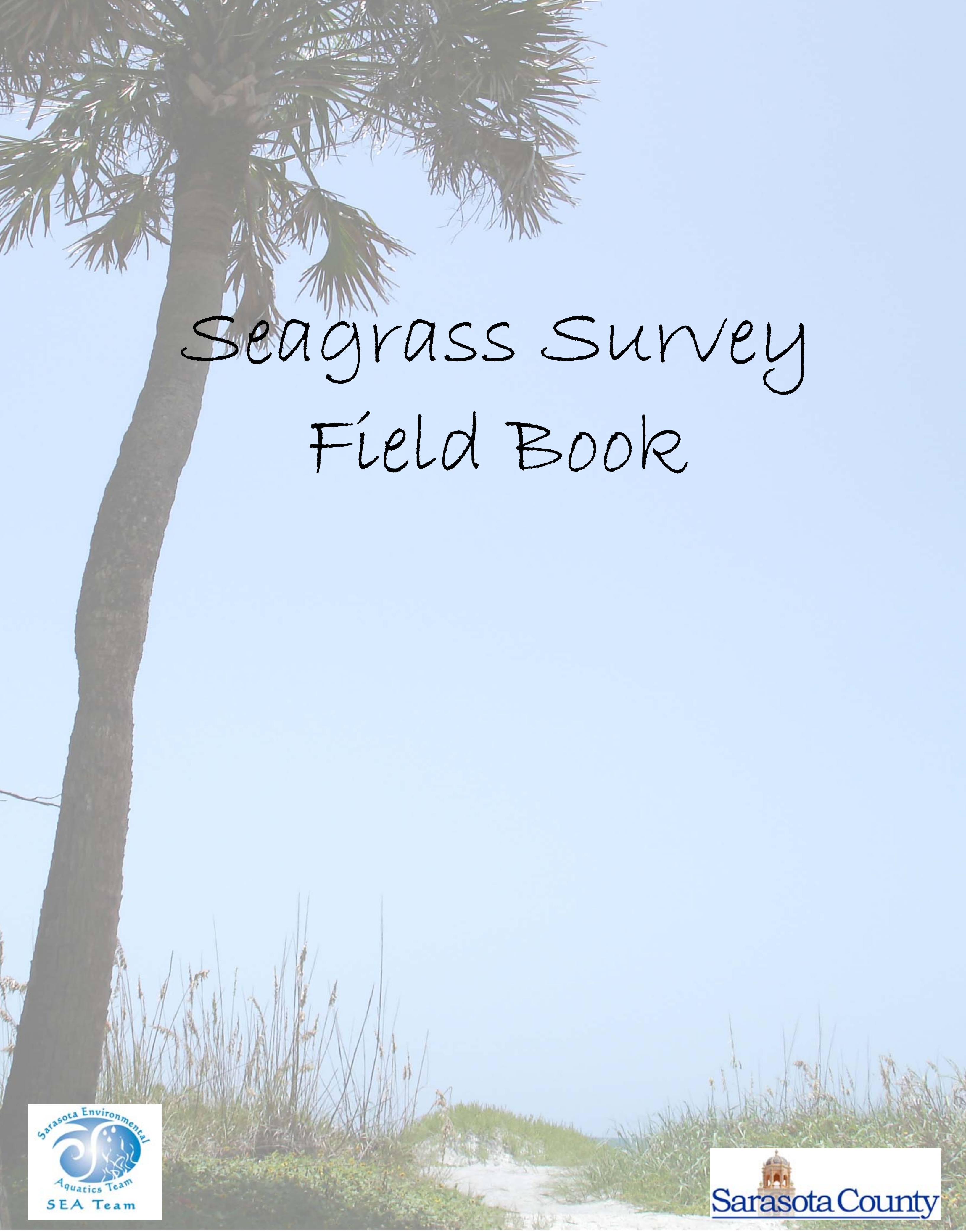


Seagrass Survey Field Book

Sarasota Environmental Aquatics Team
SEA Team

Sarasota County

Seagrass Survey Contact Information and Resources

Contacts:

Amanda Dominguez	650-1089 (c)	adomingu@scgov.net
Jon Perry	650-7680 (c)	jsperry@scgov.net
Fax	861-0986	

Sarasota County
Water Resources
1001 Sarasota Center Blvd
Sarasota, FL 34240-7850

Online Information:

Sarasota Water Atlas
The Water Atlas has all of the documents, maps and information you need as a seagrass survey volunteer.

Direct link to the seagrass documents and information:
http://www.sarasota.wateratlas.usf.edu/seagrass

Things to Remember

GPS Units:

GPS units are strongly preferred to be in Decimal Degrees = 43.748384° (dd.ddddd).

Comments:

You will notice that there is a comments area on your field sheet. This is an area where you can note any unusual biological occurrences that you see. Some examples are; live bay scallops, large numbers of upside-down jellyfish, several dead fish or anything that is out of the ordinary.

Secchi Disk Depth and Total Depth

The increments marked on the Secchi disk rope are in 0.10m, 0.5m, and 1.0m. Every black mark on the rope indicates 0.10m, red marks indicate 0.5m and the orange plastic tags indicate 1.0m.

- Be careful not to disturb sediments from the bottom as this could affect the Secchi reading.
    A. Ensure rope is secure to bottom of Secchi disk.
    B. Remove sunglasses and take Secchi depth from the shady side of the boat.
    C. Slowly lower the Secchi disk into the water until it disappears and visually mark the water level on the rope.
        NOTE: If your Secchi disk hits the bottom before it disappears, record it as >B, indicating that the secchi depth is greater than the bottom.
    D. Lower the Secchi disk approximately one more foot to ensure it has truly disappeared.
    E. Slowly raise the disk up again and repeat this process one more time and record the average depth in the column entitled “Secchi” on the field sheet.
    F. You can now take the total depth of the water by lowering the secchi disk down until it hits the bottom and recording that measurement in the column entitled “Depth” on the field sheet.

Algae Assessments:

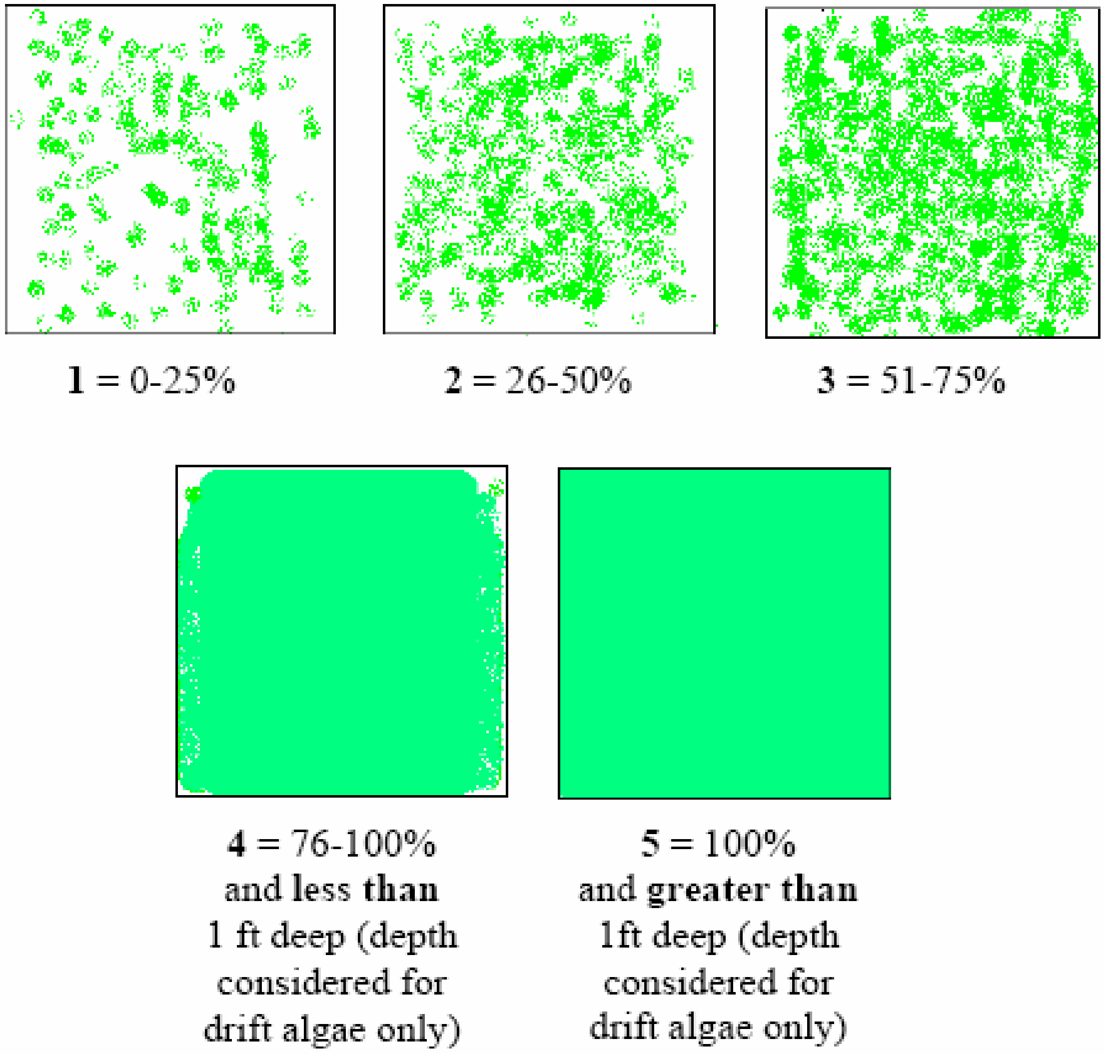
Drift algae and rooted algae is assessed differently than epiphytic algae.

For rooted and drift algae:

- Consider the area within a 50 foot radius of the documented GPS point as a whole.
- Estimate the percent coverage and record it as **1, 2, 3, 4 or 5** according to the below information.

1= 0-25 percent cover
2= 26-50 percent cover
3= 51-75 percent cover
4= 76-100 percent cover and (for drift algae only) less than 1 foot deep
5= (for drift algae only) 100 percent cover and grater than 1 foot deep

Rooted and Drift Algae Percent Abundance Assessment



1 = 0-25%

2 = 26-50%

3 = 51-75%

4 = 76-100% and less than 1 ft deep (depth considered for drift algae only)

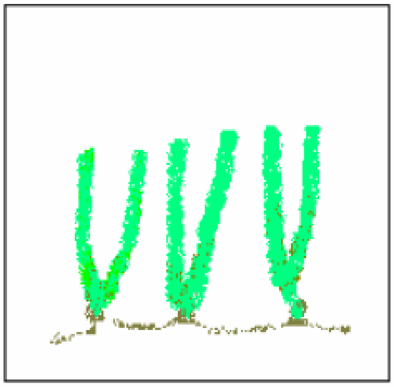
5 = 100% and greater than 1ft deep (depth considered for drift algae only)

For epiphytic algae:

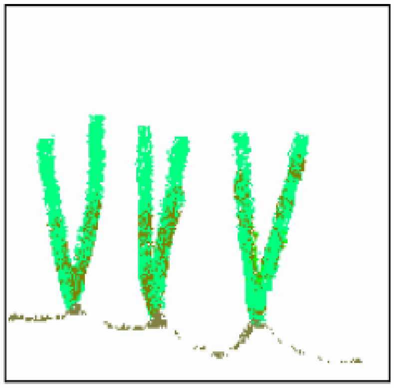
- Estimate the average blade coverage of epiphytes and record it as **1, 2, 3, 4 or 5** according to the below information.

1= Clean
2= Light
3= Moderate
4= Heavy
5= Extreme

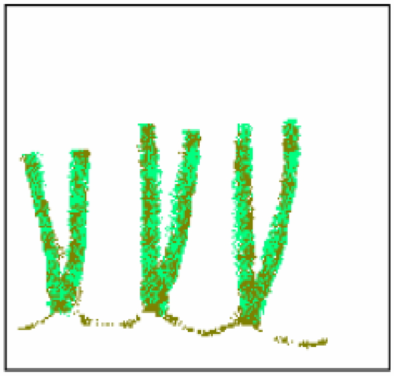
Epiphytic Algae Abundance Assessment



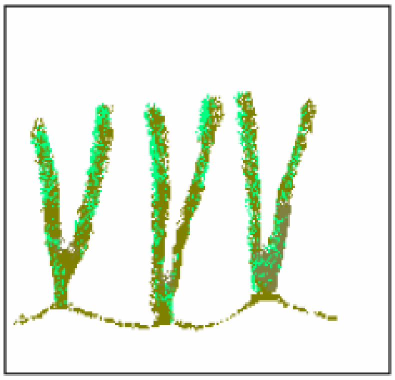
1 = Clean



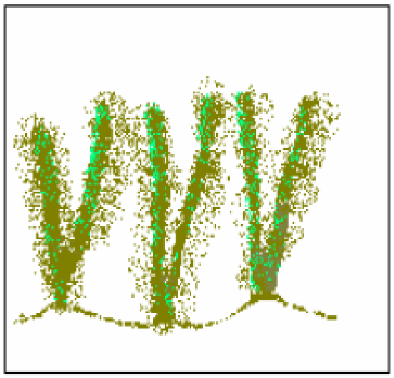
2 = Light



3 = Moderate



4 = Heavy



5 = Extreme
Very heavy coverage with “Beard”

General Seagrass Survey Technique:

We are looking to determine both where seagrass beds exist and where they do not as well as ascertain the species of seagrass within those beds in Sarasota County. It is requested that you print out a seagrass location map to take with you when you conduct this survey to help you locate the currently documented seagrass beds. The maps can be found on the Sarasota Water Atlas at: www.sarasota.wateratlas.usf.edu/news/committees.asp?GroupId=67

Example Map:

With the appropriate location map in hand you can now begin the survey. Once you are on the water and have decided that you would like to document a certain area, please do the following:

A. Record the GPS coordinates

B. Get into the water and assess an approximate 50 foot radius of the GPS coordinates.

> If you decide not to swim the area and simply assess the approximate 50 foot radius of the GPS coordinates from your boat /kayak or while wading that is fine too. However, please be advised that this is not our preferred method but is expectable none the less. We do however ask that you note on your field sheet how you collected your data in the methods section. Additionally, if you are uncertain of what you are seeing we request that you do not guess. We would prefer to have no data than inaccurate data. However, feel free to take a photo or collect a sample and refrigerate it and we will see if we are able to identify it for you.

C. To asses seagrass species percentages consider the area as a whole and write down the ratio of seagrass species. Your percentages should add up to 100%. Remember, you are not documenting the percent cover of seagrass, you are documenting the percent of species in the area. **Example A**, an area that has a lot of Turtle Grass (T) and very little Manatee Grass (S). **Example B**, an area that only has Shoal Grass (H).

Seagrass Species (Relative %Species)				Examples
T 95%	H	S 5%	unknown	Example A
T	H 100%	S	unknown	Example B

D. Once you have fully assessed and documented the area you simply repeat the process at your next station. Determining where your stations of data collection are is up to you because wherever you collect your data is valuable to us. Some volunteers like to outline the edge of seagrass beds, others like to randomly record information within and outside of seagrass beds while some choose to hunt for deeper water seagrass beds. Please don't hesitate to record points where there is no seagrass because this information is also of value.

The most important thing to remember is to have fun and that the information you gather is an enormous help to us.

Sarasota County

Amanda Dominguez	941-650-1089
Jon Perry	941-650-7680

Sarasota County Seagrass Survey - Field Sheet

Date:

Surveyors ________________ ________________________ ________________________

Station	Time	Latitude (DD.DDDDD)	Longitude (-DD.DDDDD)	Depth (ft)	Secchi (m)	Present/Absent	Seagrass Species (Relative %Species)				Algae (Relative %Cover)			Sediment Description	Other Biology	Method of Collection
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Date and time are required for tide corrections.		GPS positons collected in decimal degrees, WGS 84.		Depth: Lower secchi disk to the bottom and record depth. Secchi Depth: DEP-SOP-001/01 FT 1700		"P" for seagrass present, "A" if absent	Seagrass Species T = Thalassia (Turtle Grass) H = Halodule (Shoal Grass) S = Syringodium (Manatee Grass)				Algae:1,2,3,4,5 D = Drift Algae E = Epiphytic Algae R = Rooted Algae			Sediment Description: Sand, silt, dark fines, firm, soft, muck.	Oysters, jellyfish, scallops, Bryozoans, live bottom, reef balls and any other	Methods: V=from Boat S=Swim W=Wade

Sarasota County Seagrass Survey - Field Sheet

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Sarasota County Seagrass Survey - Field Sheet

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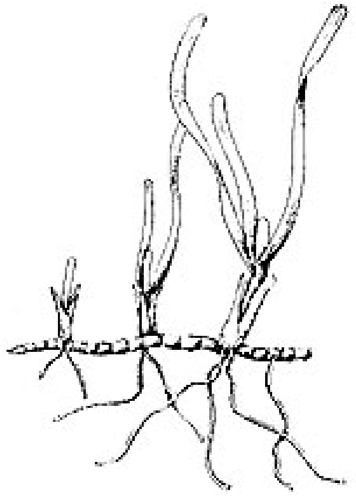
Turtle Grass (*Thalassia testudinum*)

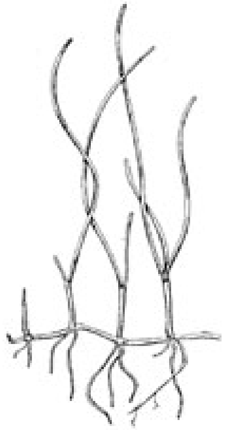
Blades are flat, with rounded tips. Up to 14” long and 1/2” wide. Often colonized by epiphytes.

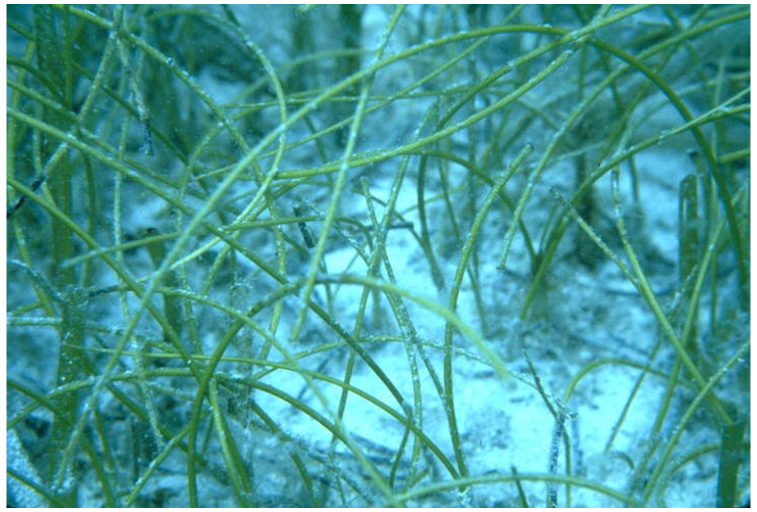


(photos: www.floridaoceanographic.org

Manatee Grass (*Syringodium filiforme*)

Cylindrical blades up to 20” in length.
Commonly found with other species.

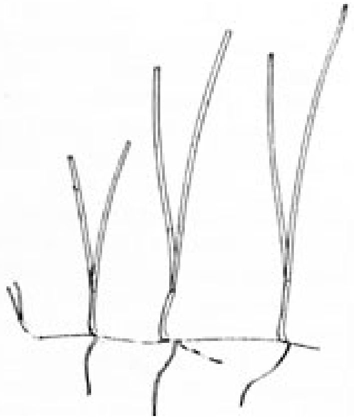


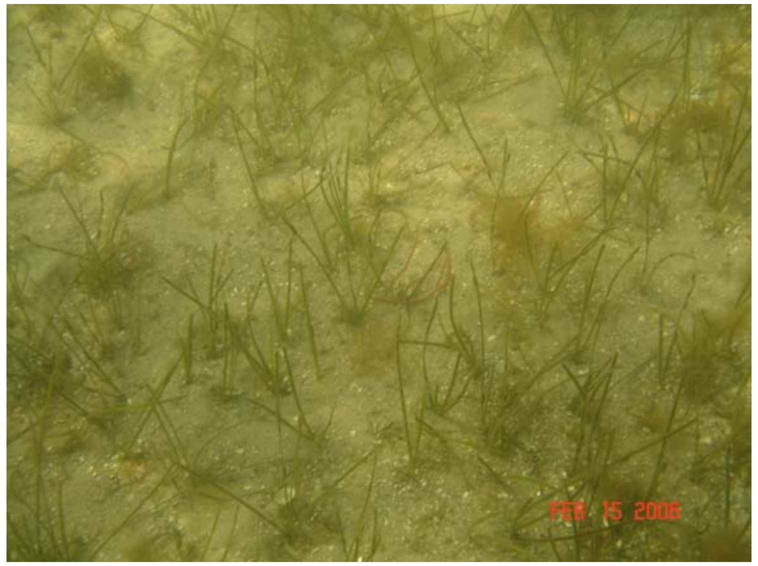


(photos: Ron Phillips)

Shoal Grass (*Halodule Wrightii*)

Flat narrow blades with notched tips.
Up to 6” in length





(photos: upper Jon Perry, lower Ron Phillips)

Sarasota County

Amanda Dominguez 650-1089 adomingu@scgov.net

Jon Perry 650-7680 jperry@scgov.net

Macroalgae

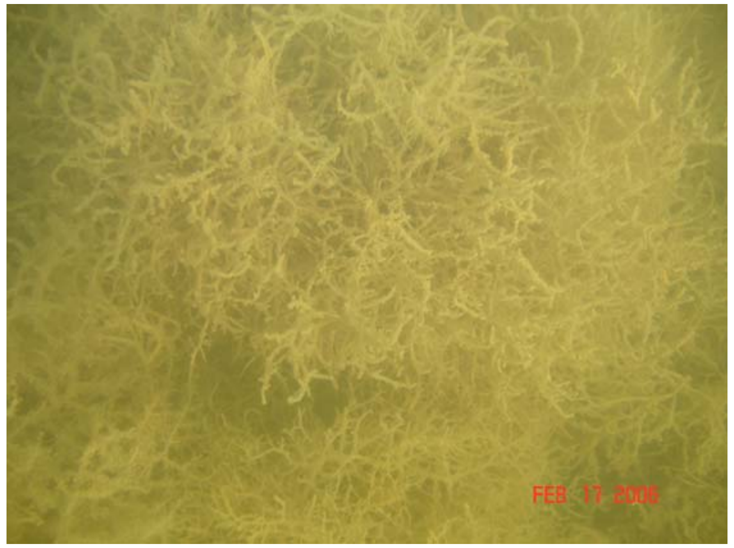
Epiphytic Algae

Algae attached to the blades of the seagrass, particularly Thalassia. Crustaceans my also be visible. Harmful to the seagrass as it blocks light from reaching the blades.
(photo: Jon Perry)

Caulerpa

Both native and invasive species exist in Florida waters. Natives have strap like blades up to 12" long.

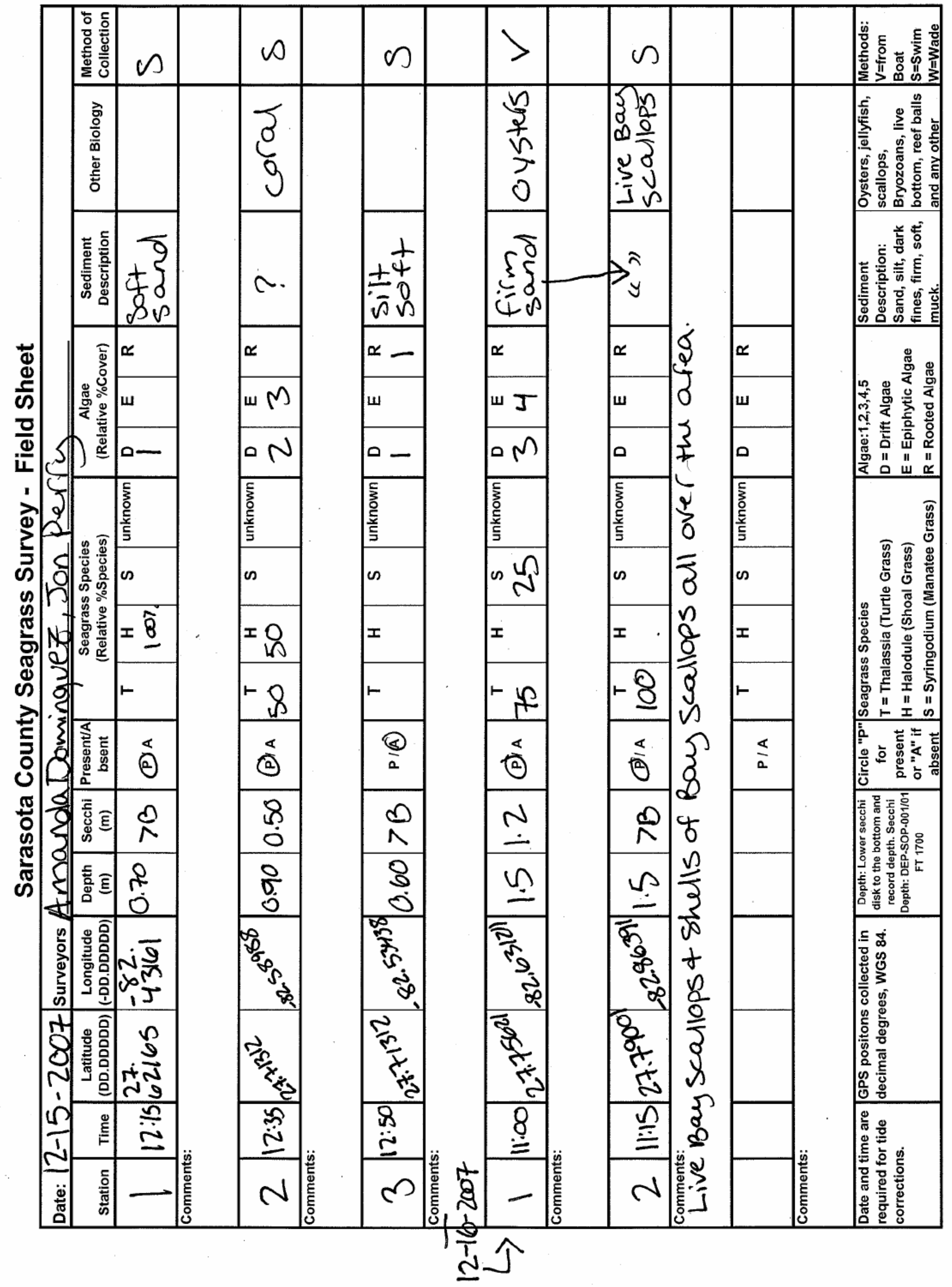
Drift Algae



Unattached algae. Easily swept out of the way to see underneath. Seagrass may trap drift algae which will block light from reaching the blades. Also found in bare bottom "sinks".
(photo: Jon Perry)

Ulva

Also known as sea lettuce. Usually attached to shell and gravel.



Sarasota County Seagrass Survey - Field Sheet

Date: 12-15-2007 Surveyors Amanda Dominguez, Jon Perry

Station	Time	Latitude (DD.DDDDD)	Longitude (-DD.DDDDD)	Depth (m)	Secchi (m)	Present/Absent	Seagrass Species (Relative %Species)				Algae (Relative %Cover)			Sediment Description	Other Biology	Method of Collection
							T	H	S	unknown	D	E	R			
1	12:15	27.62165	-82.43161	0.70	7B	[✓ P] A		100%			1			Soft sand		S
Comments:																
2	12:35	27.71312	-82.58988	0.90	0.50	[✓ P] A	50	50			2	3		?	coral	S
Comments:																
3	12:50	27.71312	-82.53438	0.60	7B	P / [✓ A]					1		1	silt soft		S
Comments:																
12-16-2007 ↳																
1	11:00	27.75621	-82.63121	1.5	1.2	[✓ P] A	75		25		3	4		firm sand	oysters	V
Comments:																
2	11:15	27.79001	-82.86391	1.5	7B	[✓ P] / A	100							" "	Live Bay scallops	S
Comments: Live Bay Scallops + Shells of Bay Scallops all over the area.																
						P / A										
Comments:																
Date and time are required for tide corrections.		GPS positons collected in decimal degrees, WGS 84.		Depth: Lower secchi disk to the bottom and record depth. Secchi Depth: DEP-SOP-001/01 FT 1700		Circle "P" for present or "A" if absent	Seagrass Species T = Thalassia (Turtle Grass) H = Halodule (Shoal Grass) S = Syringodium (Manatee Grass)				Algae:1,2,3,4,5 D = Drift Algae E = Epiphytic Algae R = Rooted Algae			Sediment Description: Sand, silt, dark fines, firm, soft, muck.	Oysters, jellyfish, scallops, Bryozoans, live bottom, reef balls and any other	Methods: V=from Boat S=Swim W=Wade

Bay Scallop (*Argopecten irradians*)
Shell length of 2.5 to 2.8 inches with distinct convexity of the right (lower) valve and 17 to 20 ribs on each shell. Shell color varies and is generally a uniform light gray to gray-brown color with distinct convexity of the right (lower) valve. They are most commonly found in calm waters 1 to 2 feet deep.

(photos: upper www.shellmuseum.org, lower Conchology, Inc.)

Calico Scallop (*Argopecten gibbus*)
Shell height of 2 inches, shell length over 3 inches, distinct convexity of the left (upper) valve and 17 to 23 ribs on each shell. The base color of the shell is creamy white to yellowish, splotched with patches of bright red, maroon, or lavender, with the left valve typically more brightly colored that the right. Generally found in waters ranging from about 30 to 1,300 feet deep but have been reported in shallower waters.

(photos: upper www.shellmuseum.org, lower Conchology, Inc.)

Asian Green Mussel (*Perna viridis)*
Large (> 3 inches) bivalve, with a smooth, elongate shell. It has visible concentric growth rings and attaches to hard surfaces. Typically occurring at depths of less than 33 feet.

(photos: upper www.shellmuseum.org, lower www.dnr.sc.gov)

Sarasota County

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