



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

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# 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

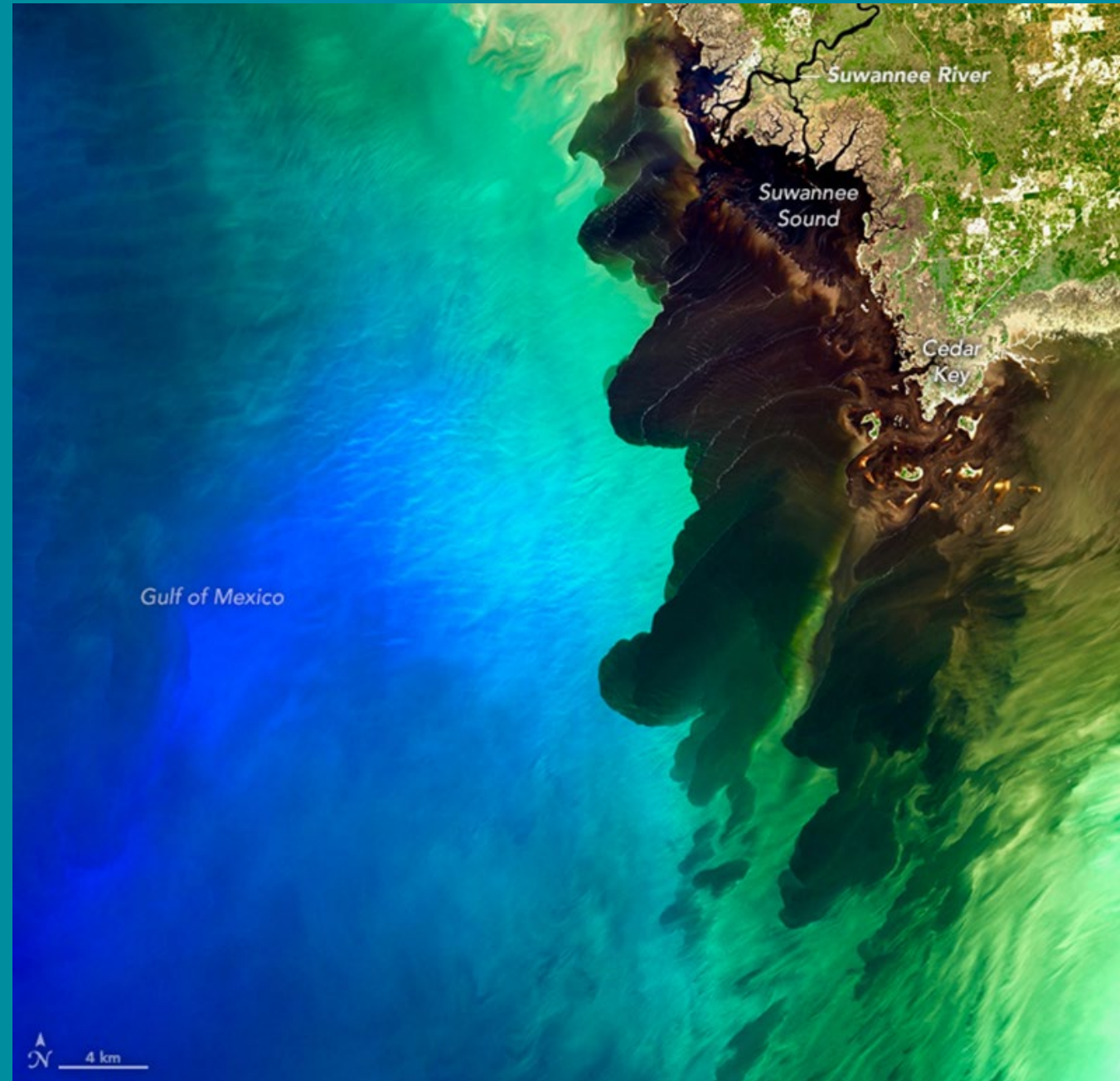
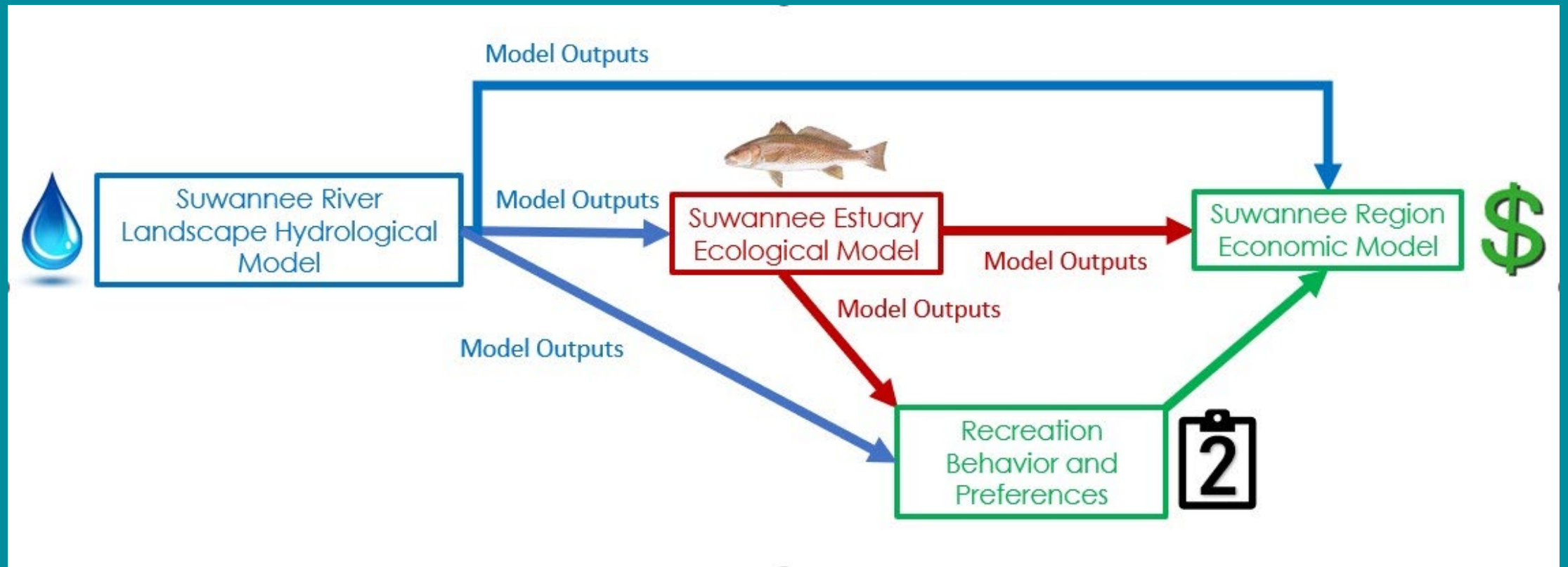





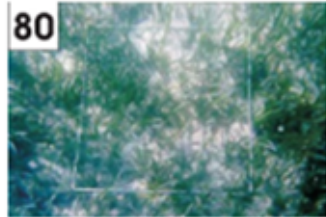


Image source: NASA Earth Observatory



# Integrated Modeling Framework

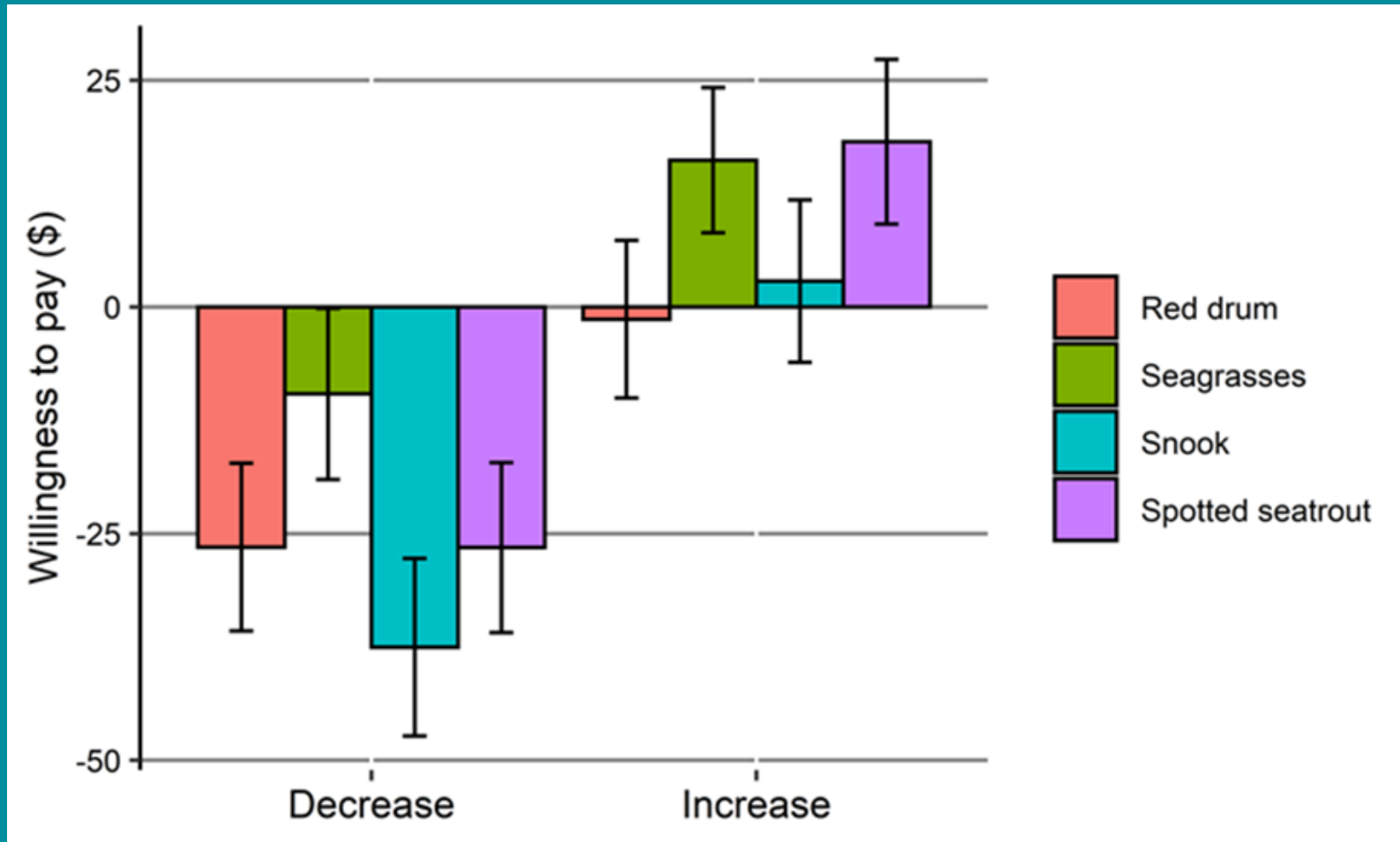


# Choice Experiment

	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   	80	80	30
Annual Cost to Your Household	\$10	\$85	\$0

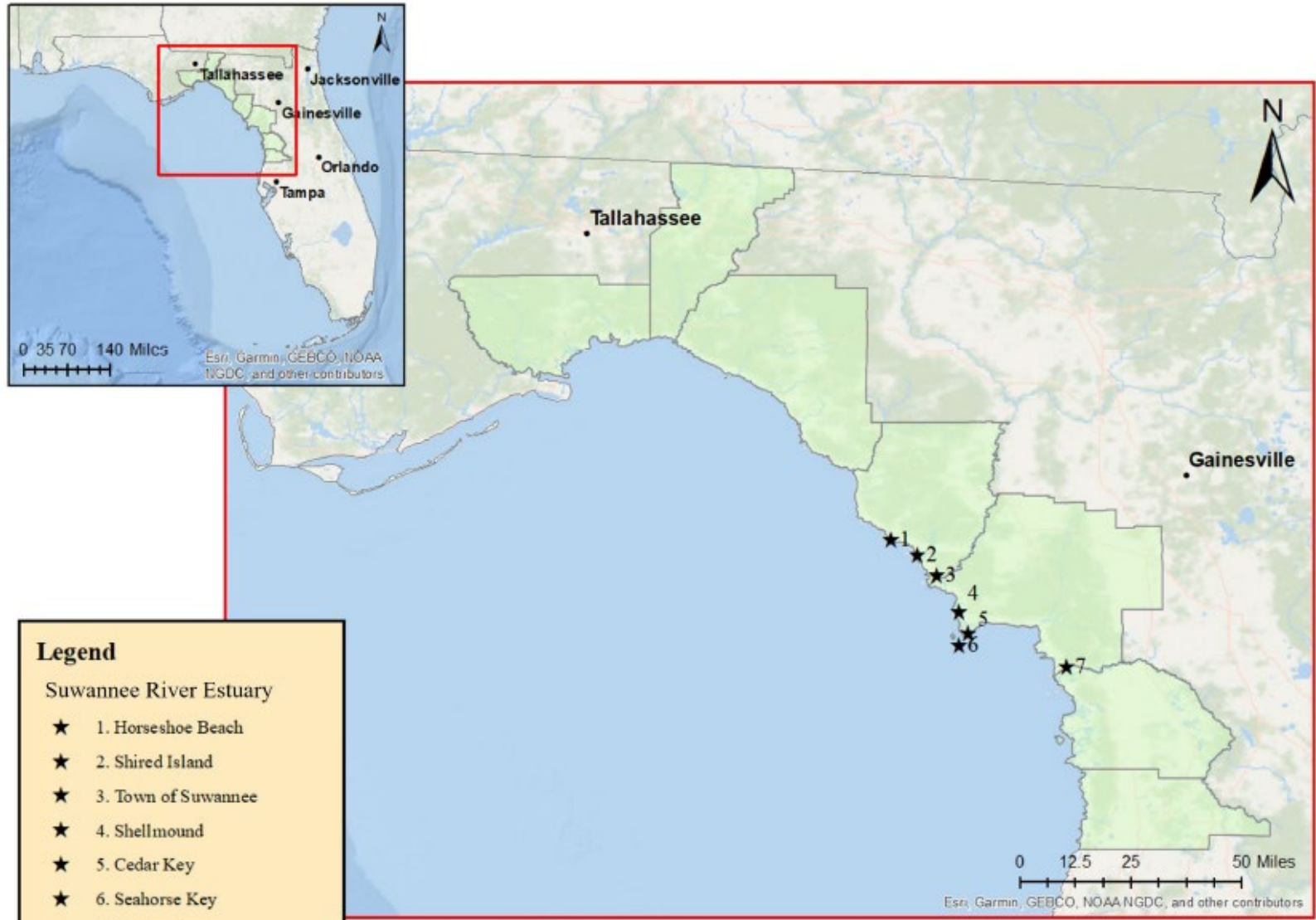


# Willingness to Pay for Target Species



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





**Legend**

Suwannee River Estuary

- ★ 1. Horseshoe Beach
- ★ 2. Shired Island
- ★ 3. Town of Suwannee
- ★ 4. Shellmound
- ★ 5. Cedar Key
- ★ 6. Seahorse Key
- ★ 7. Yankeetown

■ Nature Coast Counties

# 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

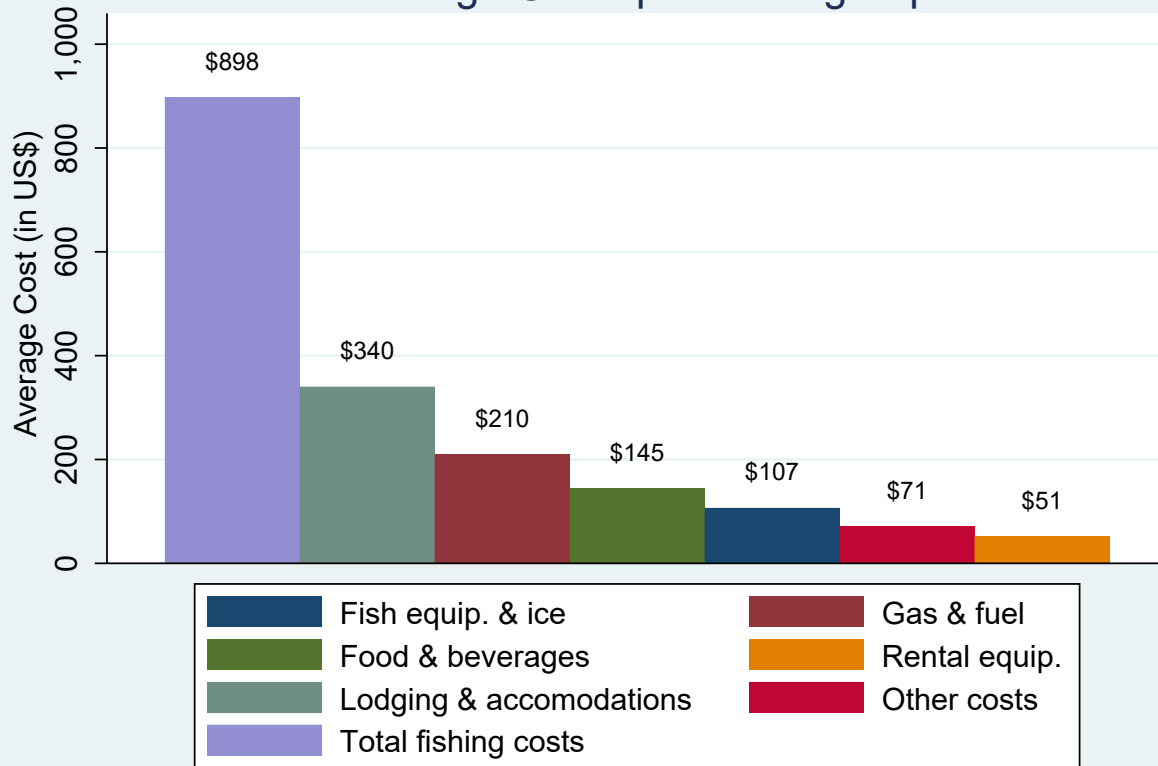
- Last month
- Last 12 months
- Expected: next 12 months
  - Status quo
  - Fish populations double
  - Fish populations halve
  - Fish populations ↑ 20%
  - Fish populations ↓ 20%





