

Using sharks as sentinels for the health of Georgia estuaries

Objective: To identify the effects of estuary health on the physiological well-being of coastal sharks

Allyson Stiles¹, Kady Lyons², Devin Dumont³, Thomas McElroy¹, and Troy Mutchler¹

Kennesaw State University¹, Georgia Aquarium², and University of Georgia³

Introduction

- Coastal populations increase each year
- Estuaries face increased anthropogenic pressures
- Abiotic changes can cause stress on coastal shark species
- Continued stress can disrupt ecologically trophic levels



Questions

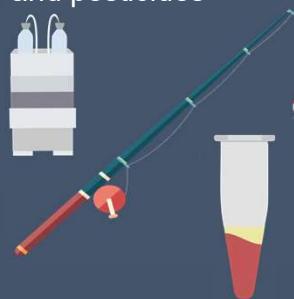
- How does increased anthropogenic pressure affect shark physiology?
- Do abiotic factors, such as water and sediment quality, vary along the Georgia coast due to varying anthropogenic influence?

Methods

- A multi-metric modeling approach
- Composite score for overall health of three estuaries
- Abiotic, biotic, and local anthropogenic influence data will be used in health composite score
- Longline surveys to gather biometric data and blood samples

Methods

- Water samples will be assessed for water quality (e.g. salinity, pH, DO)
- Sediment samples will be quantified for concentrations of heavy metals, organic material, and pesticides



Expected Results

- Doboy Sound will have the highest score
- Ossabaw Sound will have a mid score
- Wassaw Sound will have the lowest score

