

# THE APALACHICOLA BAY SYSTEM INITIATIVE (ABSI)

PROJECT OVERVIEW  
Sandra Brooke

Science Advisory Board Meeting  
December 14, 2022

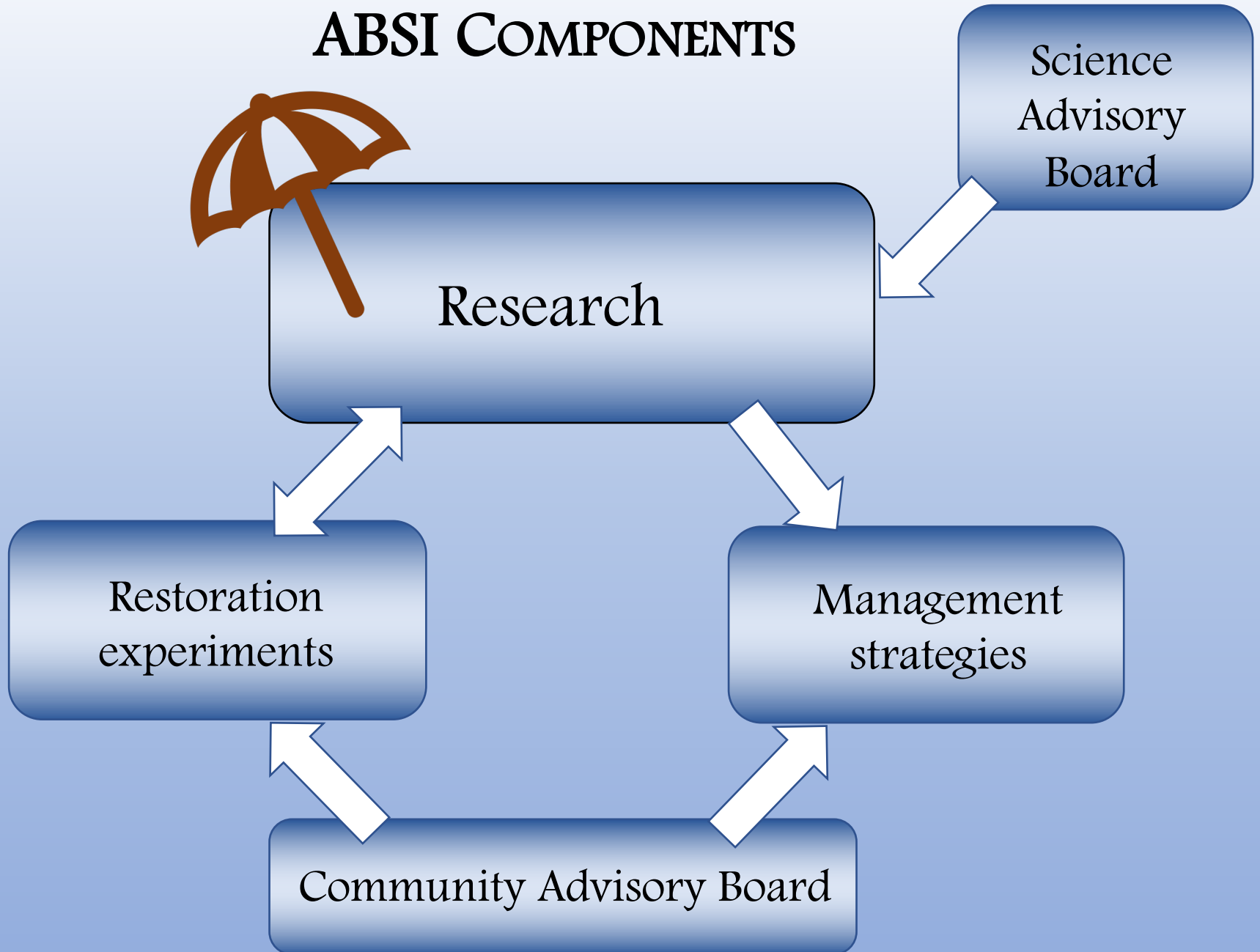
# WHAT IS ABSI?