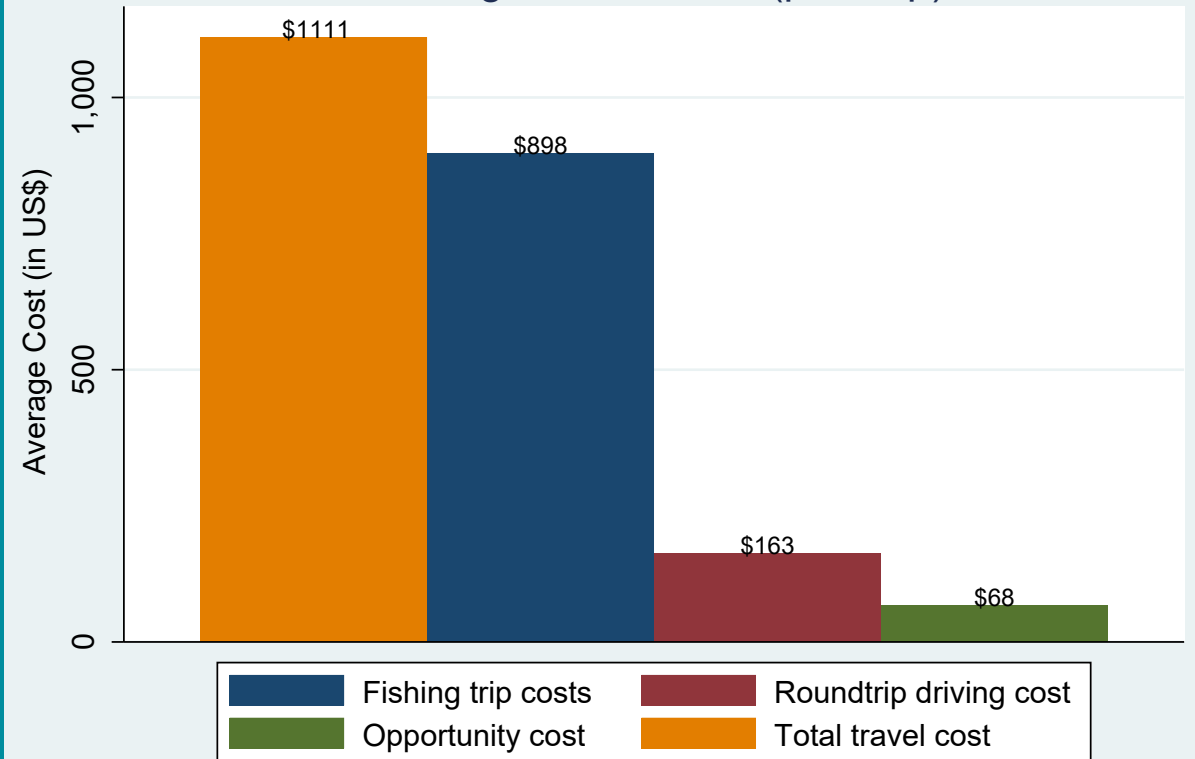
# Average Fishing Trip Costs

## Average Costs per Fishing Trip

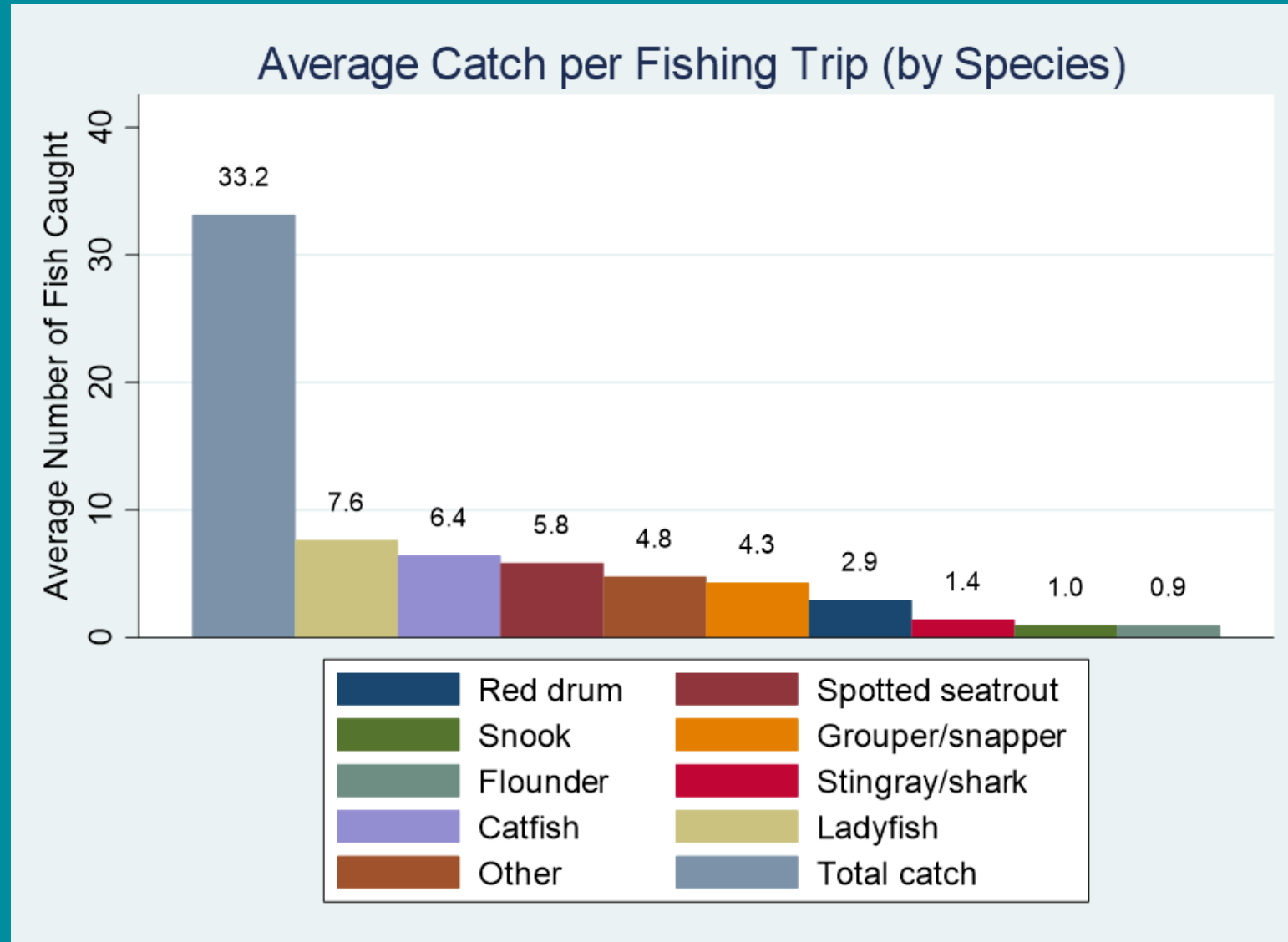


# Average Travel Cost per Trip

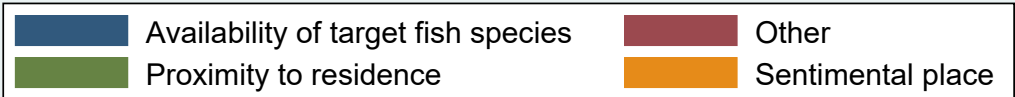
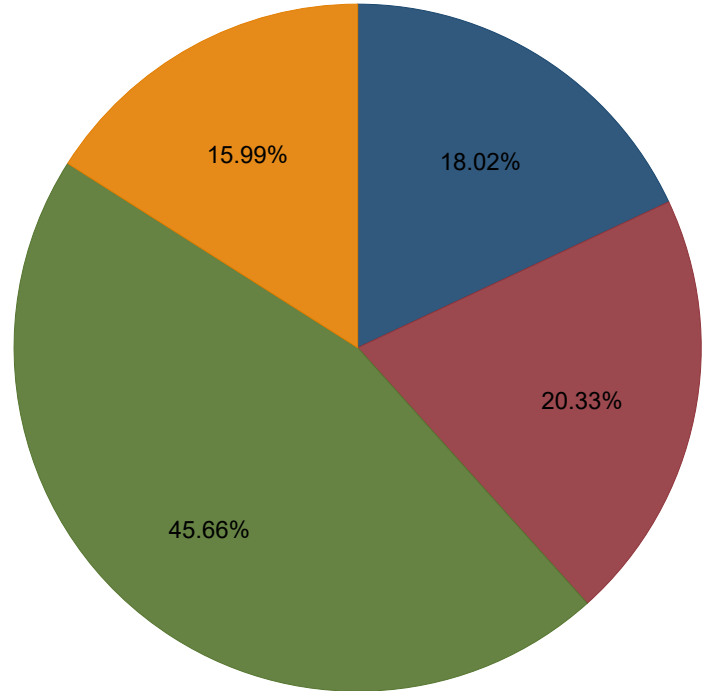
## Average Travel Cost (per Trip)



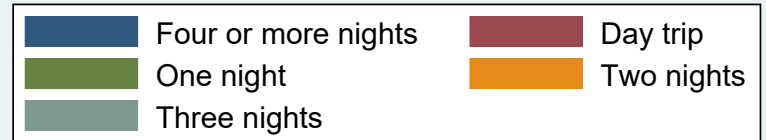
