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

Science Advisory Board

Research

Restoration experiments

Management strategies

Community Advisory Board

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

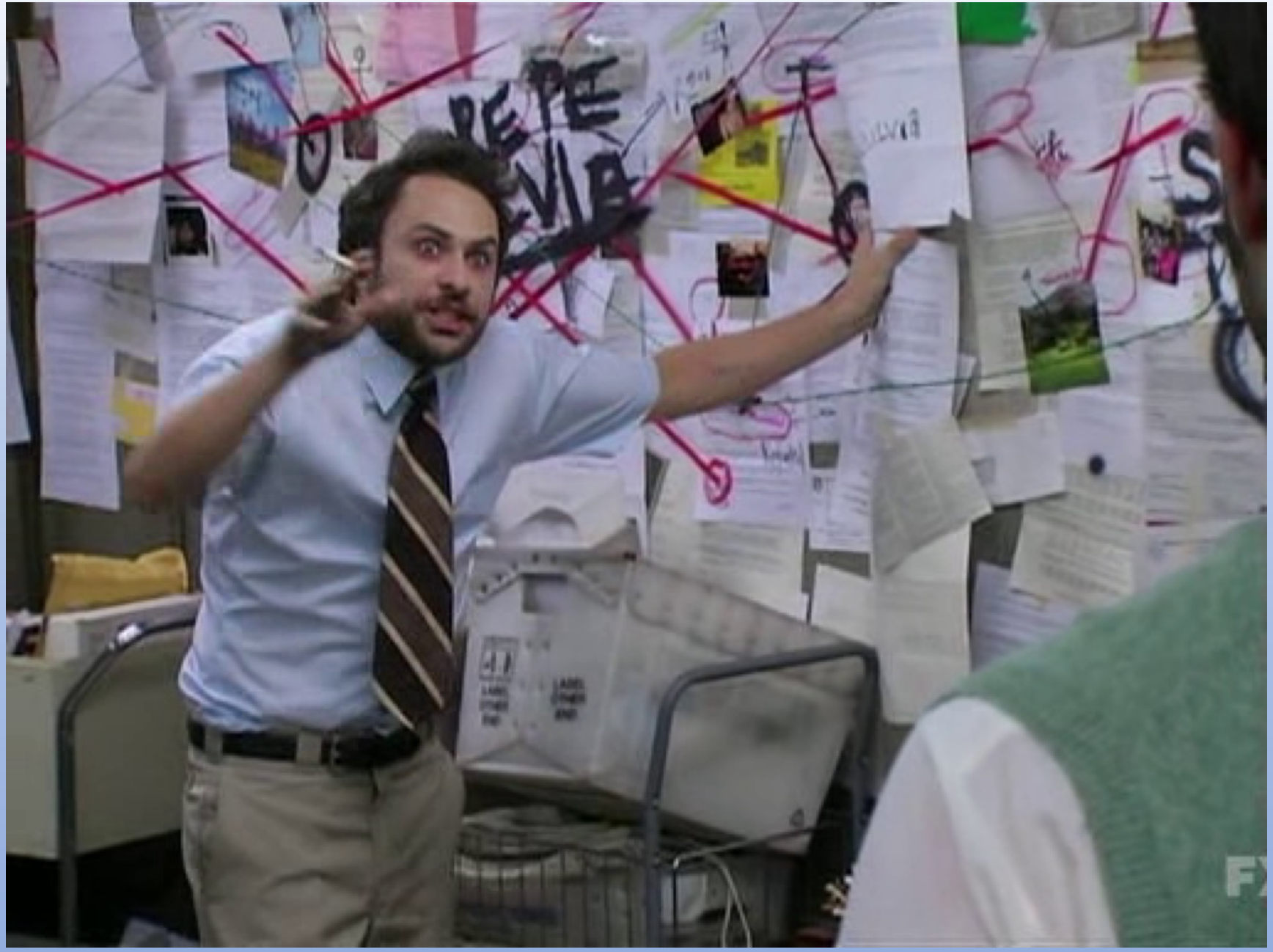
Grants Compliance

Data management

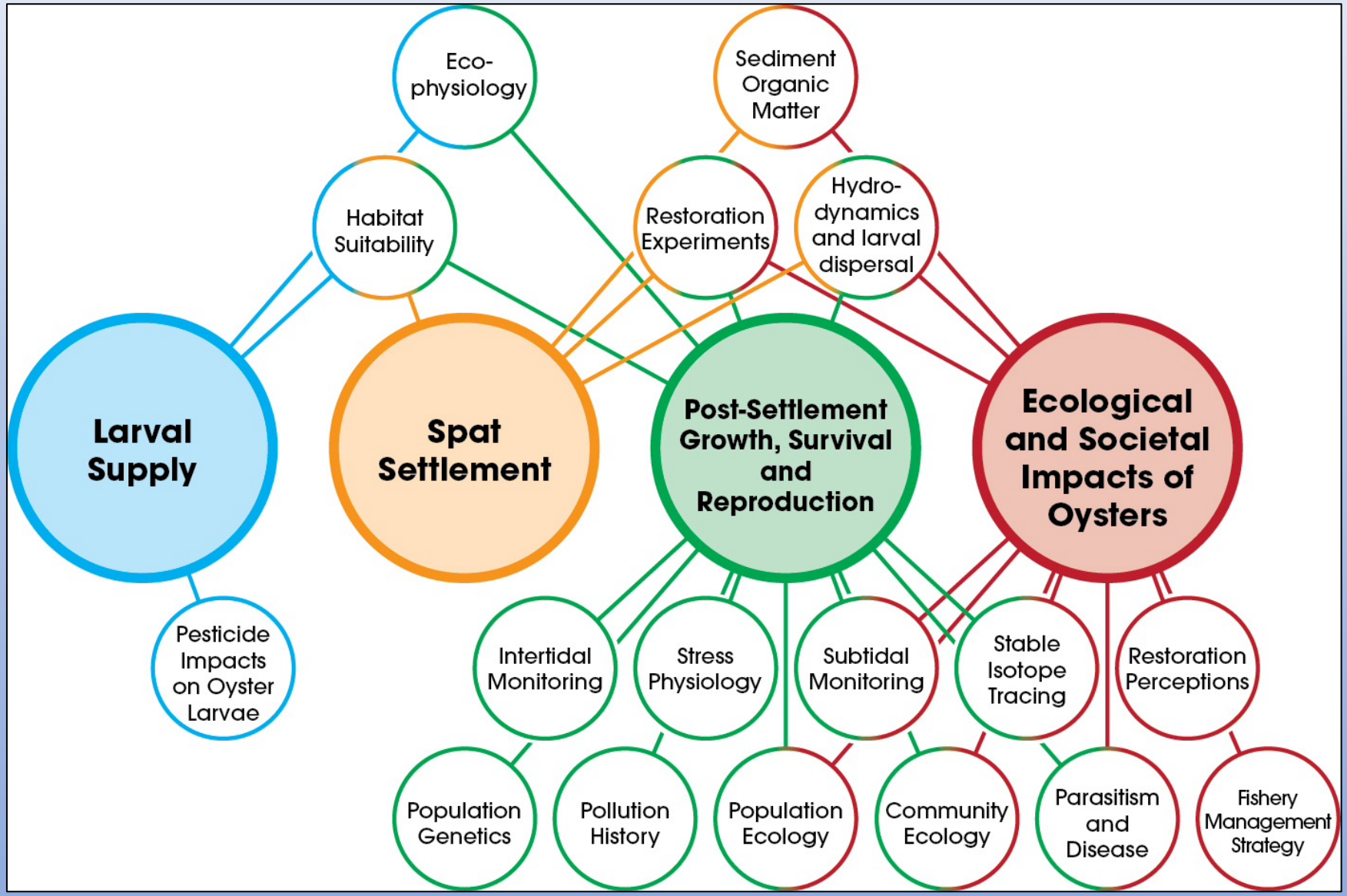
Outreach team

ABSI Annual Report March 2022

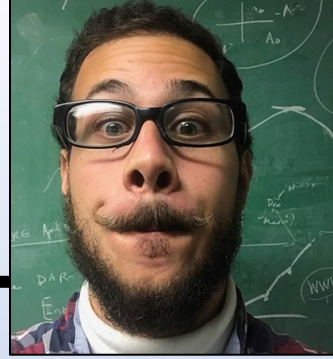
Table of Contents



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

OysterID	SampleEvent	ShellHeight	ShellLength	ShellWidth	TotalWeight	ShellWetWe	DermoMantl	DermoGill	Sex	ReproStage		
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		Buceph	AB-S-2
ABCD1601-0	ABCOLL_201	90.8	64.2	45.5	169.41	131.02	2	2	Z	4	No	AB-S-3
ABCD1601-0	ABCOLL_201	51.4	51.3	27.4	34.56	27.84	0	0	M	2	No	AB-S-4
ABCD1601-0	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Z	4	Yes	AB-S-5
ABCD1601-0	ABCOLL_201	60.9	46.5	28.6	36.74	26.02	0.5	0.5	M	2	No	AB-S-6
ABCD1601-0	ABCOLL_201	85.9	54.3	38.1	162.55	129.91	2	1	F	1	No	AB-S-7
ABCD1601-0	ABCOLL_201	87.8	53.3	30.7	105.21	80.4	3	4	Z		Buceph	AB-S-8
ABCD1601-0	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.5	0.5	Z	4	Yes	AB-S-9
ABCD1601-1	ABCOLL_201	85	73.4	34.5	151.25	128.23	0	0.5	F	1	No	AB-S-10
ABCD1601-1	ABCOLL_201	49.9	40.3	23.8	25.75	20.95	0	0	Z	4	No	AB-S-11
ABCD1601-1	ABCOLL_201	60.3	46.8	28.4	33.88	24.08	0	0	M	2	No	AB-S-12
ABCD1601-1	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	No	AB-S-13
ABCD1601-1	ABCOLL_201	41.7	42.4	15.6	13.38	9.67	0	0	Z	4	No	AB-S-14
ABCD1601-1	ABCOLL_201	[illegible]	[illegible]	15.3	7.76	5.9	0	0	M	3	No	AB-S-15
ABCD1601-1	ABCOLL_201	72.8	64.5	33.8	95.54	77.53	0	0	Z	4	Yes	AB-S-16
ABCD1601-1	ABCOLL_201	27.5	32.6	12.4	4.76	3.68	0	0	F	3	No	AB-S-17
ABCD1601-1	ABCOLL_201	74.5	63.7	29.6	78.75	63.67	0	0	F		Buceph	AB-S-18
