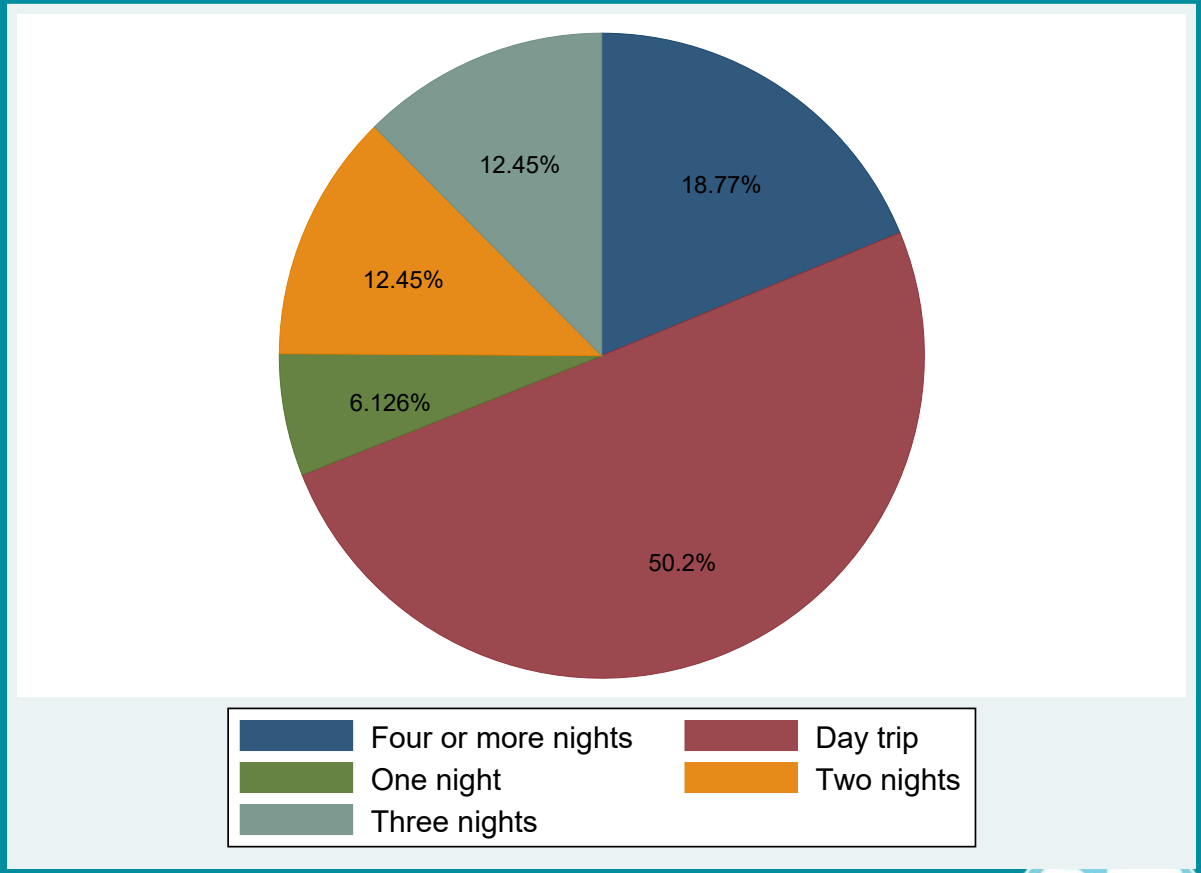
Average Catch per Fishing Trip (by Species)



Primary Reason for Fishing



Average Trip Length



Regional character to the recreational fishery

Preliminary Results

Photo by Tyler Jones; UF/IFAS

- Fish population changes impact number of expected trips
- Additional travel time and higher costs reduce trips

Ways to Engage:

Roberto Koeneke
rkoeneke@ufl.edu

Project Website: