Canal Current

A wave of information for Cape Coral's Canalwatch volunteers

Newsletter: 4th Quarter 2014

Environmental Events

FREE Gardening Series

The Lee County Master Gardeners are holding a series of free seminars and strolling seminars for Cape Coral residents. On Friday, February 6th, lawn care and lawn weeds will be the topic; on February 20th, care and maintenance of palm trees will be discussed. Both seminars start at 9:00 a.m. and run until 10:30 a.m.

Also occurring every Friday are the Florida Friendly Garden Walks: strolling seminars intended to demonstrate the benefits of landscaping with Florida's native plant species. These programs begin at 10:00 a.m. and typically last an hour.

These seminars are held at the Rotary Park Environmental Center. For more information on these free classes, or other events related to home landscape and gardening, please call (239) 549-4606 or visit www.capeparks.com and click on the program guide.

Native Plant profile

Sawgrass
Cladium jamaicense

The "grass" in sawgrass is a misnomer. While sawgrass may look similar to other tall grasses throughout Florida, it is actually considered a sedge. Sedge is a predominant plant species in the Florida Everglades. The notable book by Marjory Stoneman Douglas, *The Everglades River of Grass*, describes the natural history and the plight of the Everglades. It is her account of how this species of sedge, and the unique ecosystem it resides in, have been altered over the course of history.

Sawgrass, like many types of sedge, prefers to be in wet habitats and can tolerate brackish waters as well. It does well in the relatively nutrient-poor soils associated with riparian or littoral habitats and can grow to 6 or 7 feet in height. Sawgrass is aptly named, as it does have serrated edges along each blade. Be careful when handling this plant!

Image Courtesy of Florida Museum of Natural History

Inside This Issue:

Questions? Comments? Let us know!

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Water Quality Begins Upstream

In Cape Coral, with its mazelike network of canals, it's difficult to ascertain where "upstream" is in the water path. There are definite boundaries between freshwater and salt water, via Cape Coral's weir system, and certainly the former flows into the latter when precipitation is plenty. Nevertheless, most canals experience minimum or no flow. Surprisingly, even tidally influenced canals often exhibit an up and down movement of water, versus an ebb and flow as the tide cycle revolves. Be it an engineering aspect or a trait of Southwest Florida's topography, the slow movement of water is a characteristic of Florida's hydrology. As a result, Cape Coral's canals are regarded as basins. Retaining stormwater for flood control and irrigation water supply needs, as well as providing recreation and aesthetic value for Cape Coral's residents, are the multifaceted roles of Cape Coral's canals.

