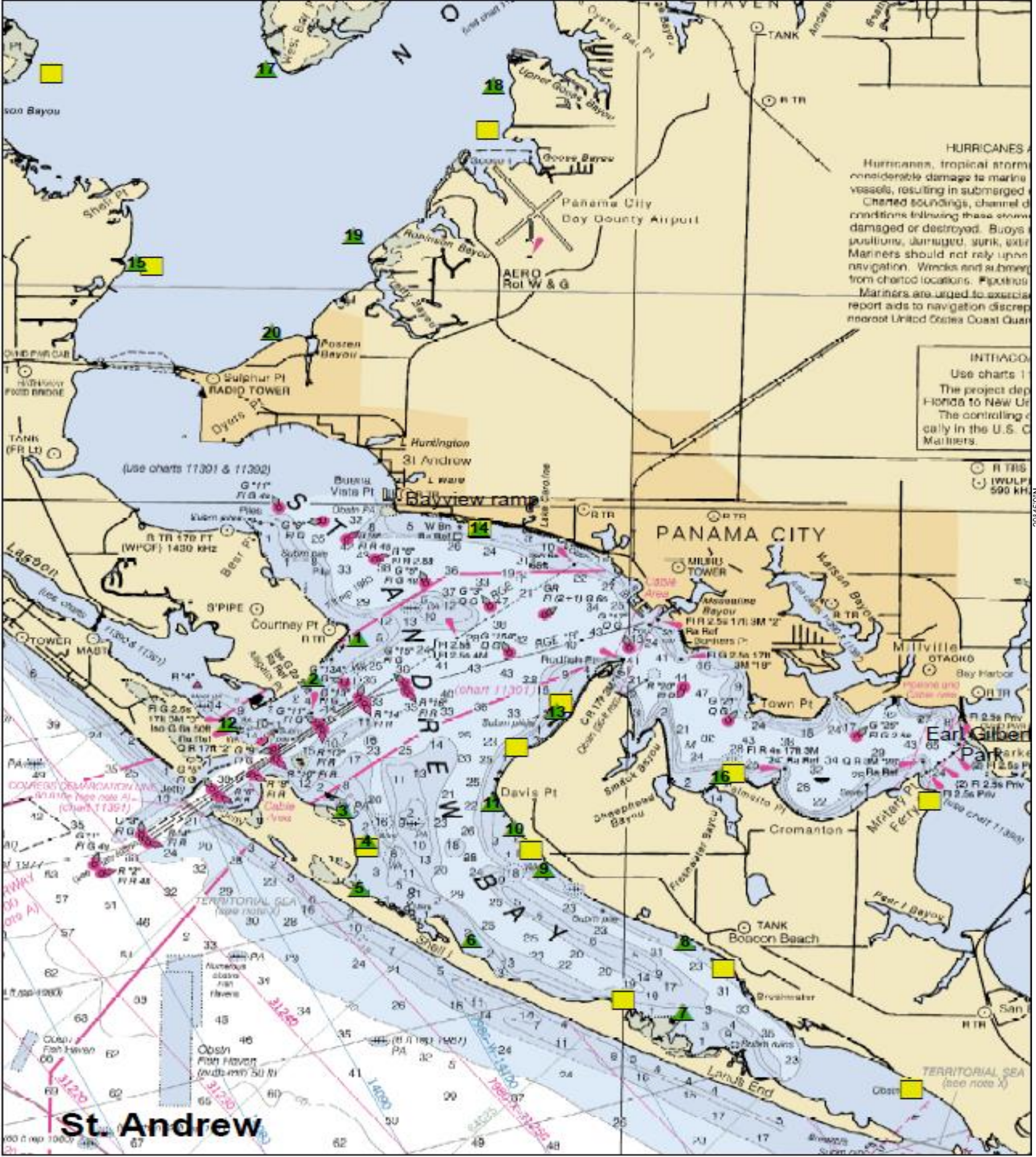
FWRI

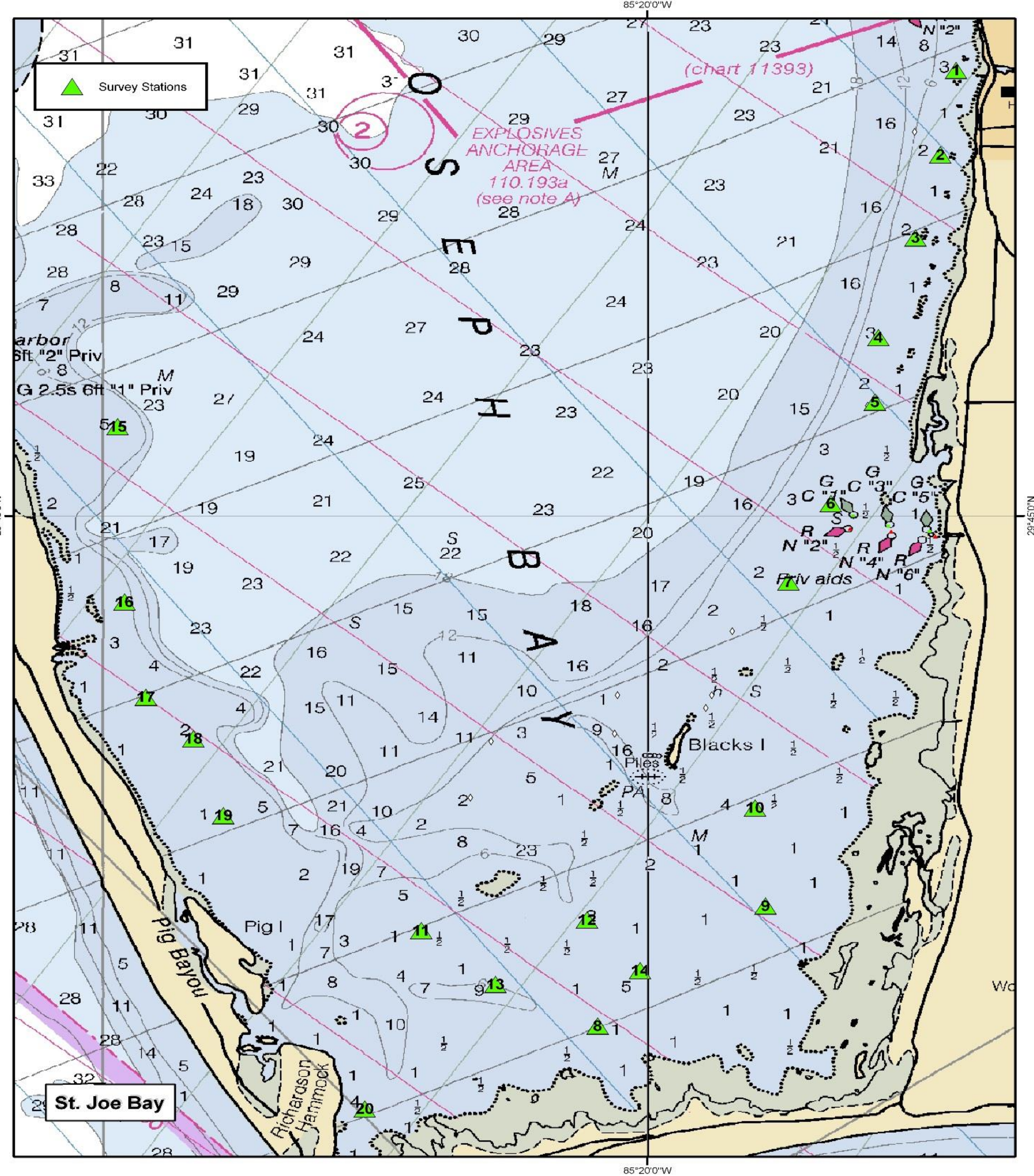
MOLLUSCAN FISHERIES DATA WITH ANECDOTAL OBSERVATIONS AND INTERPRETATIONS

Overview of project

- Surveys started in 1994 and recruitment in 1998
- Survey of adult scallop populations in Spring and Fall
  - 300M transects
- Recruitment trips every month
  - Spat collector bags



