



Canal Current

A wave of information for Cape Coral's Canalwatch volunteers

Newsletter: 2nd Quarter 2018

Environmental News

Our Water Quality Issues

Many canals that border the Caloosahatchee River have been affected by the ongoing cyanobacteria bloom. The bloom originated in Lake Okeechobee and persisted downstream to the Caloosahatchee Estuary. Unlike an algae bloom (phytoplankton), the cyanobacteria can produce toxins. Moreover, they can be persistent in the environment even after the bloom has subsided. The cyanobacteria bloom has been a continuing problem for all the communities along the Caloosahatchee River since June of this year. Extensive blooms such as these are an indication of excess nutrients in our waterways. There are many steps that need to be taken to right Florida's water quality dilemmas, but it's up to its citizens to make those actions a reality.

Be an environmental ambassador.

Consider your own property and how it fits into the ecosystem.

Be involved. Support stronger water quality regulations and projects that store and treat water for South Florida.

Be an informed voter. Elect candidates who support Florida's environment.

Questions? Comments? Let us know!

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Native Plant profile

Southern Magnolia *Magnolia grandiflora*

Considered one of the essential trees of the south, the stately southern magnolia is a distinguishing natural indicator that one is south of the Mason-Dixon Line. One of its characteristics is its dark green glossy leaf surfaces with its rusty brown undersides. The flower of the southern magnolia is white or off white and is often described as lemon scented. The flowers are large and can be close to a foot in diameter on older growth trees.

Southern magnolias mature to about 60 feet in height and prefer rich soils that are well drained.

There are numerous "cultivars" available including specimens that are suitable for south Florida.



Do Alligators Equal Water Quality?

American alligators are often considered a symbol of Florida. Indeed, in times past they were ubiquitous to swamps, marshes and even coastal environments throughout Florida. Their prominence was equal to the habitat that Florida provided; wetlands. With the expansion of human settlements and the draining of swamp lands, the American alligator became a nuisance, or likewise, a hazard.

In addition to habitat loss, hunting pressure would bring

the once foremost reptile of the swamp to bleak numbers. The Endangered Species Act of 1973 was instrumental in protecting one of the Southeast largest reptiles. Conservation efforts over the following decade brought back the American alligator from extinction and it was delisted in the late 1980's.

Development throughout South Florida continues, and with it, fragmented habitat for much of Florida's wildlife. However, while draining the swamp lands was an urgent strategy of the past, the attitudes towards wetlands have shifted in favor of their restoration and reestablishment.

The American alligator is a treasured feature of these wetlands. Considered an apex predator, there is a substantial pyramid of other inhabitants within American alligator territory to support such a full-bodied animal. American alligators are not selective in their diets. Ambushing all walks of life in the swamp satisfies this toothy carnivore. Nevertheless, those varying walks of life represent a many tiered flourishing system of organisms, that represent a heathy habitat. Of which often begins with good water quality.

Alligators still encroach on human communities, and while they are deserving of respect for their menacing nature, they are equally respectable for the suitable habitat vital to their continued survival. When enjoying one of Florida's numerous wild lands, or observing an alligator in manmade environments, such as canals or lakes, think to what is required to sustain that apex predator. A complex web of life that is structured on a healthy water quality foundation.