**Funded by Triumph Gulf Coast Inc. in April 2019, ABSI overarching goals are:**

- Understand why the Apalachicola Bay oyster populations have not recovered and identify restoration approaches that will inform larger efforts
- Determine whether loss of oyster populations is causing a decline in overall ecosystem health?
- Work with local stakeholders to help develop a science-based restoration and management plan for Apalachicola Bay

# ABSI COMPONENTS



# ABSI PERSONNEL

## Faculty

Sandra Brooke, Full Research Faculty (PI)  
Joel Trexler, FSUCML Director, Faculty (Co-PI)  
Tara Stewart Merrill, Asst. Research Faculty  
Josh Breithaupt, Asst Research Faculty  
Andy Shantz, Asst Research Faculty

## Students

Ph.D ~ 8  
MSc ~ 5  
Undergrads ~ 2-4

## Post-docs

Betsy Mansfield  
Fabio Caltabellotta

## Technicians

Research Technicians ~ 6  
Hatchery Technicians ~ 5  
Interns ~ 4-6

Grants Compliance

Data management

Outreach team

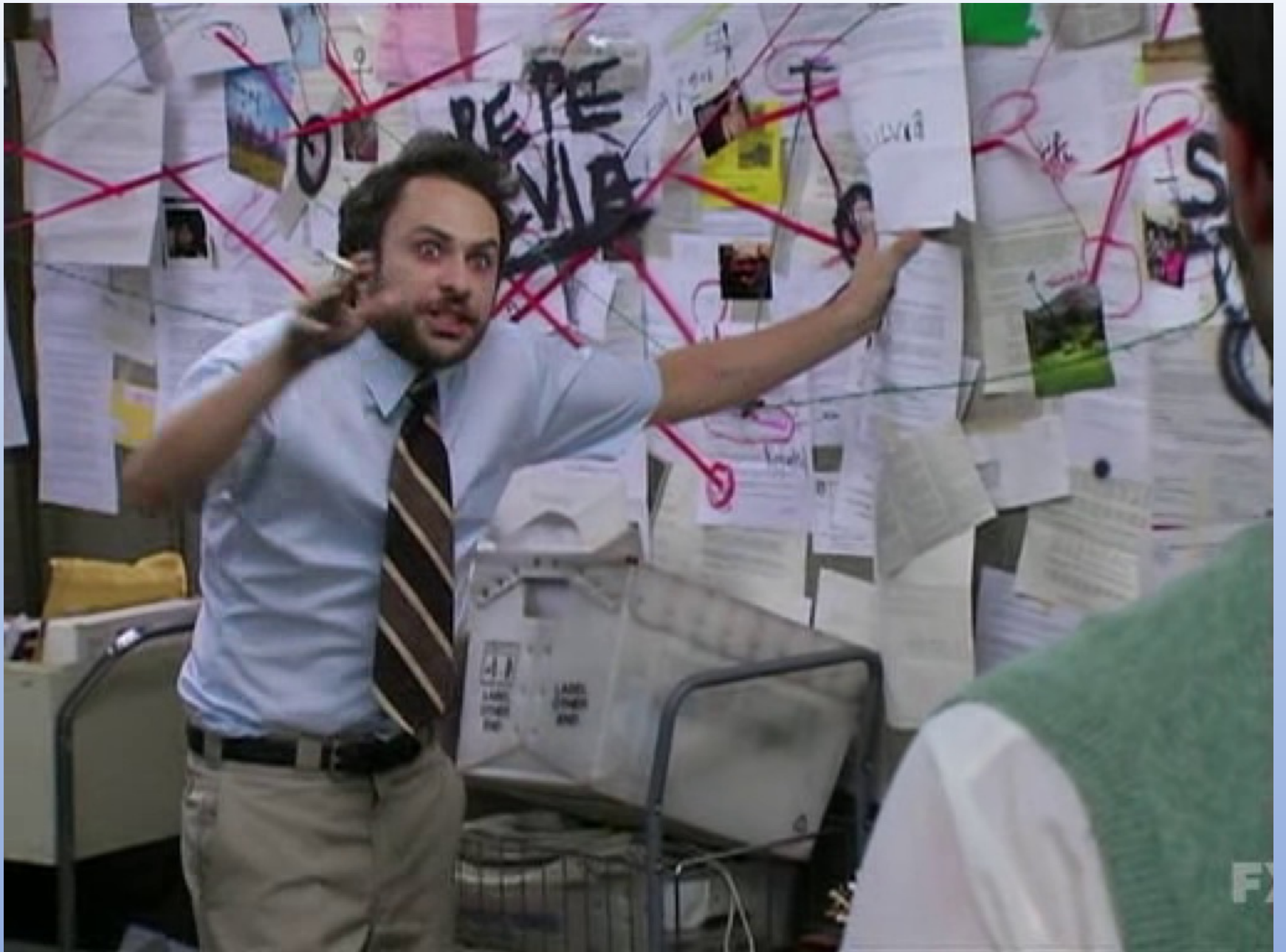


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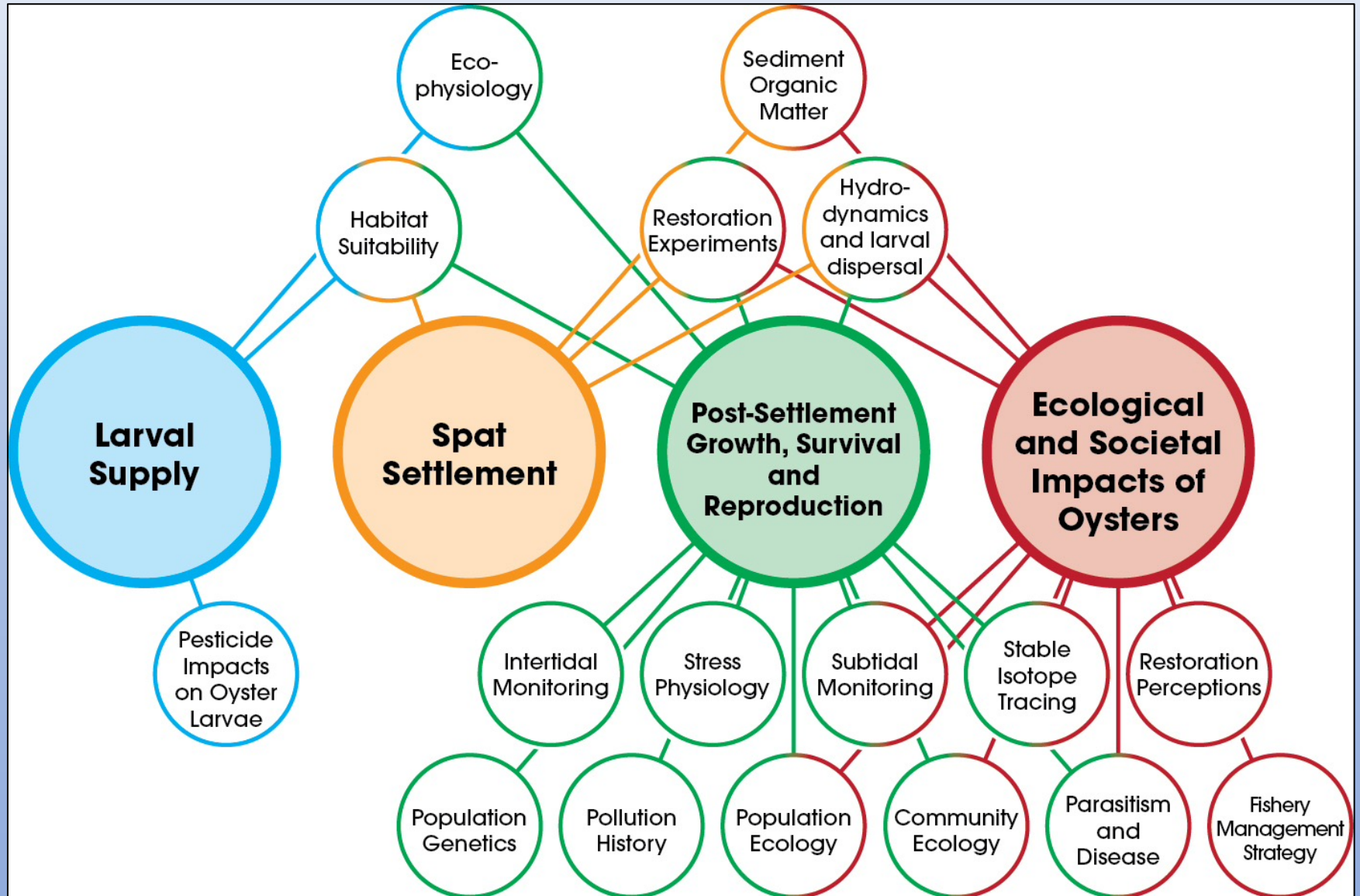
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# ABSI Annual Report