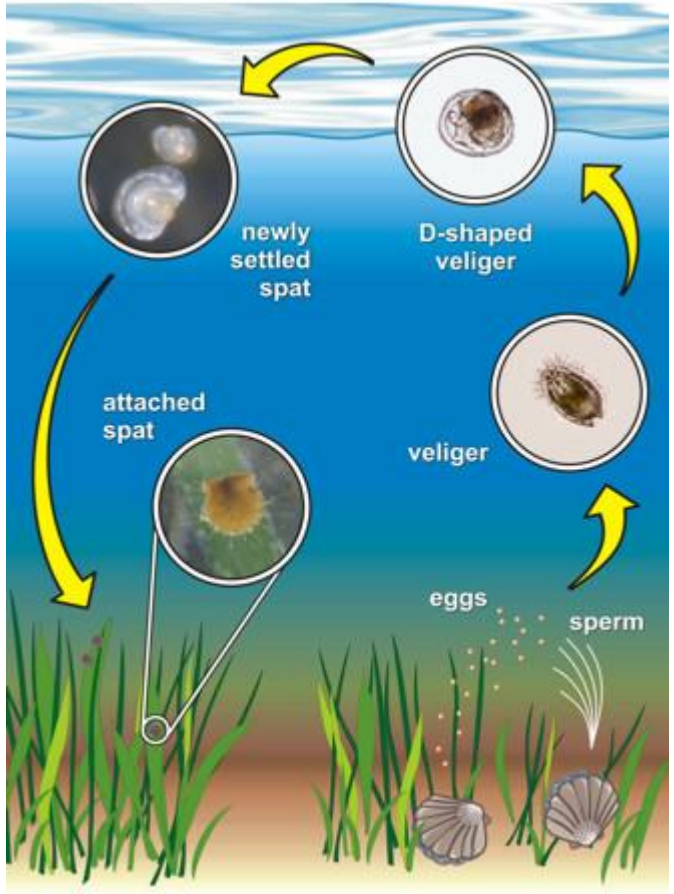
St. Andrew
PANAMA CITY
Bayview ramp
Panama City
Bay County Airport
HURRICANES
Hurricanes, tropical storms
Mariners are urged to exercise
St. Andrew
Davis Pt
Town Pt
Millville
Cromanton
Beacon Beach
Earl Gilbert Park
(use charts 11391 & 11392)
(chart 11391)
Sulphur Pt
RADIO TOWER
Courtney Pt
Shell I
Lands End
TERRITORIAL SEA



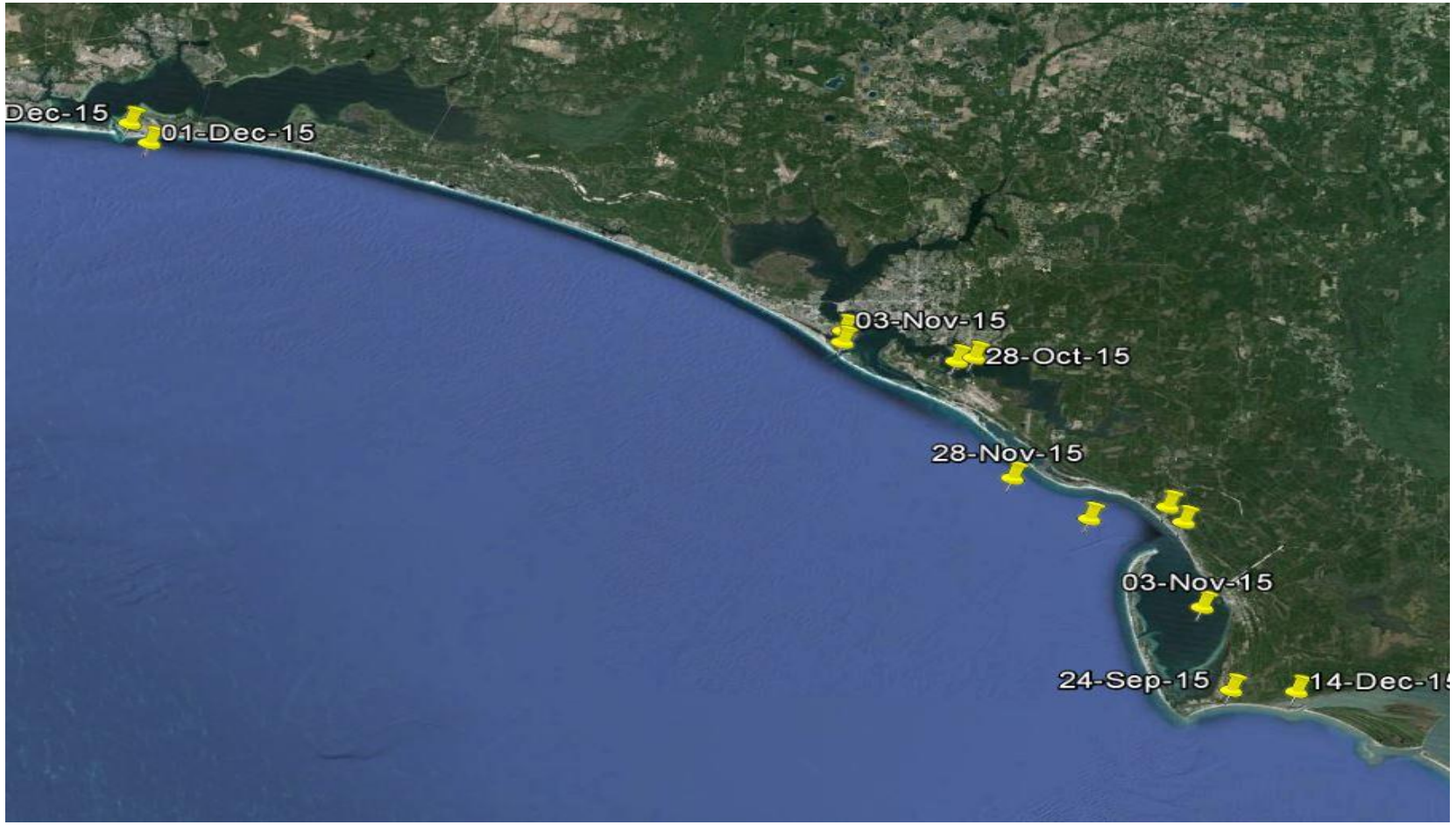
Survey Stations
St. Joe Bay
85°20'0"W
29°45'0"N
(chart 11393)
EXPLOSIVES ANCHORAGE AREA 110.193a (see note A)
ST JOSEPH BAY
Blacks I
Pig I
Pig Bayou
Richardson Hammock
Priv aids

Influences on Recruitment and Survival

- Red Tide
- Water Quality
- Habitat Loss



Red Tide High Concentrations (>1,000,000 cells/L)



Red Tide Potential Impacts

Red Tide lingered around the panhandle possibly negatively influencing recruitment

(SJB) Never had a November through January period with no spat recruitment till now

- Usually the most recruitment occurs during these months

No distinguishable relationship between poor recruitment and next years adult class

- 2 week Planktonic state

St. Joe Bay

SpatYear	SJ mean	SJ sd	SurveyYear	Survey mean	Survey sd
1998	5.874	9.817	1999	31.1	39.26549309
1999	0.026	0.082	2000	3.85	6.30183766
2000	0.013	0.049	2001	12.1	37.61704541
2001	10.470	21.355	2002	37.5	55.21775077
2002	3.382	7.330	2003	28.7	48.21345084
2003	0.404	0.761	2004	2.35	5.612720515
2004	1.179	1.754	2005	59.15	117.738459
2005	0.212	0.733	2006	35.65	43.02664413
2006	3.789	10.393	2007	41.25	35.0486504
2007	0.037	0.088	2008	11.3	15.63430775
2008	1.363	2.768	2009	97.4	213.6143599
2009	0.576	1.090	2010	138.15	301.01255
2010	0.691	1.436	2011	154.75	307.981352
2011	0.196	0.425	2012	10.9	22.26845775
2012	1.340	2.323	2013	22.95	42.04818664
2013	0.416	1.452	2014	21.45	59.75958412
2014	0.536	1.079	2015	11.75	14.55615261
2015	0.027	0.107	2016		

St. Andrew Bay

SpatYear	SA mean	SA sd	SurveyYear	Survey mean	Survey sd
2003	0.093	0.109	2004	1.4	3.135535
2004	5.298	10.162	2005	9.35	11.78436
2005	0.000	0.000	2006	0.4	1.046297
2006	0.035	0.064	2007	3	3.111946
2007	0.144	0.706	2008	2.1	4.375771
2008	0.246	0.262	2009	25.8	37.38646
2009	1.121	1.229	2010	19.85	27.58389
2010	1.681	3.577	2011	99.75	177.1487
2011	0.861	1.457	2012	21.35	23.70493
2012	0.643	1.110	2013	3.35	6.17529
2013	0.027	0.058	2014	0	0
2014	0.240	0.489	2015	39.15	51.68149
2015	0.023	0.047			

Loss of Habitat

Conducting surveys since 1998 (SJ) and 2003 (SA)

Survey stations on East and West side of SJB have continuously been pushed closer to shore

North SAB habitat loss, decline in Scallops

Prop Scars

SJB Prop Scars

Recreational scallop harvest

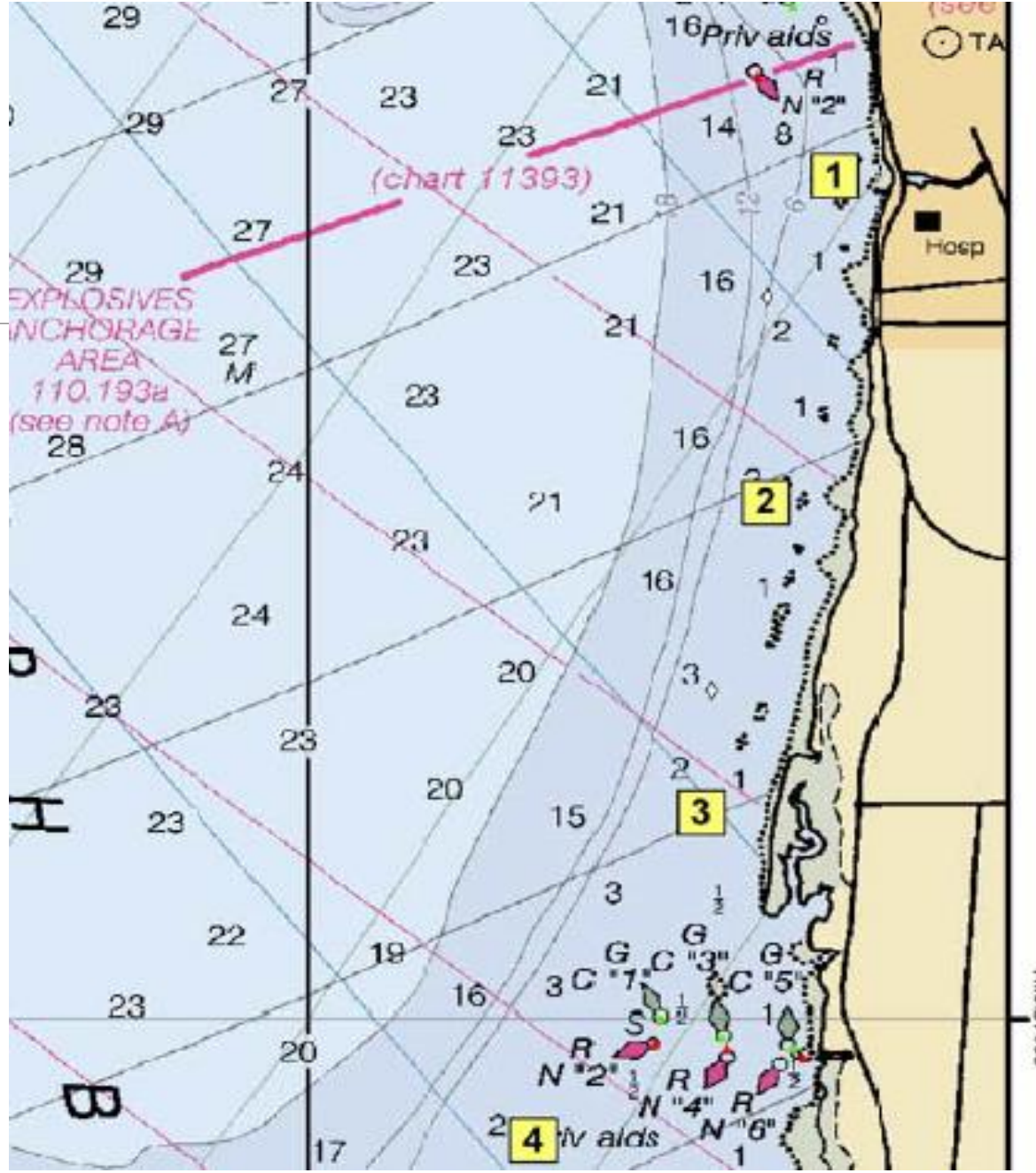
Boat rentals, novice drivers

SJB East Stations

Stations occurred at 2m contour

Discontinuous Seagrass

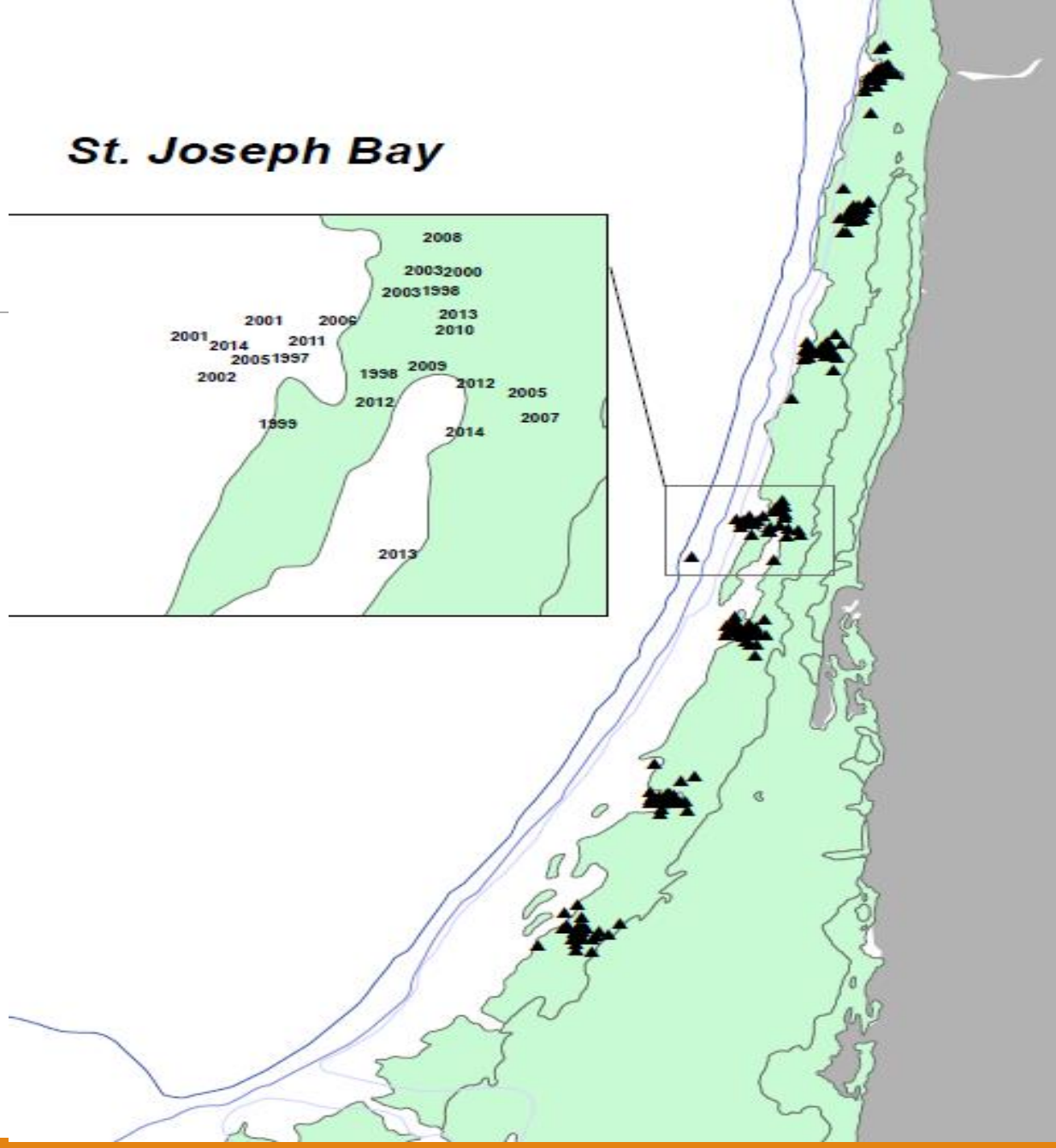
Now moved closer to shore

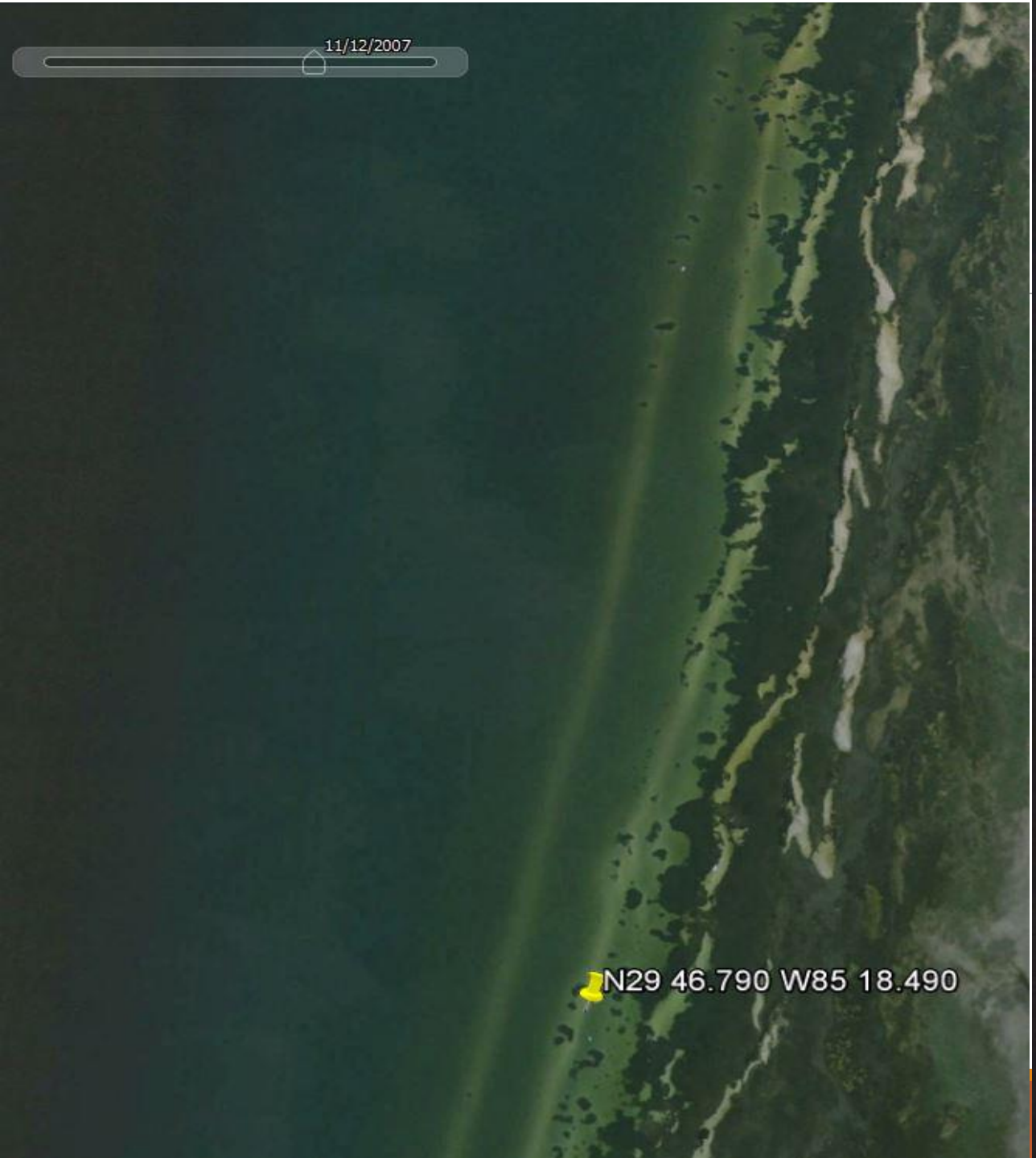


SJB East Side

General Pattern moving West to East

Not as prominent as Western side




11/12/2007
N29 46.790 W85 18.490

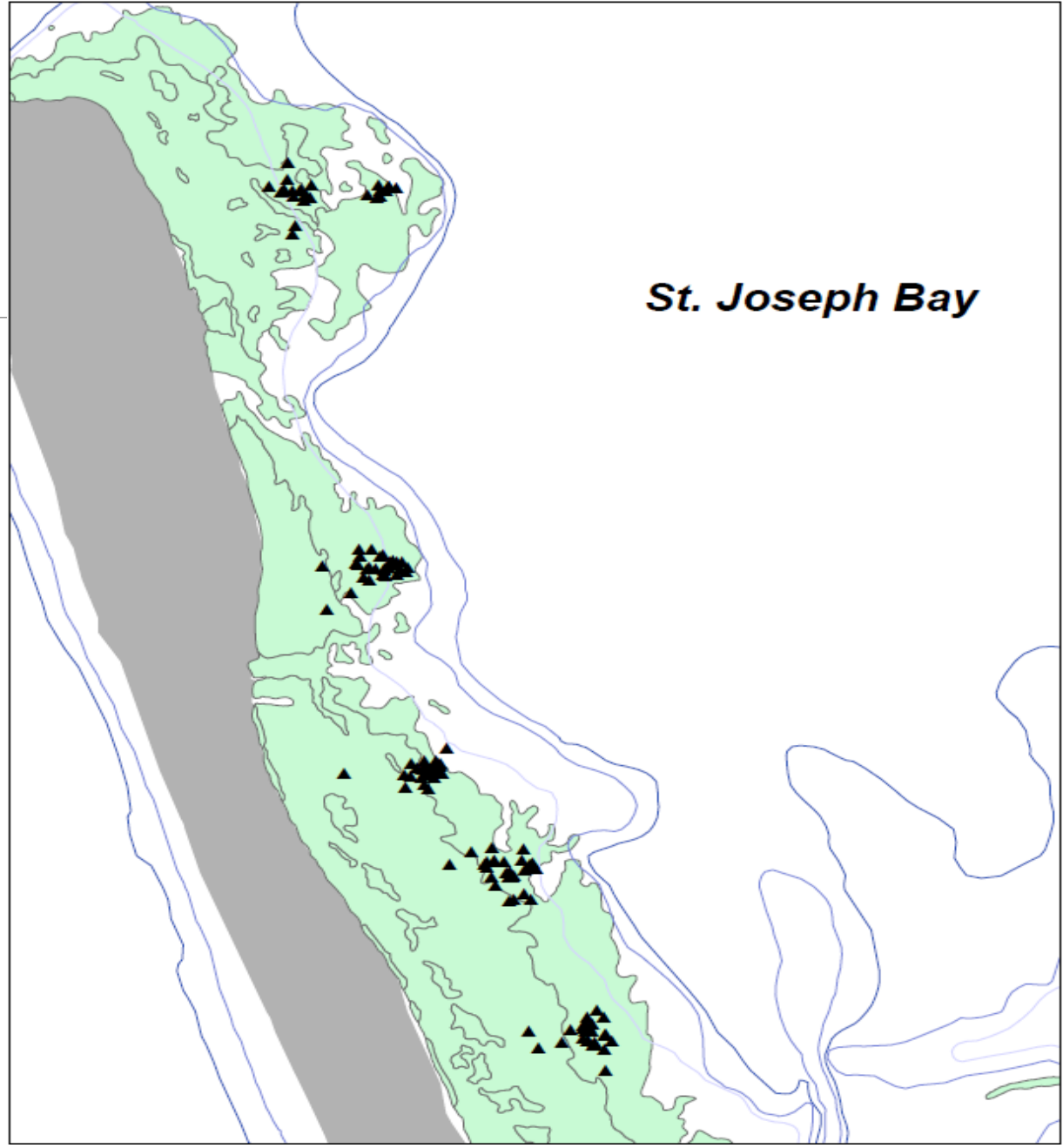

2/9/2016
N29 46.790 W85 18.490

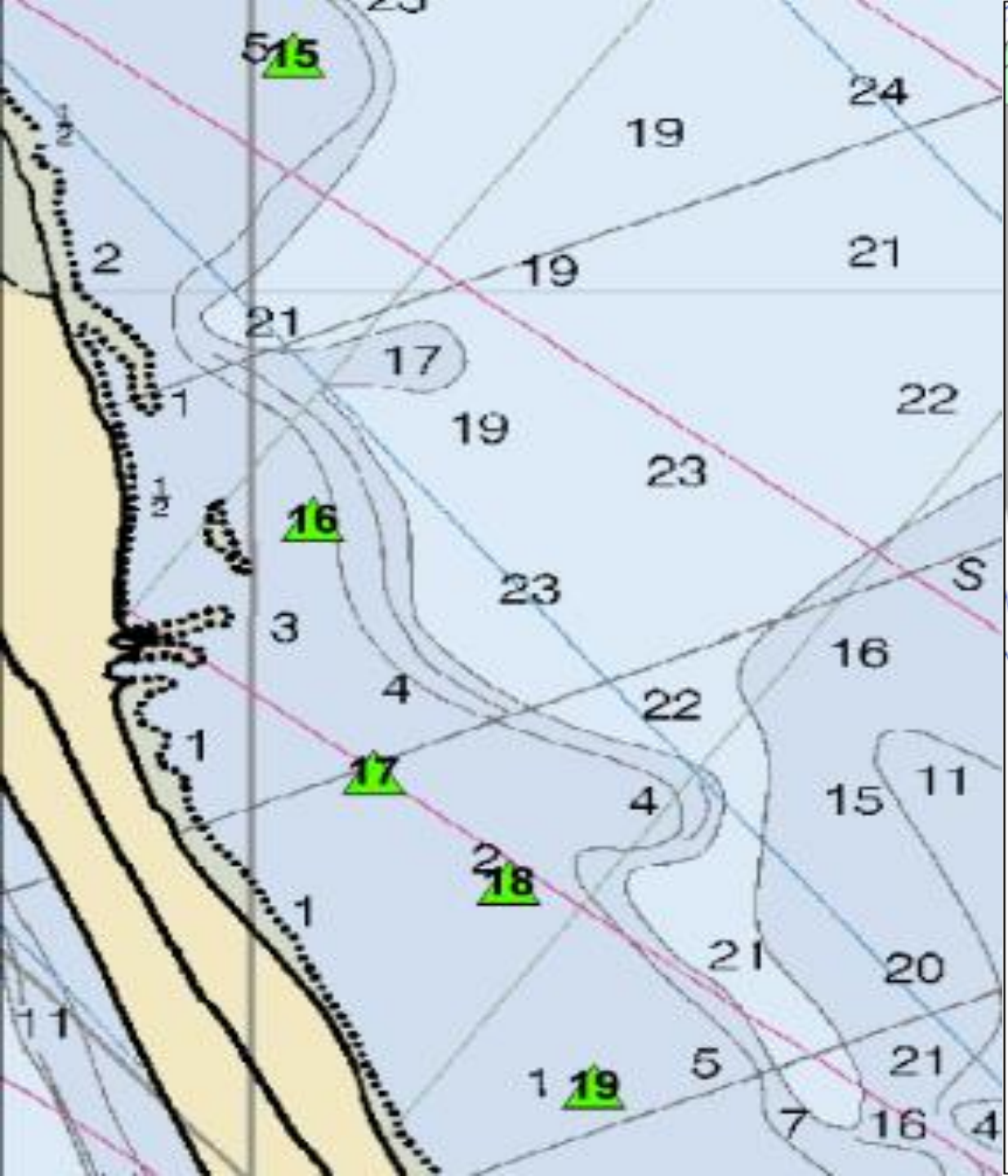

1/20/2004
N29 45.710 W85 18.700
N29 45.710 W85 18.700

SJB West Side

Stations started to move Landward after 2005

Sometimes stations are offset due to recreational boaters

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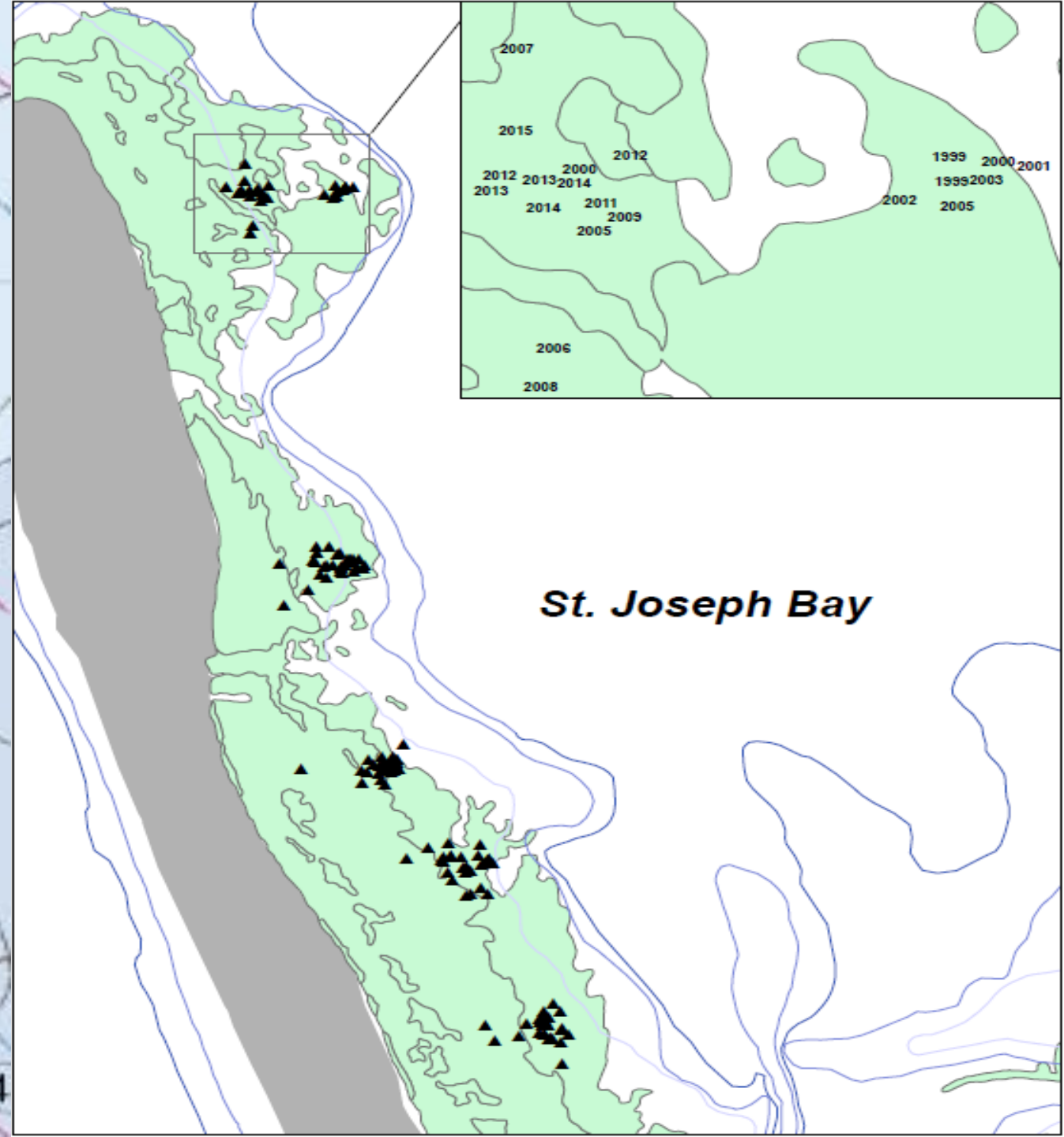
St. Joseph Bay
2007
2015
2012
2012
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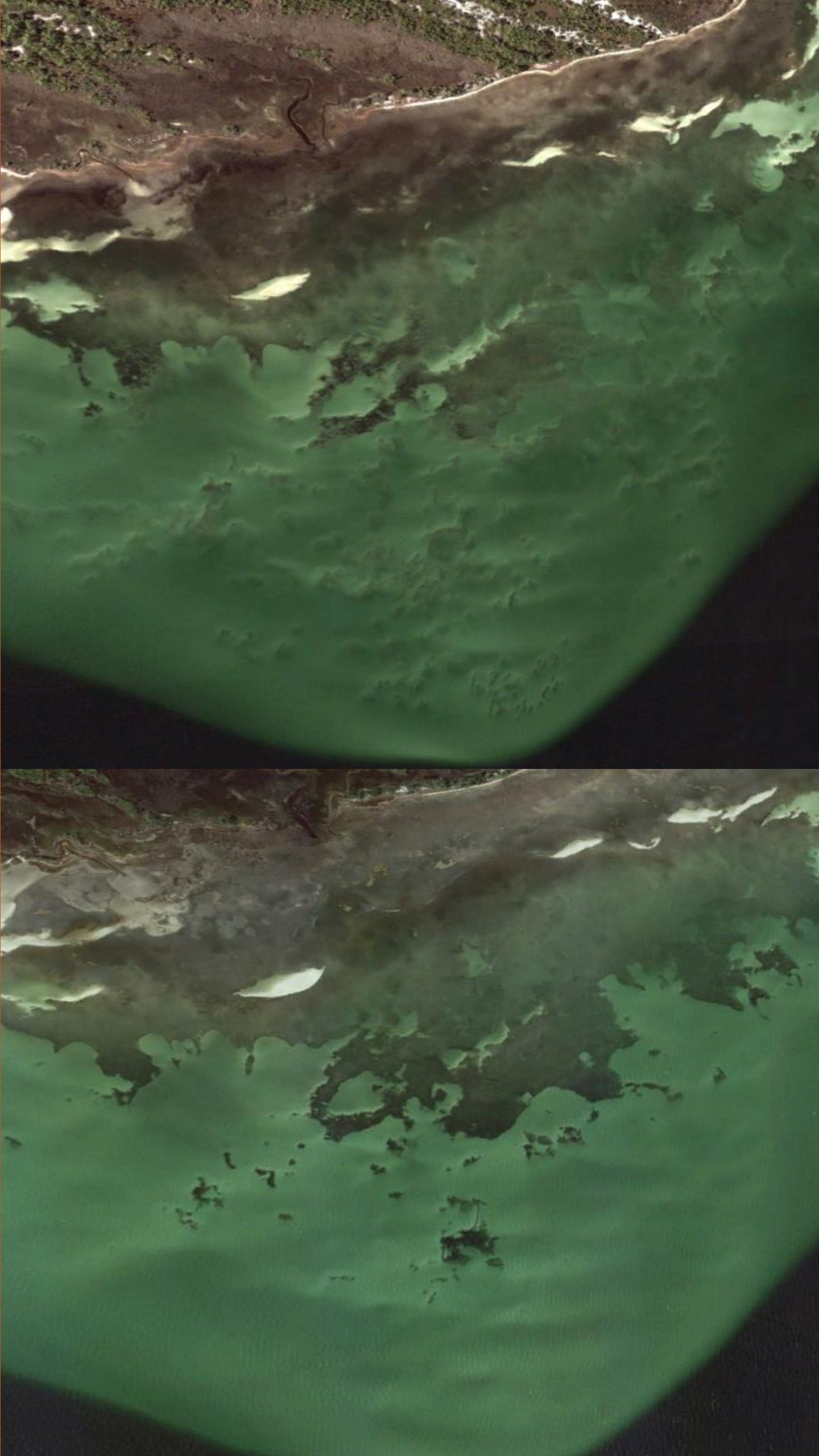
2005



What is causing the Seagrass to recede?

Wind and wave action?

Turbidity?

Animal pressure?

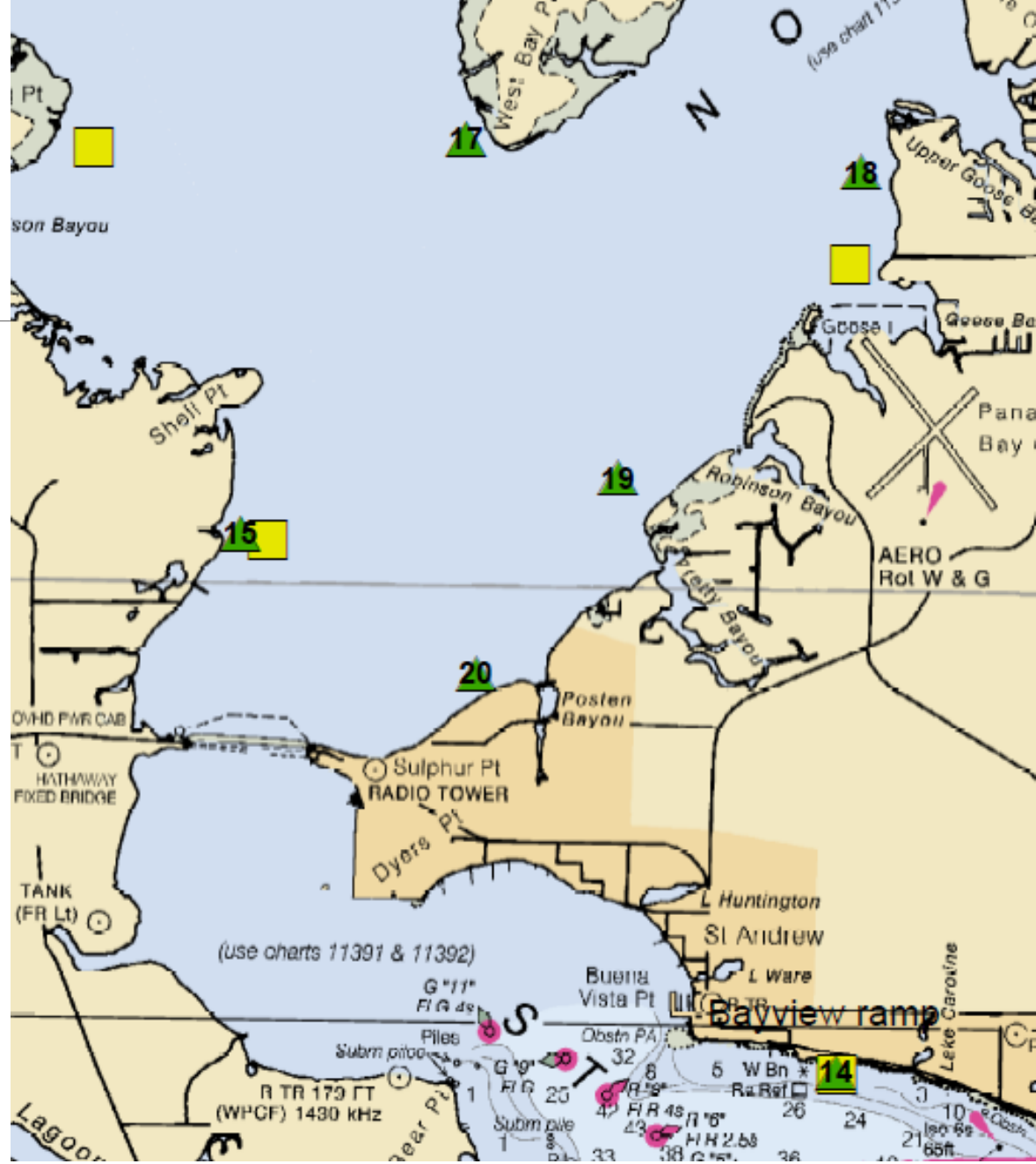
Combination?

Date	Site	Station	Area (m2)	Urchins				Date	Site	Station	Area (m2)	Urchins					
5/14/2010	SJ	1	600	0	Sand			6/16/12	SJ	1	600	250-500	Thalassia, Syringodium, Halodule, Mussels, Sand				
5/14/2010	SJ	2	600	1	Syringodium			6/16/12	SJ	2	600	250-500	Thalassia, Syringodium, Halodule, Mussels, Sand				
5/14/2010	SJ	3	600	6-25	Syringodium			6/15/12	SJ	3	600	500-1000	Thalassia, Syringodium, Mussels, Sand				
5/14/2010	SJ	4	600	6-25	Syringodium			6/15/12	SJ	4	600	100-200	Thalassia, Syringodium, Mussels, Sand				
5/16/2010	SJ	5	600	100+	Syringodium			6/15/12	SJ	5	600	250-500	Thalassia, Syringodium, Mussels, Sand				
5/16/2010	SJ	6	600	100+	Thalassia			6/15/12	SJ	6	600	>1000	Thalassia, Syringodium, Mussels				
5/16/2010	SJ	7	600	100+	Thalassia			6/15/12	SJ	7	600	>1000	Thalassia, Sand				
5/15/2010	SJ	8	600	50-100	Thalassia			6/15/12	SJ	8	600	2	Thalassia, Sand				
5/15/2010	SJ	9	600	0	Thalassia			6/15/12	SJ	9	600	1	Thalassia				
5/15/2010	SJ	10	600	100+	Thalassia & Gracilaria			6/15/12	SJ	10	600	50-100	Thalassia, Sand				
5/15/2010	SJ	11	600	100+	Thalassia			6/15/12	SJ	11	600	>1000	Thalassia, Sand, Mussels				
5/15/2010	SJ	12	600	100+	Gracilaria			6/14/12	SJ	12	600	500-1000	Thalassia, Halodule, Sand				
5/16/2010	SJ	13	600	100+	Thalassia & Gracilaria			6/14/12	SJ	13	600	250-500	Thalassia				
5/15/2010	SJ	14	600	50-100	Gracilaria			6/15/12	SJ	14	600	25-50	Halodule, Sand				
5/16/2010	SJ	15	600	100+	Thalassia			6/14/12	SJ	15	600	>1000	Thalassia, Mussels, Sand				
5/16/2010	SJ	16	600	100+	Thalassia			6/14/12	SJ	16	600	>1000	Thalassia, Halodule, Mussels, Sand				
5/16/2010	SJ	17	600	100+	Thalassia			6/14/12	SJ	17	600	>1000	Thalassia, Mussels				
5/16/2010	SJ	18	600	100+	Thalassia			6/14/12	SJ	18	600	>1000	Thalassia, Mussels, Sand				
5/16/2010	SJ	19	600	100+	Thalassia			6/14/12	SJ	19	600	>1000	Thalassia, Mussels, Sand				
5/15/2010	SJ	20	600	26-50	Thalassia			6/14/12	SJ	20	600	50	Thalassia				

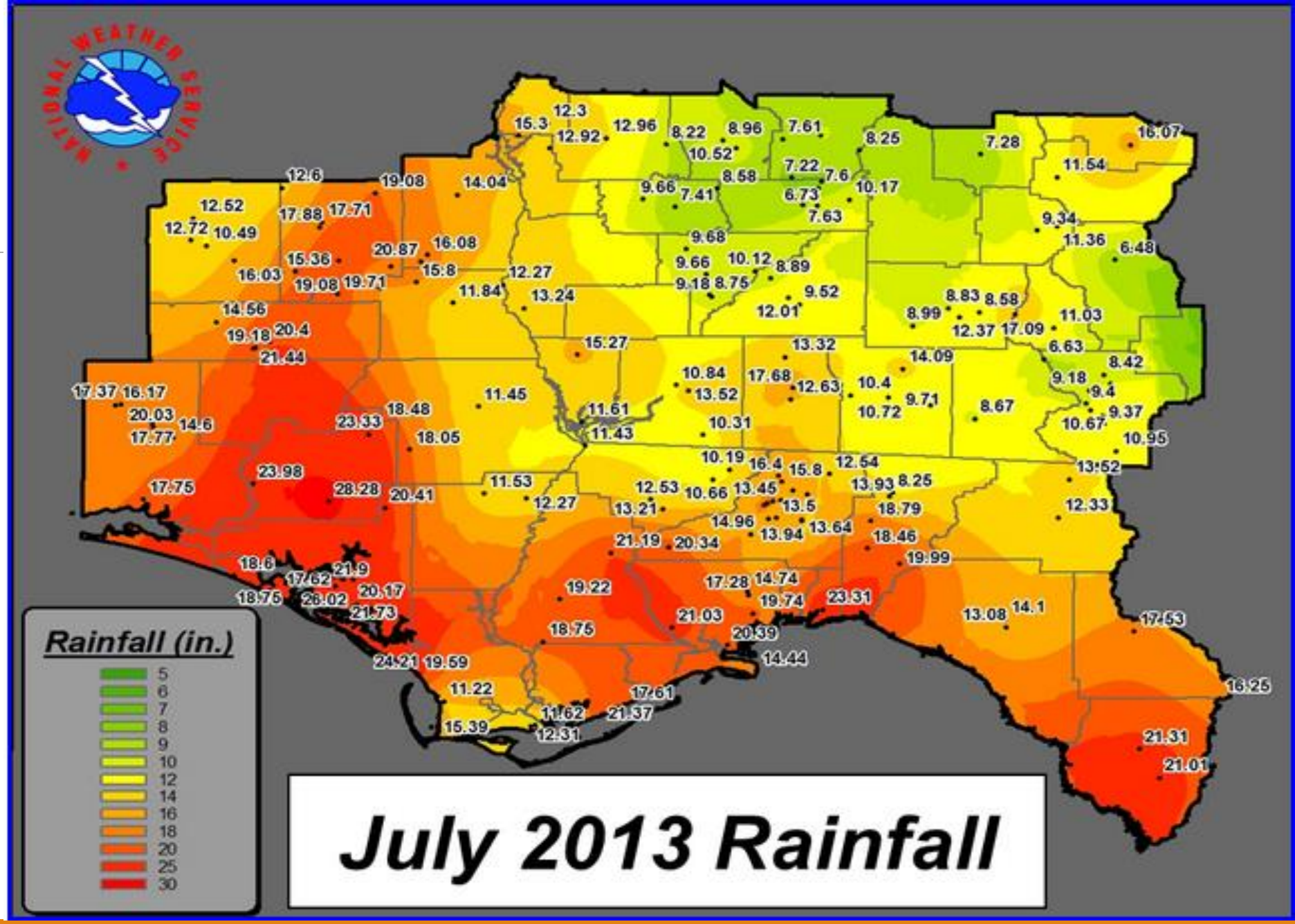
St. Andrew North

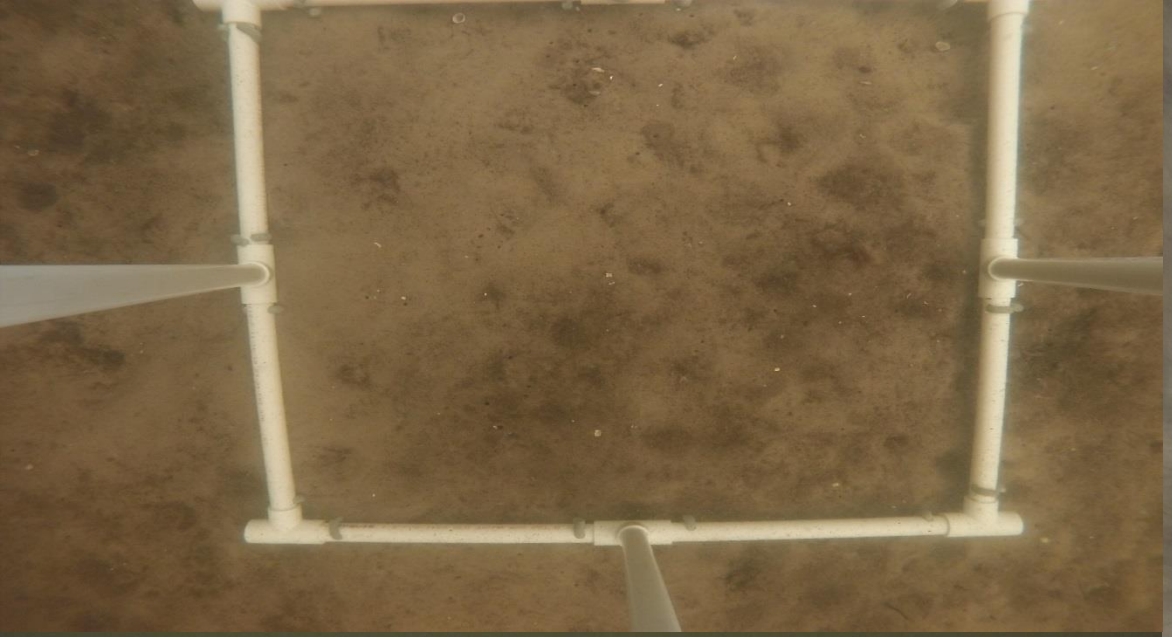
Most notable habitat loss among their stations

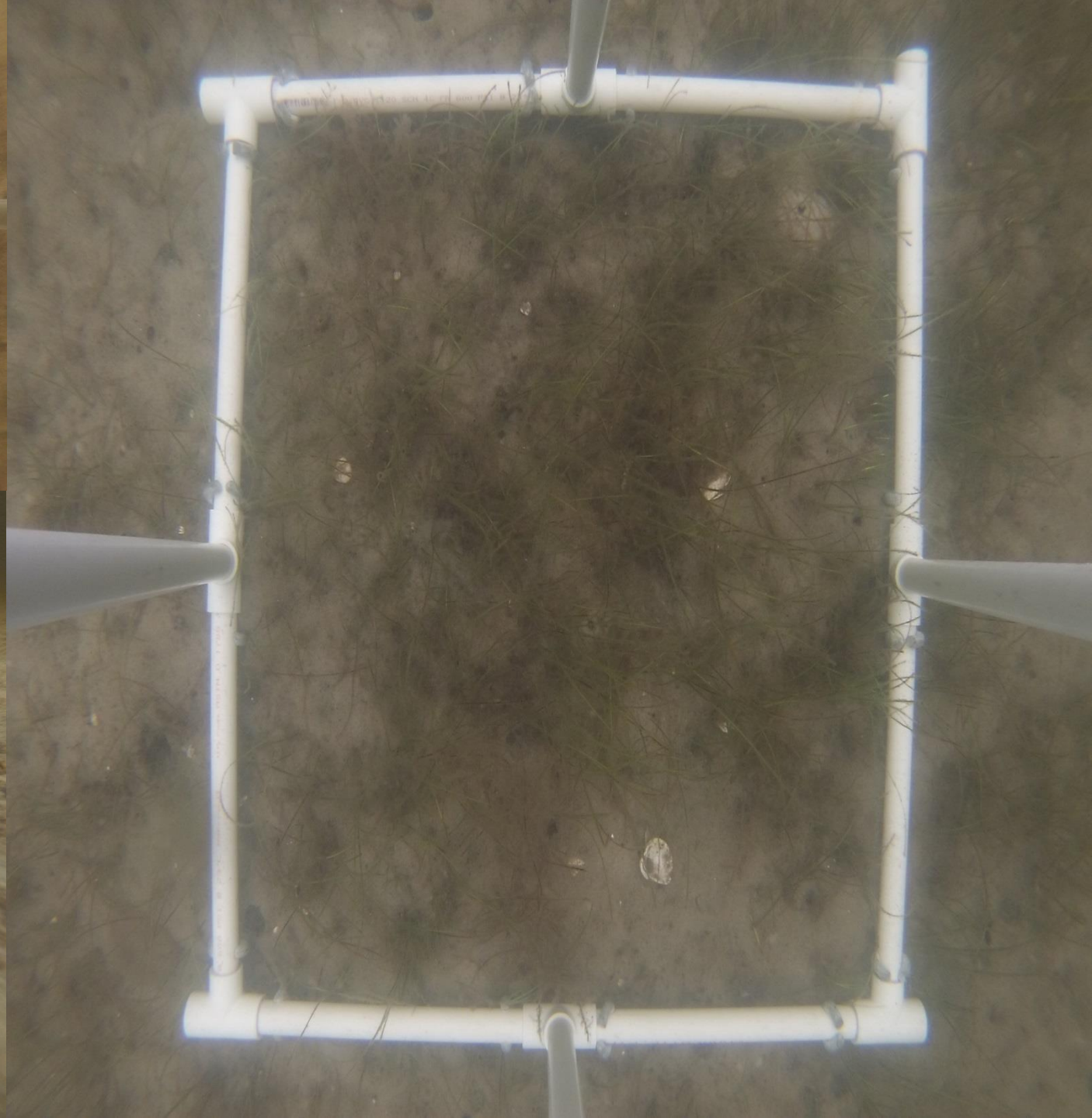
Most likely result of a rain event in 2013