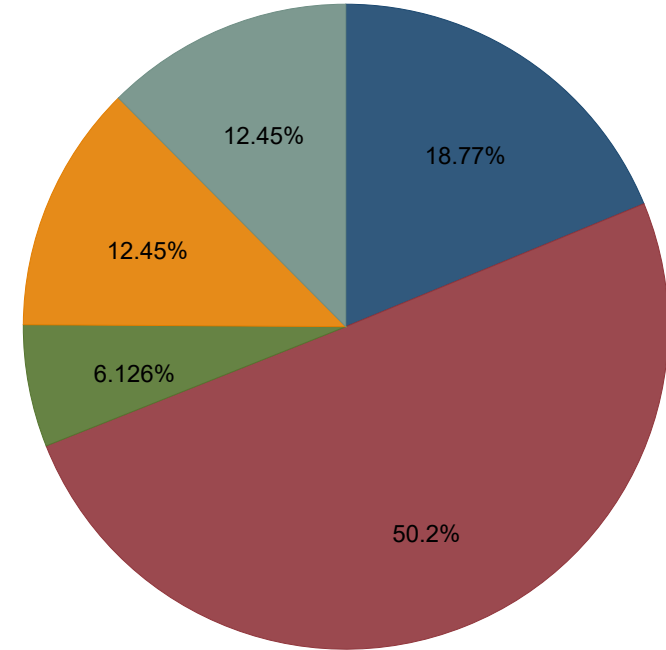
# Average Catch per Fishing Trip (by Species)



## 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





 **Waccasassa Bay  
Channel Markers** 

Developed with financial assistance provided by the Florida Fish & Wildlife Conservation Commission  
through the:  
Florida Boating Improvement Program and the Levy County Board of County Commissioners

**NO  
LITTERING**  
VIOLATORS WILL BE PROSECUTED  
UNDER SECTION 805.11  
FLORIDA STATUTES

**SPORT FISH  
RESTORATION**

Your purchase of fishing equipment and motor boat fuels supports Sport Fish Restoration and boating access facilities

# Ways to Engage:

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# Project Website:

