

OYSTERS AS AN ENVIRONMENTAL INDICATOR IN SARASOTA COUNTY

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Oysters as an Environmental Indicator

- Oysters are considered a keystone species due to their wide array of habitat functions and values.
- Oyster health responds to changes in salinity regime.
- Oyster colonies are common in the creeks and estuaries in our region.
- Oysters are sessile organisms that are relatively easy to monitor.



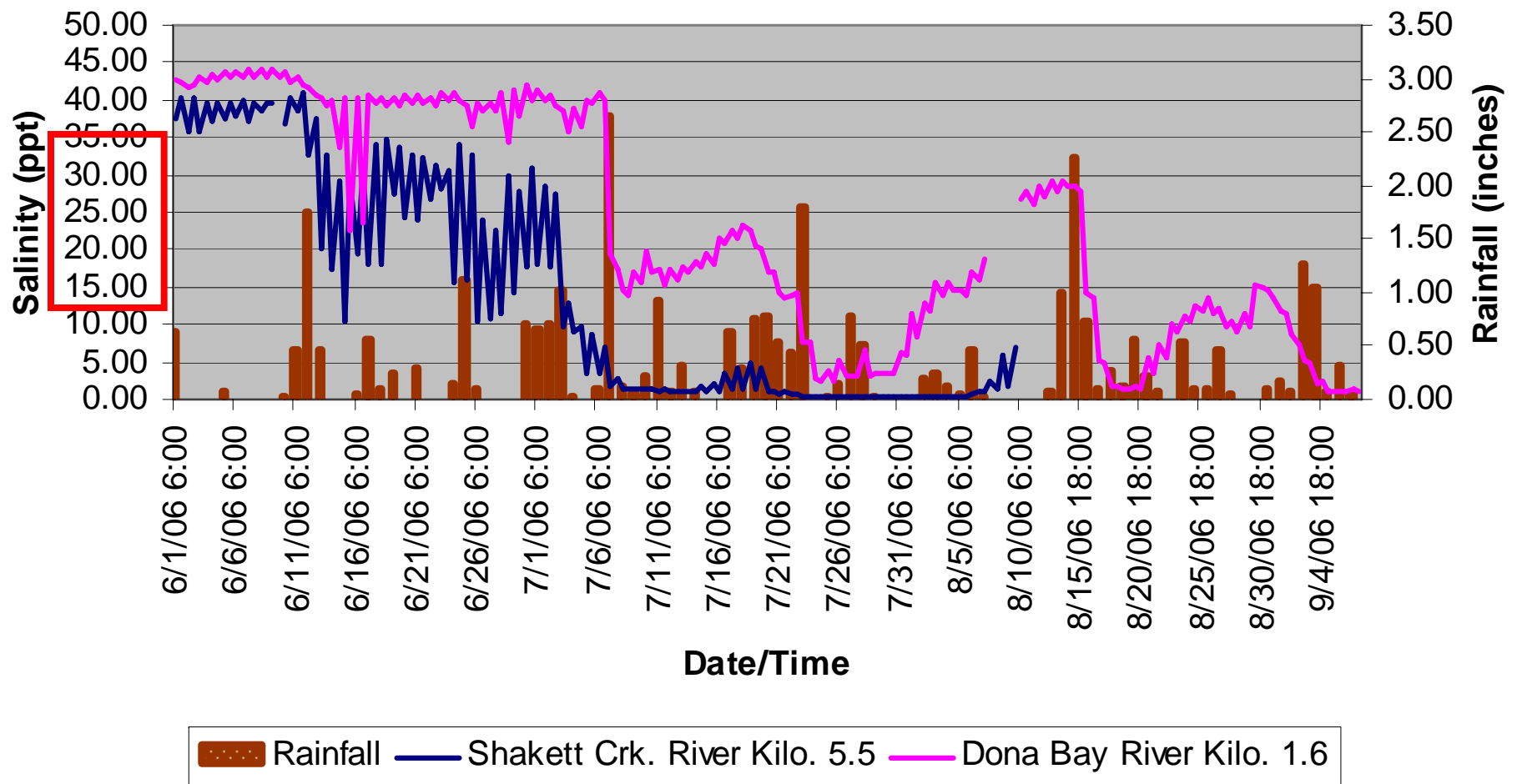
Monitoring Methodology



- **Collect oysters from three semi-randomly tossed 0.25m x 0.25m weighted PVC quadrats at each station.**
- **Record No. of Live, No. of dead (dead oysters still have both shells attached), No. of spat, and record heights of 3 largest oysters.**
- **Record salinity, Sp.Cond., DO, pH, and Temperature.**

How Rainfall and Runoff Affect Oyster Habitat

**Wet Season 2006 Salinity at Shakett Creek & Dona Bay
Compared to Rainfall In the Dona and Roberts Bay Watershed**

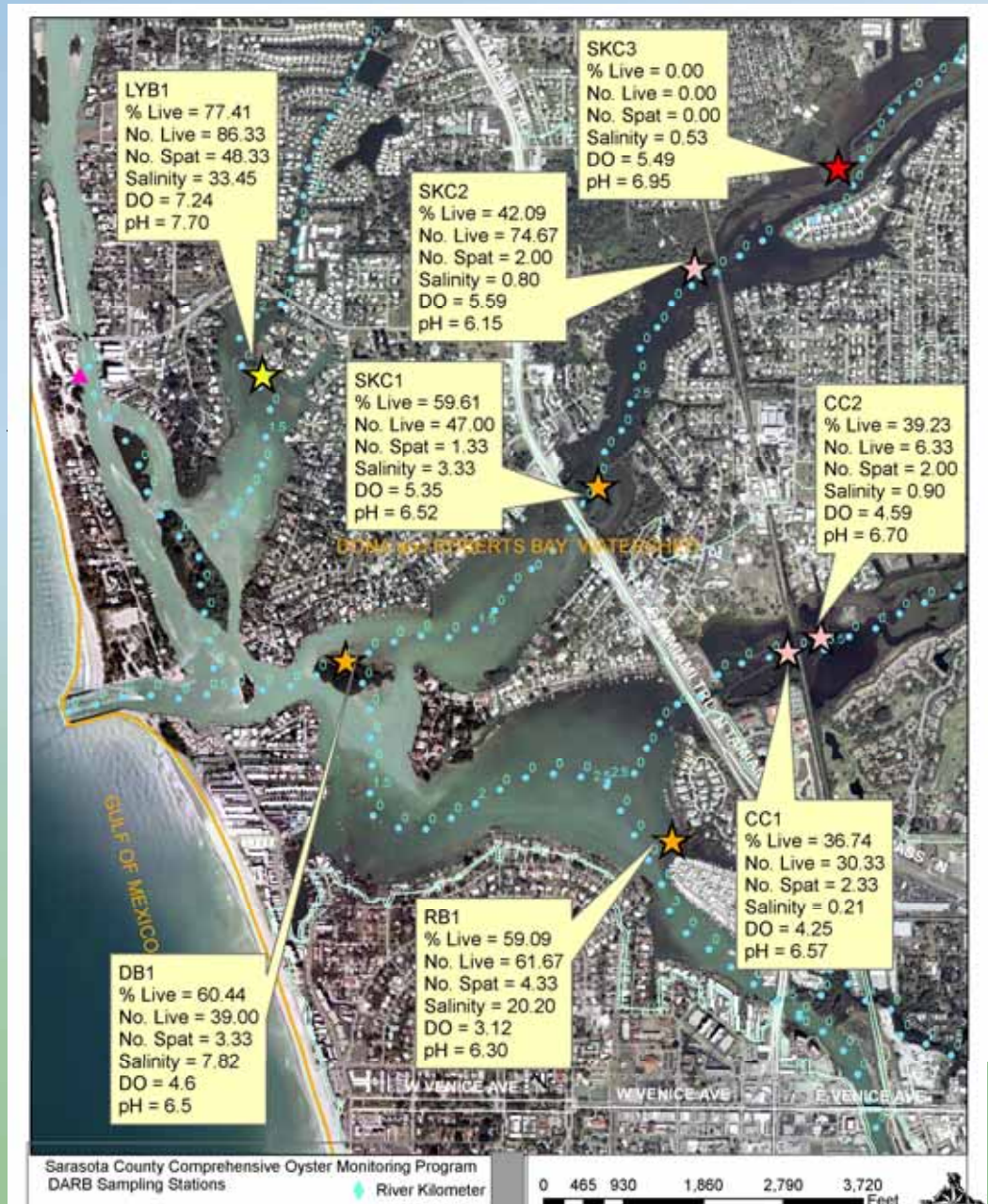


Dona Bay Fall 2006 Oyster Monitoring Results

- There was a drop in percent live oysters in the Dona and Roberts Bay Study area from previous monitoring events.

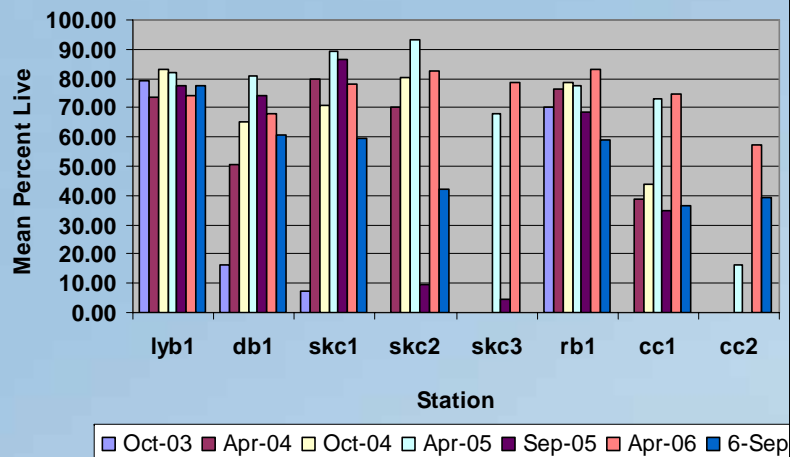
% live oysters scoring

F **D** **C** **B** **A**

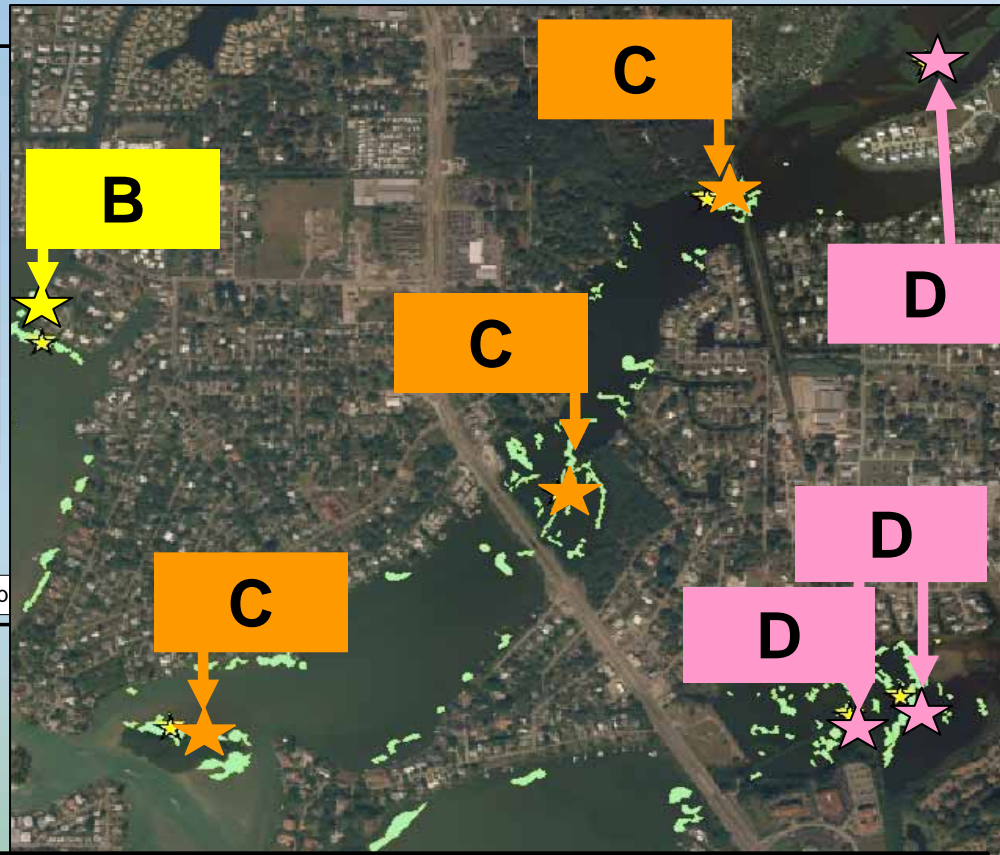


Overall Oyster Trends For Dona Bay

Mean Percent Live Oyster Trend



% live oysters scoring



	lyb1	db1	skc1	skc2	skc3	rb1	cc1	cc2
Oct-03	79.28	16.12	7.38	0.00		70.17	0.00	
Apr-04	73.85	50.74	80.04	70.15		76.24	38.85	
Oct-04	83.34	65.08	70.71	80.34		78.53	43.75	
Apr-05	81.88	80.71	89.58	93.09	67.92	77.52	73.12	16.34
Sep-05	77.65952	73.90	86.45	9.66	4.44	68.44	34.92	0.00
Apr-06	74.25972	68.10	77.85	82.84	78.62	83.16	74.65	57.33
Sep-06	77.41	60.44	59.6061	42.09	0	59.09	36.74	39.23
AVG	78.24	59.30	67.37	54.02	37.74	73.31	43.15	28.23

County Wide Oyster Monitoring

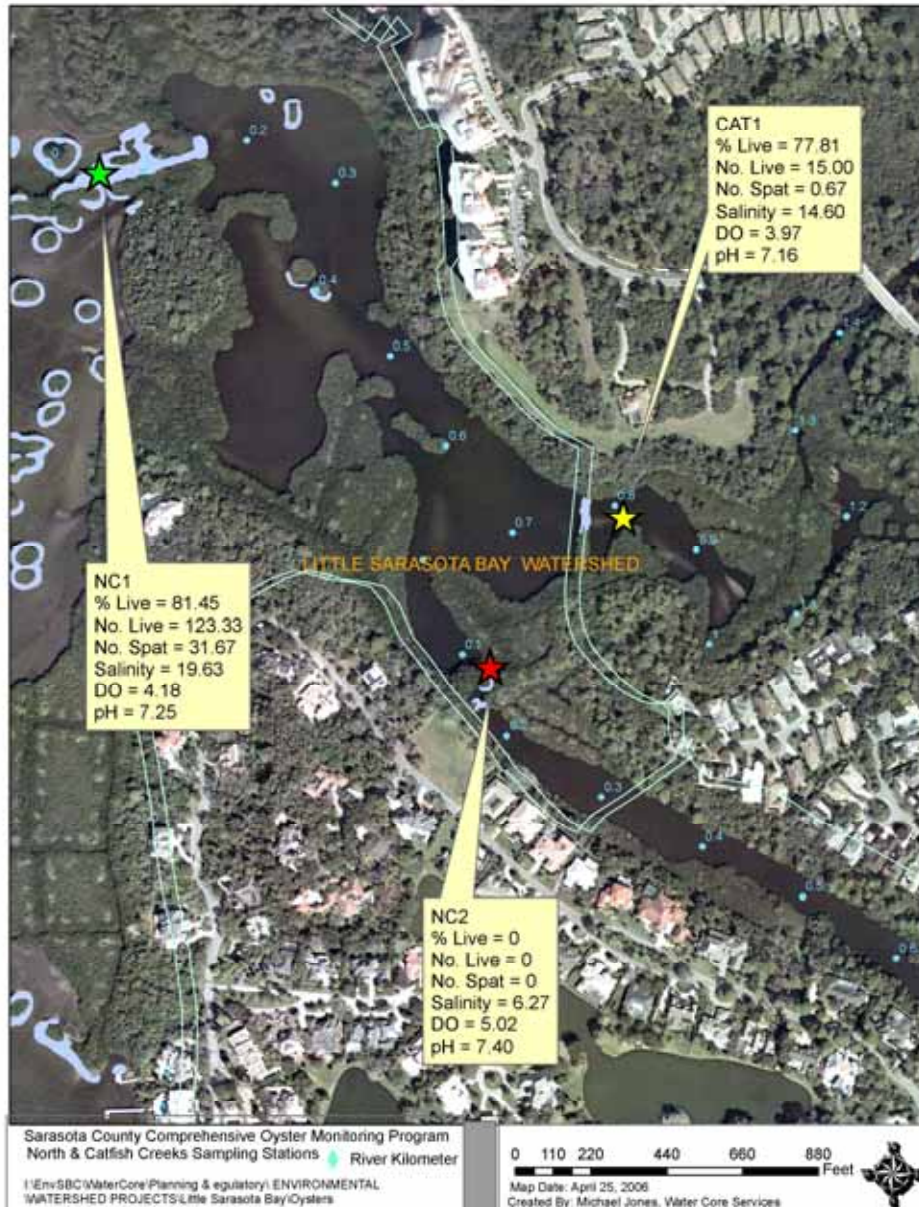


- **County % live oysters as a key performance indicator for SCG objective “Ensure fishable swimmable water bodies”**
- **Monitoring Commenced in October 2006**
- **27 Stations in 11 Creeks**
- **Updated Scoring System**
 - 80% + = Excellent = A (green) 4.0**
 - 70-79.9% = On Target = B (yellow) 3.0**
 - 50-69.9% = Fair = C (Orange) 2.0**
 - 20-49.9% = Poor = D Pink 1.0**
 - < 20% = Very Poor = F Red 0.0**

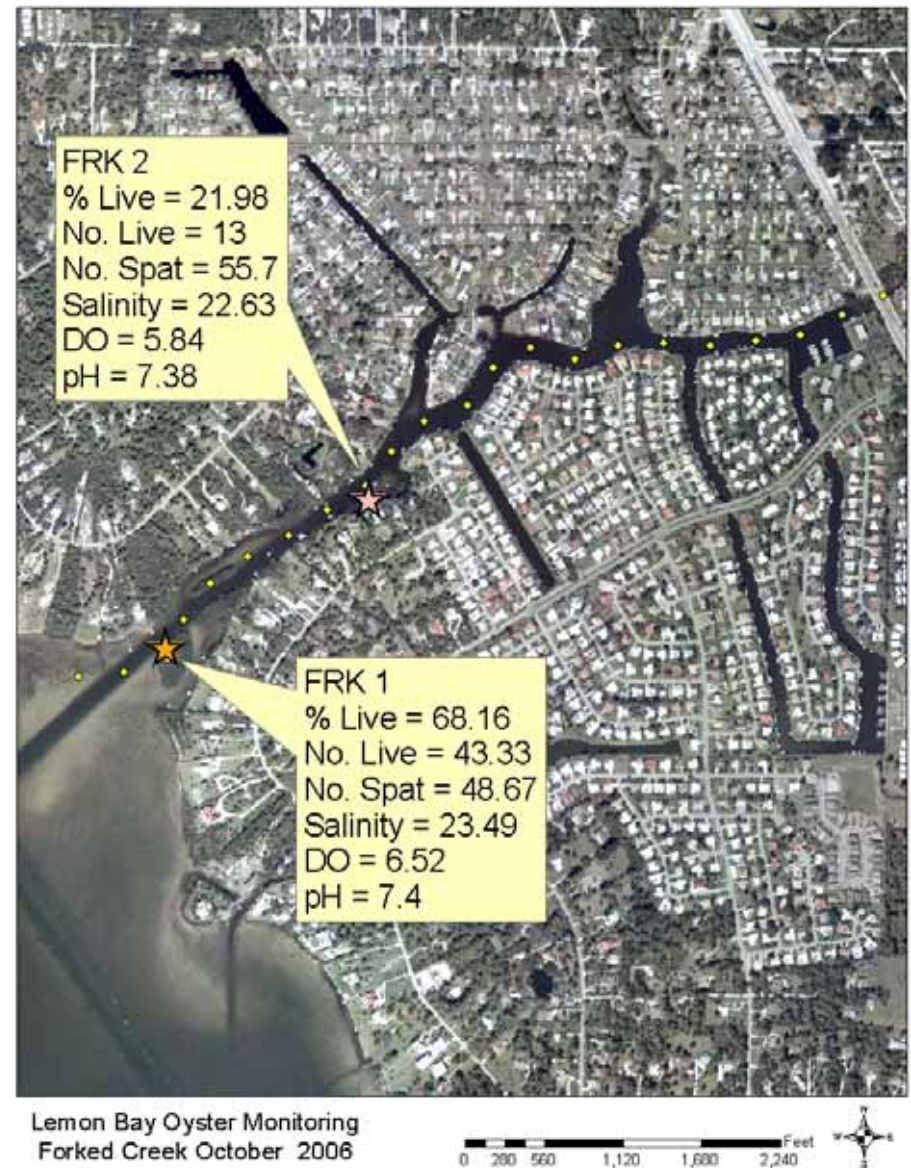
Sarasota Bay Stations and Results



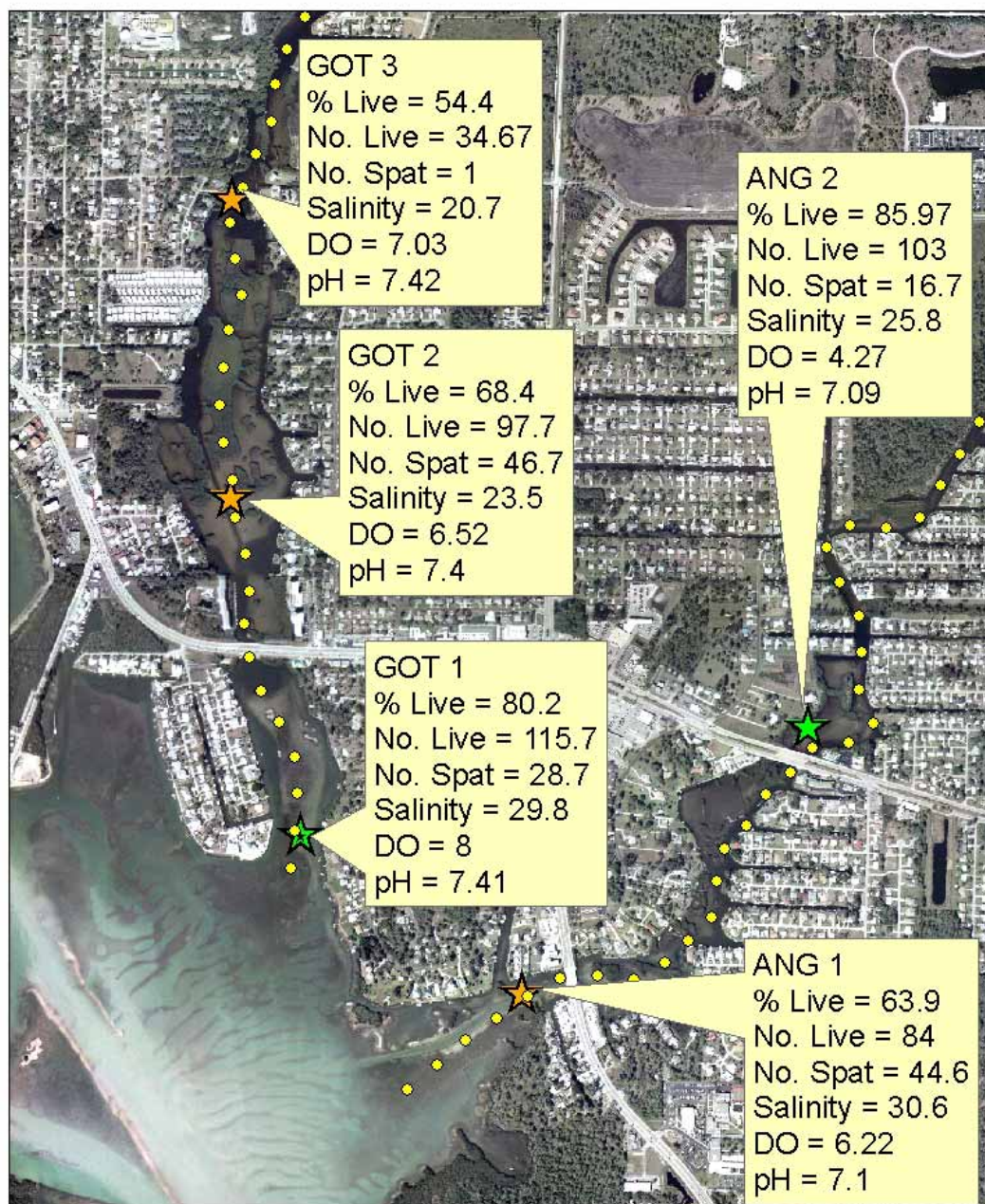
Little Sarasota Bay Stations and Results