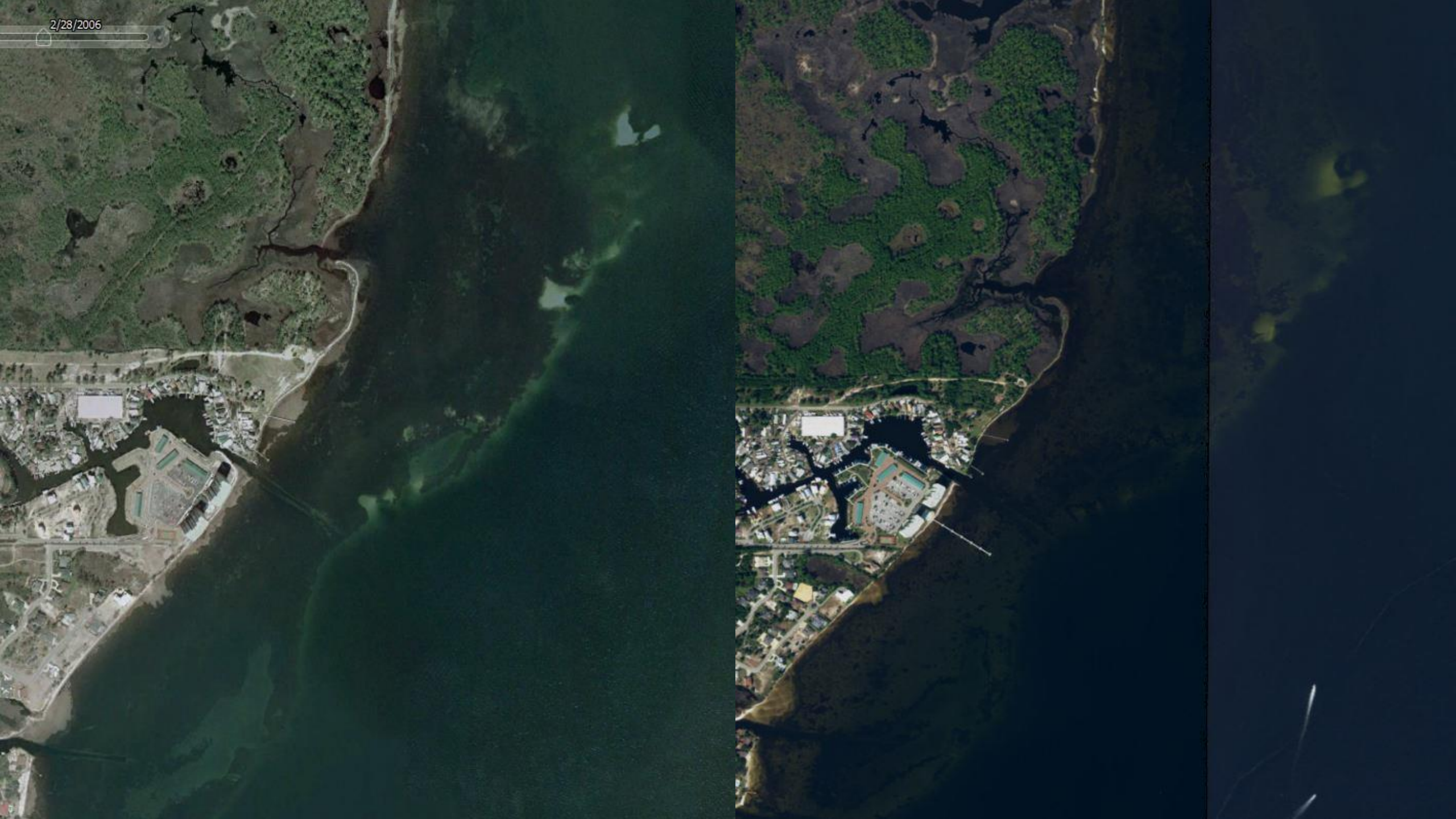


Wettest July on record



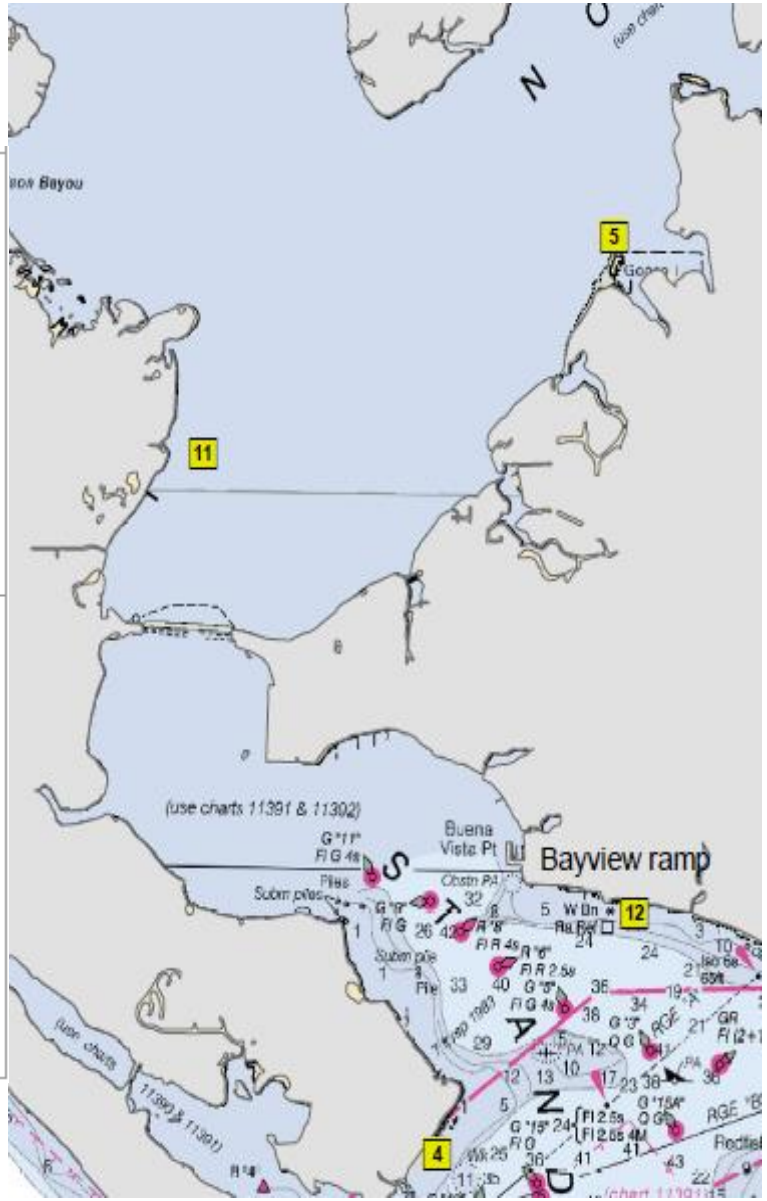





2/28/2006

Year	Month	Station 4	Station 5		Station 11	Station 12
2012	1	16	196			
	2	2	13			
	3	0	141		72	109
	4	17	47		67	19
	5	43	322		144	10
	6	1	89		30	1
	7	1		Z	4	0
	8	0		Z	1	0
	9	2	0		0	2
	10	1	0		0	0
	11	22	57		9	66
	12	79	136		42	215
2013	1	0	4		5	32
	2	0	1		0	1
	3	0	0		0	0
	4	0	0		0	0
	5	1	2		0	7
	6	2	3		0	1
	7	1	7		0	3
	8	0	0		0	0
	9	0	0		0	0
	10	0	0		0	0
	11	0	0		0	0
	12	3	1		0	3

Year	Month	Station 4	Station 5		Station 11	Station 12
2014	1	1	2		0	2
	2	0	0		0	0
	3	0	0		0	0
	4	0	0		0	0
	5	0	0		0	0
	6	0	0		0	0
	7	0	0	Z		0
	8	0	0		0	0
	9	0	0		0	0
	11	2	0		0	4
	12	3	13	Z		22
2015	1	2	0		0	17
	2	0	0		0	1
	3	0	0		0	0
	4	1	2	Z		7
	5	5	6		5	14
	6	24	2		4	2
	7	5	10		2	0
	8	4	0		2	7
	9	35	8		3	13
	10	3	5		0	0
	11	0	6		0	0
	12	0	0		0	0



Thank you

Credit to Sarah Stephenson for first hand account, data and Go Pro pictures