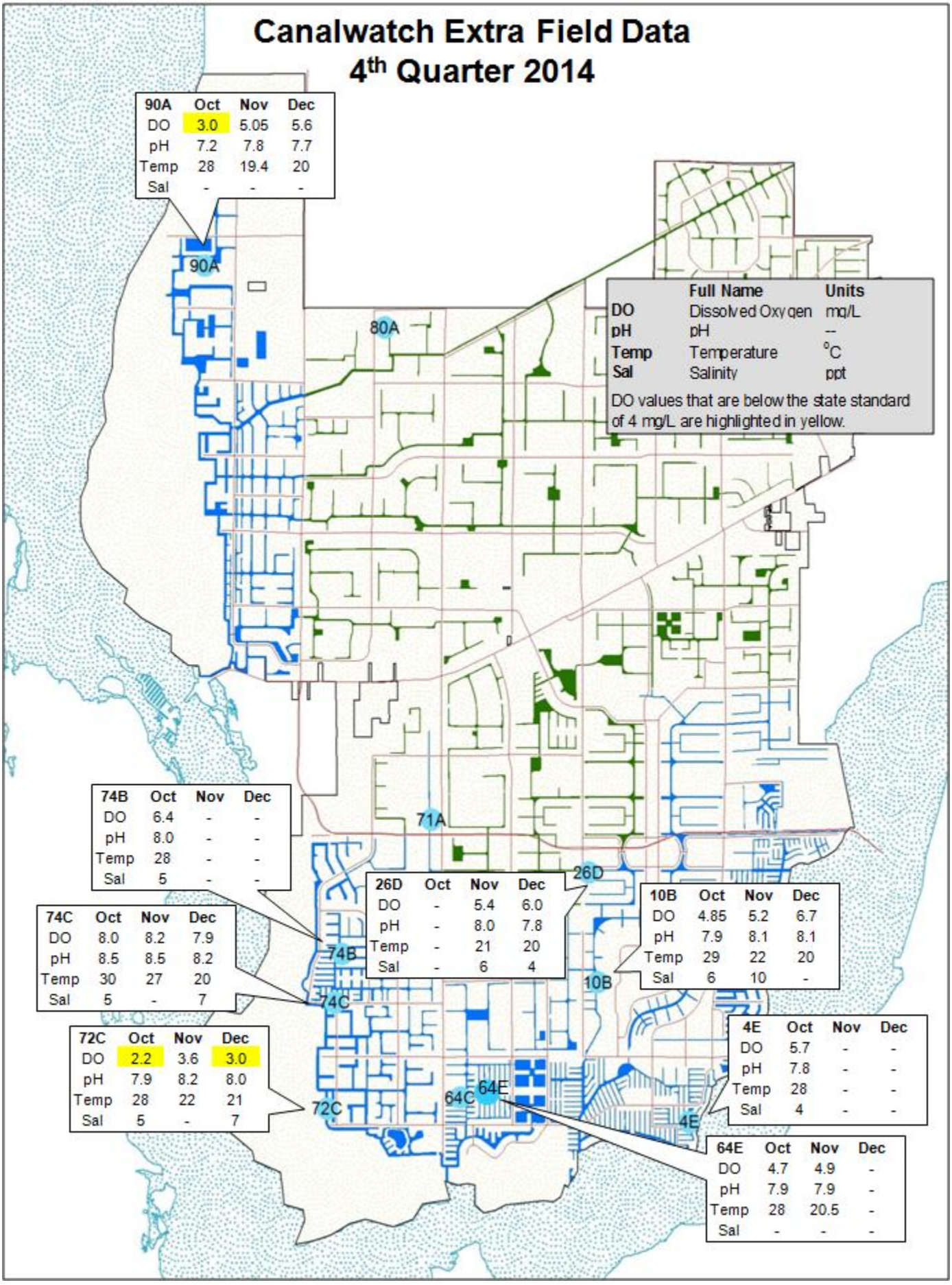
These two ends of the spectrum often attract public interest in circumstances regarding pollution. Stormwater is a purveyor of pollutants to any receiving water body and Cape Coral's canals are no exceptions. What is collected in storm water - whether it is trash, yard waste, particles of tire rubber, brake dust, oil, or nutrients from fertilizer - its terminus is the water in many residents' back yards – deposited there by the city's stormwater conveyance system.

There is optimism in this overview. The City of Cape Coral employs a number of protective measures to reduce the number of pollutants that potentially enter the canals. Mechanical removal such as street sweepers and catch basins are designed to collect and trap debris, capture litter on roadways, and that entrained in stormwater. Public Education is also key in the effort to reduce pollution on the roadways. Campaigns to clean up litter, litter awareness, clean boating, responsible fishing, and programs intended for home landscape (e.g., Florida Yards and Neighborhoods) are in place to make citizens conscious of their actions and the influence they have on the natural environment.

One last provision, and essential to limiting excess nutrients entering the canal waterways, is the City's Fertilizer Ordinance. A change in public policy is often necessary for the betterment of a common resource. Restricting the use of fertilizer during the heavy rainfall season, which is the central part of many fertilizer restrictions in Florida, equates to the lessening of frequent nutrient related water quality issues. While some homeowners may be averse to this policy, nonetheless, curb appeal would be superficial if the adjacent water body exhibited profuse algae growth, fish kills or unpleasant odors.

Consider then that the "upstream" to the waterways begins in streets, yards and neighborhoods. Keeping Cape Coral clean will help protect our waterways.

Canalwatch Extra Field Data
4th Quarter 2014



90A	Oct	Nov	Dec
DO	3.0	5.05	5.6
pH	7.2	7.8	7.7
Temp	28	19.4	20
Sal	-	-	-

	Full Name	Units
DO	Dissolved Oxygen	mg/L
pH	pH	--
Temp	Temperature	°C
Sal	Salinity	ppt

DO values that are below the state standard of 4 mg/L are highlighted in yellow.

74B	Oct	Nov	Dec
DO	6.4	-	-
pH	8.0	-	-
Temp	28	-	-
Sal	5	-	-

74C	Oct	Nov	Dec
DO	8.0	8.2	7.9
pH	8.5	8.5	8.2
Temp	30	27	20
Sal	5	-	7

72C	Oct	Nov	Dec
DO	2.2	3.6	3.0
pH	7.9	8.2	8.0
Temp	28	22	21
Sal	5	-	7

26D	Oct	Nov	Dec
DO	-	5.4	6.0
pH	-	8.0	7.8
Temp	-	21	20
Sal	-	6	4

10B	Oct	Nov	Dec
DO	4.85	5.2	6.7
pH	7.9	8.1	8.1
Temp	29	22	20
Sal	6	10	-

4E	Oct	Nov	Dec
DO	5.7	-	-
pH	7.8	-	-
Temp	28	-	-
Sal	4	-	-

64E	Oct	Nov	Dec
DO	4.7	4.9	-
pH	7.9	7.9	-
Temp	28	20.5	-
Sal	-	-	-

	bd = below detection				benchmark numbers: Marked data are in the highest 20% of values found by Hand et. al, 1988.														
	October 2014						November 2014						December 2014						
	NO2	NO3	NH3	TKN	T-N	T-PO4	NO2	NO3	NH3	TKN	T-N	T-PO4	NO2	NO3	NH3	TKN	T-N	T-PO4	Avg
	<1.0	<1.0	none set		<2.0	<0.46	<1.0	<1.0	none set		<2.0	<0.46	<1.0	<1.0	none set		<2.0	<0.46	TSI
3F	0.00	0.03	0.05	0.8	0.8	0.04	0.03	0.03	0.05	0.8	0.8	0.06	0.03	0.07	0.05	1.1	1.17	0.03	45.97
4E	0.00	0.30	0.05	1.2	1.50	0.12													61.33
5D	0.00	0.17	0.05	1	1.17	0.08	0.03	0.03	0.05	1.0	1.0	0.09	0.03	0.03	0.05	1.3	1.3	0.04	55.11
5F	0.00	0.15	0.05	0.9	1.05	0.09	0.03	0.03	0.05	1.0	1.0	0.08	0.03	0.03	0.1	1.0	1.0	0.05	59.46
6F	0.00	0.07	0.05	1	1.07	0.12							0.03	0.09	0.05	0.9	0.99	0.07	56.35
9F							0.03	0.03	0.05	1.0	1.0	0.08	0.03	0.03	0.05	0.9	0.9	0.05	56.84
10B	0.00	0.03	0.05	0.7	0.7	0.05	0.03	0.03	0.05	0.8	0.8	0.06	0.03	0.03	0.05	0.6	0.6	0.03	51.30
11E	0.00	0.35	0.05	1.0	1.35	0.14	0.03	0.03	0.05	0.9	0.9	0.09	0.03	0.03	0.1	1.2	1.2	0.08	60.16
12H	0.00	0.30	0.05	1.2	1.50	0.14	0.03	0.03	0.05	1.0	1.0	0.10	0.03	0.03	0.1	1.0	1.0	0.07	55.91
15E	0.00	0.03	0.05	1.1	1.1	0.06	0.03	0.03	0.05	0.9	0.9	0.08	0.03	0.03	0.2	0.9	0.9	0.03	52.51
15F	0.00	0.03	0.05	0.6	0.6	0.05	0.03	0.03	0.05	0.8	0.8	0.07							58.23
16E	0.00	0.03	0.05	1.2	1.2	0.03	0.03	0.03	0.05	1.3	1.3	0.07	0.03	0.03	0.1	0.6	0.6	0.04	57.86
19D	0.00	0.30	0.05	0.9	1.20	0.13	0.03	0.03	0.05	0.9	0.9	0.10	0.03	0.03	0.05	0.8	0.8	0.07	57.54
19K	0.00	0.29	0.05	0.9	1.19	0.14	0.03	0.03	0.05	0.9	0.9	0.13	0.03	0.03	0.1	1.0	1.0	0.08	56.37
21D	0.00	0.03	0.05	0.6	0.6	0.07	0.03	0.03	0.05	0.8	0.8	0.09	0.03	0.03	0.05	0.8	0.8	0.06	52.07
21I	0.00	0.03	0.05	0.6	0.6	0.04	0.03	0.03	0.05	0.8	0.8	0.08							55.39
26D	0.00	0.03	0.05	0.7	0.7	0.04	0.03	0.03	0.05	2.0	2.0	0.07	0.03	0.19	0.1	1.1	1.29	0.01	54.76
28D							0.03	0.03	0.05	0.6	0.6	0.05	0.03	0.03	0.05	0.4	0.4	0.03	49.19
41A	0.00	0.03	0.05	0.6	0.6	0.02	0.03	0.03	0.05	0.4	0.4	0.04	0.03	0.07	0.05	0.8	0.87	0.03	44.89
41B													0.03	0.03	0.05	0.2	0.2	0.01	49.26
45D	0.00	0.03	0.05	0.6	0.6	0.04	0.03	0.03	0.05	0.6	0.6	0.05	0.03	0.03	0.05	0.3	0.3	0.03	55.44
48A	0.00	0.03	0.05	0.6	0.6	0.01	0.03	0.03	0.05	0.5	0.5	0.04	0.03	0.10	0.05	0.05	0.10	0.01	40.95
50A	0.00	0.07	0.05	0.7	0.77	0.04	0.03	0.03	0.05	0.7	0.7	0.06	0.03	0.15	0.05	0.3	0.45	0.02	53.41
52B	0.00	0.08	0.05	0.6	0.68	0.02	0.03	0.03	0.05	0.4	0.4	0.04	0.03	0.09	0.05	0.2	0.29	0.01	37.20
58B							0.03	0.03	0.05	1.0	1.0	0.08							39.71
58G	0.00	0.06	0.05	0.6	0.66	0.03	0.03	0.03	0.05	0.9	0.9	0.06	0.03	0.06	0.2	1.0	1.06	0.04	54.28
58I	0.00	0.09	0.05	0.7	0.79	0.03	0.03	0.03	0.05	1.6	1.6	0.06	0.03	0.10	0.2	1.3	1.40	0.04	49.64

58J	0.00	0.03	0.05	1.4	1.4	0.03	0.03	0.03	0.05	1.6	1.6	0.06	0.03	0.03	0.1	1.8	1.8	0.04	53.16
59B	0.00	0.03	0.05	0.7	0.7	0.01	0.03	0.03	0.05	1.5	1.5	0.06	0.03	0.06	0.1	1.8	1.86	0.03	45.16
59C	0.00	0.03	0.05	0.7	0.7	0.01	0.03	0.03	0.05	1.5	1.5	0.05	0.03	0.03	0.05	1.1	1.1	0.02	42.64
60C	0.00	0.06	0.05	0.5	0.56	0.01	0.03	0.03	0.05	1.5	1.5	0.06	0.03	0.06	0.1	0.9	0.96	0.03	45.81
64B	0.00	0.22	0.05	0.9	1.12	0.10	0.03	0.03	0.05	1.5	1.5	0.09	0.03	0.08	0.05	0.9	0.98	0.05	55.58
64E	0.00	0.21	0.05	0.9	1.11	0.09	0.03	0.06	0.05	1.5	1.56	0.10							63.85
65C	0.00	0.07	0.05	0.8	0.87	0.06	0.03	0.03	0.05	1.9	1.9	0.10	0.03	0.11	0.05	1.0	1.11	0.05	59.35
66A	0.00	0.03	0.05	0.6	0.6	0.02	0.03	0.03	0.05	1.2	1.2	0.06	0.03	0.03	0.05	0.3	0.3	0.02	45.00
69A							0.03	0.03	0.05	1.9	1.9	0.12	0.03	0.12	0.05	1.2	1.32	0.10	64.38
70G	0.00	0.03	0.05	0.6	0.6	0.03	0.03	0.03	0.05	1.3	1.3	0.07							49.75
72A	0.00	0.03	0.05	0.8	0.8	0.07							0.03	0.03	0.05	1.3	1.3	0.09	53.41
72C	0.00	0.05	0.05	0.8	0.85	0.05	0.03	0.03	0.05	1.6	1.6	0.08	0.03	0.03	0.05	0.7	0.7	0.04	57.34
74B	0.00	0.03	0.05	0.8	0.8	0.04													50.64
74C	0.00	0.03	0.05	0.8	0.8	0.05	0.03	0.03	0.05	1.8	1.8	0.12	0.03	0.03	0.05	0.8	0.8	0.05	54.34
82A	0.00	0.06	0.05	0.7	0.76	0.02	0.03	0.03	0.05	1.6	1.6	0.07	0.03	0.03	0.05	0.7	0.7	0.02	53.75
83C	0.00	0.03	0.05	0.6	0.6	0.01	0.03	0.03	0.05	1.6	1.6	0.08	0.03	0.03	0.05	1.0	1.0	0.02	50.06
89A	0.00	0.24	0.05	0.9	1.14	0.15	0.03	0.05	0.05	1.5	1.55	0.14	0.03	0.03	0.1	0.9	0.9	0.09	59.95
90A	0.00	0.03	0.05	1.0	1.0	0.02	0.03	0.03	0.05	2.2	2.2	0.09	0.03	0.05	0.1	1.6	1.65	0.02	53.02
93C	0.00	0.03	0.05	0.7	0.7	0.06	0.03	0.03	0.05	1.5	1.5	0.09							58.30
Median		**0.03**	**bd**	**0.80**	**0.80**	**0.04**		**bd**	**bd**	**1.00**	**1.00**	**0.08**		**bd**	**bd**	**0.90**	**0.97**	**0.04**	**54.02**
Max		**0.35**	**0.05**	**1.40**	**1.50**	**0.15**		**0.06**	**0.05**	**2.20**	**2.20**	**0.14**		**0.19**	**0.20**	**1.80**	**1.86**	**0.10**	**64.38**

NO2 = Nitrite (inorganic)	TKN = Total Kjeldahl Nitrogen (organic + NH4)
NO3 = Nitrate (inorganic)	TN = Total Nitrogen (inorganic + organic)
NH3 = Ammonia (inorganic)	TPO4 = Total Phosphate

High levels of nutrients in our canals can indicate the presence of fertilizer runoff or effluent from wastewater or septic systems. Excessive nutrients can lead to nuisance plant growth and algal blooms.

All nutrient concentrations shown in mg/L

TSI = Trophic State Index, a quick indicator of canal health. 41 sites this quarter scored as GOOD (<60). 4 sites scored FAIR (60-70), zero scored POOR (>70).
Winter time, and cooler / dryer weather has made for some beautiful days. The canals have remained relatively healthy. In fact, the wind driven waves mix water, cooler water temperatures holds more disolved oxygen and a decrease in stormwater runoff lessens the nutrient inflow.

February

4th Canalwatch

Each Friday
Free Garden Series by
The Lee County Master
Gardeners (See Page 1)

21st Nature of Cape Bus Tour
8am – 12pm
Meets at Rotary Park
Info: 549-4606

27nd Burrowing Owl Festival
Rotary Park from 10-4

March

4th Canalwatch

21st Tropical Plant Bazaar
Eco Preserve 9am-2pm
Info: 549-4606

21st Florida Yards &
Neighborhoods Intro Class
1pm – 4pm
Info: 549-4606

April

1st Canalwatch
(Annual BBQ at the Yacht Club)

18th Spring Florida Native
Plant Sale
9am-2pm
Info: 549-4606

Reminder: The 15th Annual Canalwatch Volunteer Appreciation BBQ is on April 1st. Please RSVP at 574-0785

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Environmental Resources
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