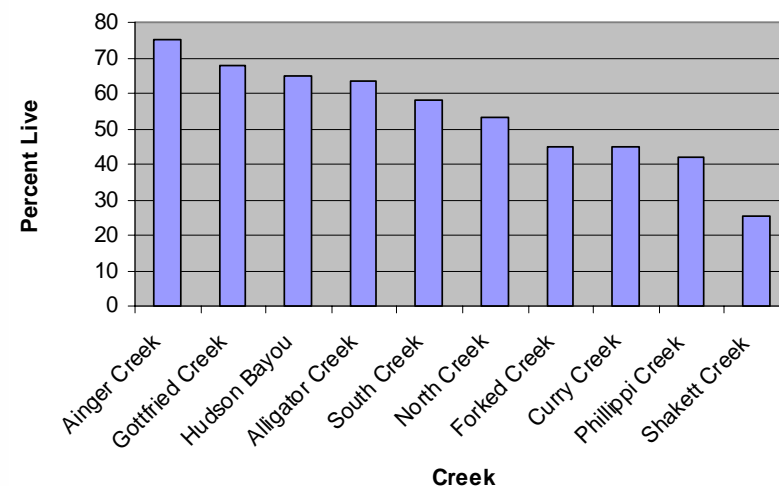
Lemon Bay Stations and Results



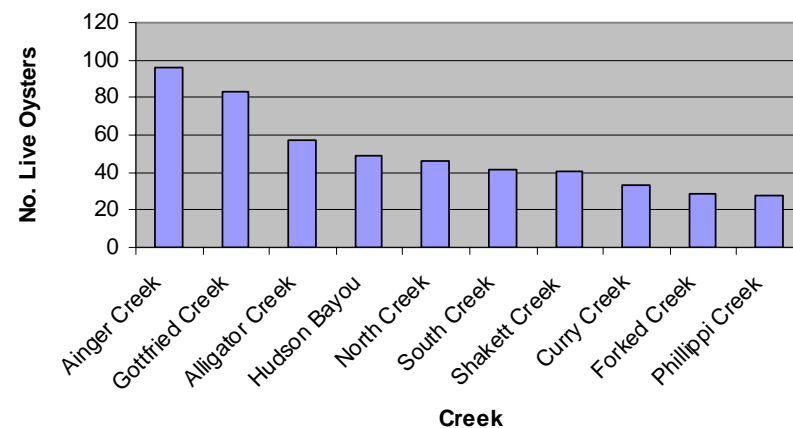
Lemon Bay Continued



Average % Live Oysters By Creek



Average Number of Live Oysters By Creek





Summary

- A statistical comparison was performed to group sites according to health.
- The healthiest sites were ANG2, ANG1, GOT1, NC1, LYB1, and HUD1.
- The worst sites were, HUD2, PH3, NC2, SKC2, SKC3, CC1, and CC2.
- All other sites fell into a middle range.

The End



Photo by Greg Wahl 2004