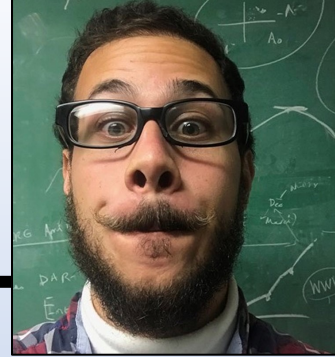
## March 2022



# Development of a public-facing interactive tool



# Habitat suitability



## Habitat suitability models

*Environmental project*

Adam Alfasso\*, Sandra Brooke

- Which areas are currently most likely to support oyster recruitment, growth and survival?
  - How will these areas change under future climate scenarios?
- What substrate types are most conducive to oyster population development?
  - How do seasonal environmental regimes affect habitat suitability patterns?
- How do seasonal variations in larval dispersal impact habitat suitability patterns?
  - Is population connectivity an important variable for habitat suitability?
- Which areas within Apalachicola would be optimal for sanctuary (protected) reefs?



# Working toward an analytical model



Beatriz Mejía-Mercado  
Buceph AB-S-2

OysterID	SampleEvent	ShellHeight	ShellLength	ShellWidth	TotalWeight	ShellWetWe	DermoMantl	DermoGill	Sex	ReproStag
ABCD1601-0	ABCOLL_201	85.9	81.8	25.5	109.81	79.34	2		2 Z	4
ABCD1601-0	ABCOLL_201	102.8	71.7	28.4	107.9	77.23	1		1 Z	
ABCD1601-0	ABCOLL_201	90.8	64.2	45.5	169.41	131.02	2		2 Z	4 No
ABCD1601-0	ABCOLL_201	51.4	51.3	27.4	34.56	27.84	0		0 M	2 No
ABCD1601-0	ABCOLL_201	59.9	51.1	21.1	21.1	16.1	0		0 Z	4 Yes
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ABCD1601-1	ABCOLL_201	85	73.4	34.5	151.25	128.23	0		0.5 F	1 No
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ABCD1602-0	ABCOLL_201	71.5	49	28.8	49.25	34.18	0		0 F	1 No
ABCD1602-0	ABCOLL_201	50	42.4	21.2	28.06	23.11	0		0 M	1 No
ABCD1602-0	ABCOLL_201	58.6	46.5	25.3	38.18	28.43	0		0 M	1 No

- Developing data management plan
- Implementing data QA/QC
- Merging data streams into user-friendly master database(s)
- Master database(s) provide the means to build quantitative models and test hypotheses