ABCD1601-1	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	M	1	No	AB-S-19
ABCD1601-2	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	F	3	Yes	AB-S-20
ABCD1601-2	ABCOLL_201	62.4	51.6	24.1	51.72	41.38	0	0	Z		Buceph	AB-S-21
ABCD1601-2	ABCOLL_201	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1	No	AB-S-22
ABCD1601-2	ABCOLL_201	34.5	35.5	13	10.38	8.39	0	0	Z	4	No	AB-S-23
ABCD1601-2	ABCOLL_201	69	53.7	36.6	114.14	94.43	2	2	F	1	Yes	AB-S-24
ABCD1601-2	ABCOLL_201	33.7	30.3	20.4	9.77	8.23	0.5	0	Z	4	No	AB-S-25
ABCD1602-0	ABCOLL_201	61.3	46.6	20.7	43.43	34.95	0	0.5	F	1	No	AB-S-26
ABCD1602-0	ABCOLL_201	53.6	47.2	19.7	31.25	25.04	0	0	F	1	No	AB-S-27
ABCD1602-0	ABCOLL_201	71.5	49	28.8	49.25	34.18	0	0	F	1	No	AB-S-28
ABCD1602-0	ABCOLL_201	50	42.4	21.2	28.06	23.11	0	0	M	1	No	AB-S-29
ABCD1602-0	ABCOLL_201	58.6	46.5	25.3	38.18	28.43	0	0	M	1	No	AB-S-30

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