

Map of the Charleston, SC region, including Charleston Harbor, the Ashley River, Cooper River, and Wando River

## Field Work Year 0

- Bird and egg permits obtained
- 9 black skimmers eggs (Crab Bank, CH)
- 7 brown pelican eggs (Castle Pickney, CH)
- Water (Ashley River, CH)
- Sediment (Ashley River, CH)



Brown Pelicans at Castle Pickney

## Objectives:

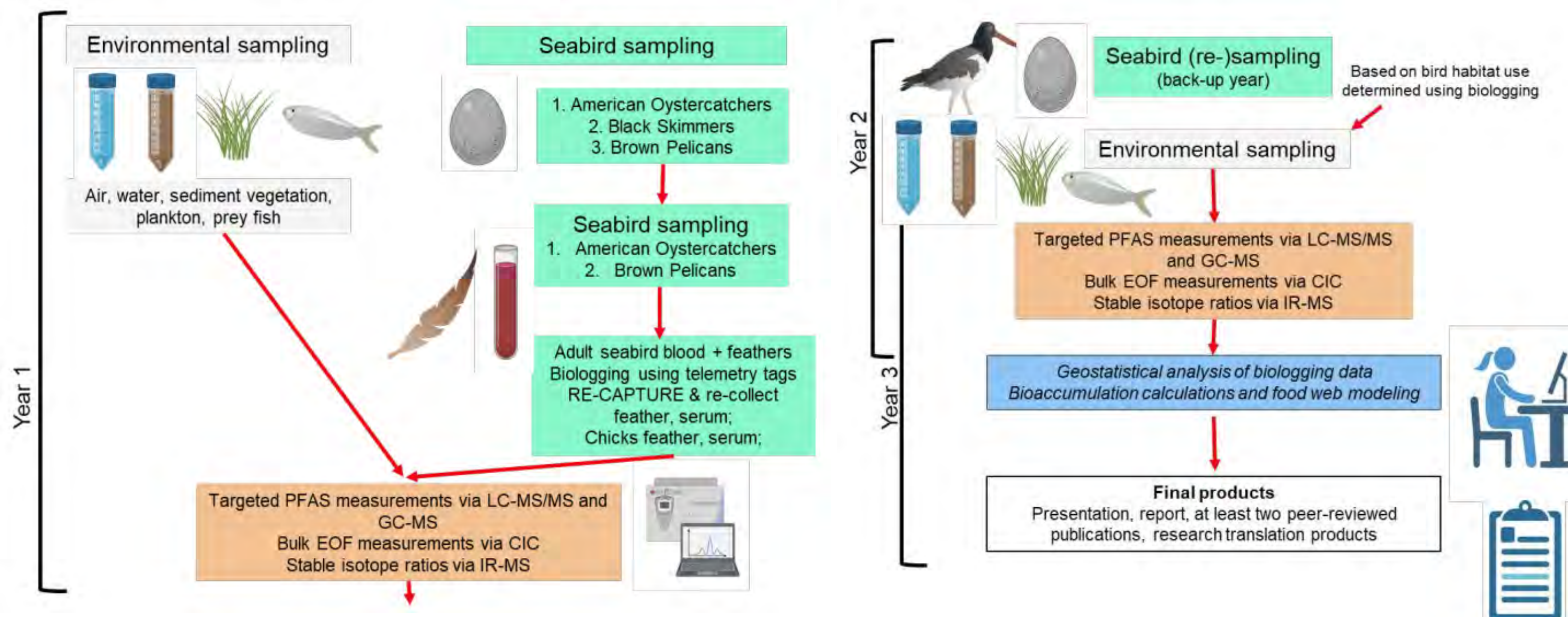
- Objective 1: Describe the bioaccumulation and biomagnification of a wide range of target PFAS in food webs supporting multiple species of coastal birds
- Objective 2: Assess how (AFFF) precursors may be contributing to bioaccumulation of terminal PFAS in food web bioaccumulation assessments
- Objective 3: Evaluate how use of AFFF-impacted riverine and estuarine systems influence adult PFAS body burdens and chick uptake of PFAS

Oyster Catcher nest with trap



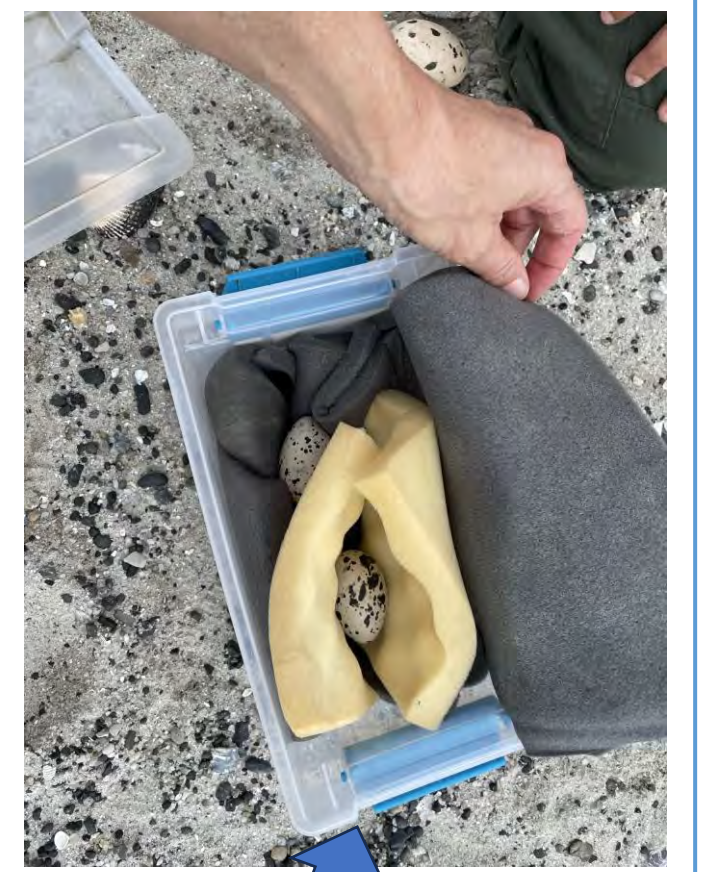
## Currently in Development

- Egg extraction method:
  - Solid vs aqueous extraction
  - EPA 1633 VS. internal improved 1633
- Finalizing analyte list
- Learning fish dissection techniques for fish tissue and liver extractions



## Plans for the Future

- Development of SOPs for
  - Prey Fish
  - Bivalves
  - Plankton
  - Bird Serum
  - Vegetation
  - Water ( passive and grab)
  - Sediment
  - Air



Oyster Catcher eggs

Year 1 Field sampling to take place March-May 2024

Component	Deliverable	Yr 1	Yr 2	Yr 3	Yr 4
Biotic, abiotic field sampling	PFAS, SI in water, air, sediment, prey items				
Bird habitat use data	Tag birds, collect bird feather, eggs, serum				
Drivers of PFAS accumulation	PFAS in birds, stable isotope measurements, model habitat use				
Bird bioaccumulation and biomagnification of PFAS, EOF	Derive BAF, BMF, TMF of PFAS and EOF, compare linear and Bayesian frameworks				
Final curation of results and data	Final report and presentations, manuscript drafting				

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