Both photos; Harry Phillips

Canalwatch Extra Field Data 2nd Quarter 2018

90A	Apr	May	Jun
DO	4.20	4.40	3.80
pH	8.0	8.1	7.3
Temp	25.0	23.0	28.0
Sal	-	-	5

59D	Apr	May	Jun
DO	4.40	3.90	4.60
pH	8.0	8.0	7.8
Temp	27.0	24.0	30.0
Sal	-	30	11

59C	Apr	May	Jun
DO	10.30	4.66	5.30
pH	7.8	7.9	7.9
Temp	25.9	26.4	30.9
Sal	-	28	5

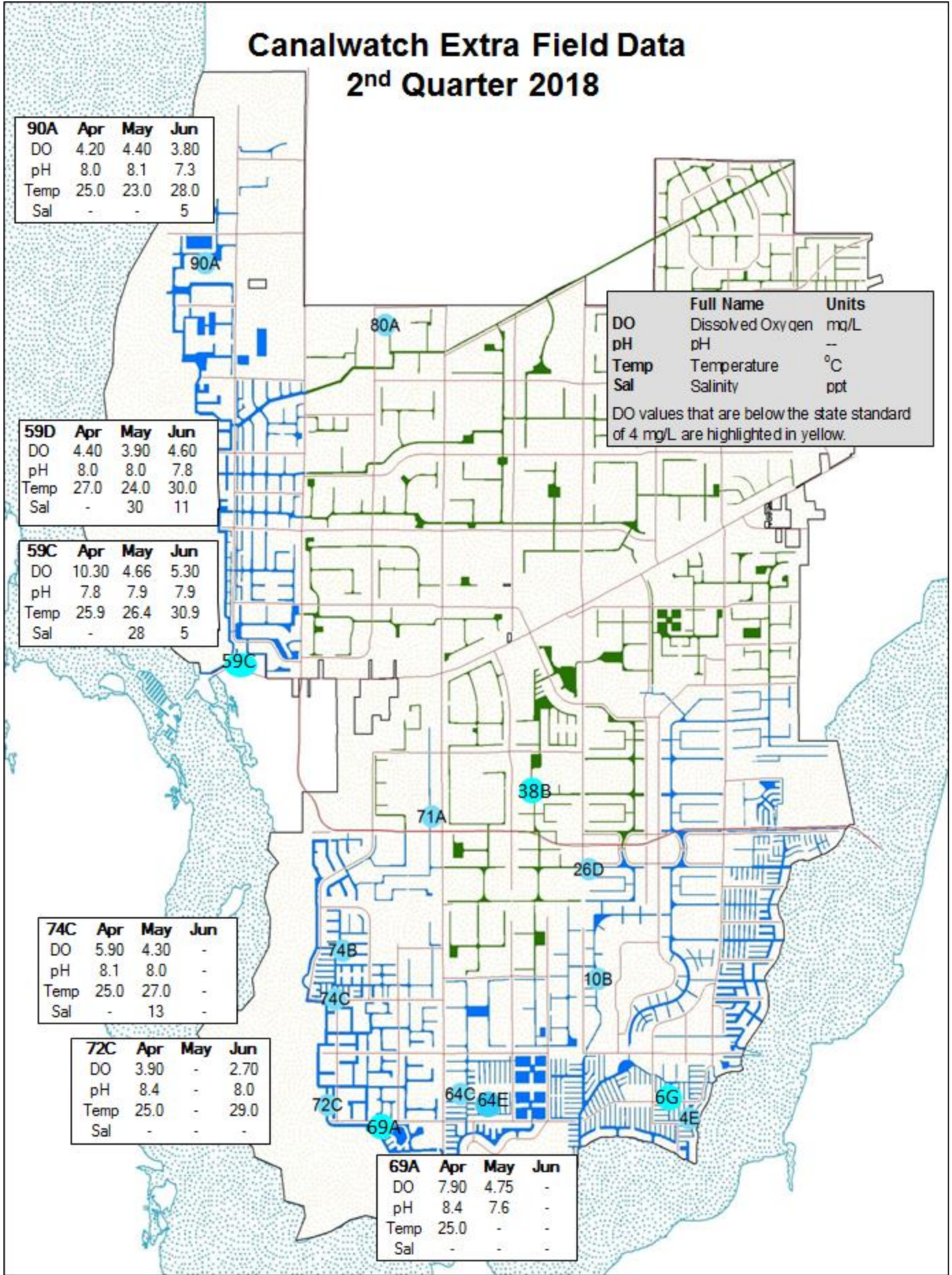
74C	Apr	May	Jun
DO	5.90	4.30	-
pH	8.1	8.0	-
Temp	25.0	27.0	-
Sal	-	13	-

72C	Apr	May	Jun
DO	3.90	-	2.70
pH	8.4	-	8.0
Temp	25.0	-	29.0
Sal	-	-	-

69A	Apr	May	Jun
DO	7.90	4.75	-
pH	8.4	7.6	-
Temp	25.0	-	-
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.



bd = below detection		benchmark numbers: Marked data are in the highest 20% of values found by Hand et. al, 1988.																	
	April 2018						May 2018						June 2018						Avg TSI
	NO2 <1.0	NO3 <1.0	NH3 none set	TKN	T-N <2.0	T-PO4 <0.46	NO2 <1.0	NO3 <1.0	NH3 none set	TKN	T-N <2.0	T-PO4 <0.46	NO2 <1.0	NO3 <1.0	NH3 none set	TKN	T-N <2.0	T-PO4 <0.46	
3F							bd	bd	bd	0.5	0.5	0.07	bd	bd	bd	0.8	0.8	1.00	49.30
3I							bd	bd	bd	0.4	0.4	0.06							36.81
5D	bd	bd	0.6	0.6	0.6	0.05	bd	bd	bd	0.5	0.5	0.03	bd	bd	bd	0.7	0.7	0.08	49.53
6F	bd	bd	bd	0.5	0.5	0.07	bd	bd	bd	0.5	0.5	0.07	bd	bd	bd	0.8	0.8	0.12	48.30
7E	bd	bd	0.5	0.5	0.5	0.09	bd	bd	bd	0.6	0.6	0.09	bd	0.16	bd	1.1	1.1	0.16	51.19
10C	bd	bd	bd	0.9	0.9	0.06							bd	bd	bd	0.5	0.5	0.06	51.87
11E	bd	bd	bd	0.6	0.6	0.12	bd	bd	0.2	0.7	0.7	1.00	bd	0.11	bd	1.1	1.1	0.16	51.12
12H	bd	bd	bd	0.4	0.4	0.08							bd	bd	bd	1.1	1.1	0.14	49.46
16E	bd	bd	bd	0.6	0.6	0.02	bd	bd	0.4	0.4	0.4	0.01	bd	bd	bd	0.7	0.7	0.03	37.64
16H	bd	bd	bd	0.6	0.6	0.05	bd	bd	0.2	0.6	0.6	0.01	bd	bd	bd	0.6	0.6	0.03	42.59
18J	bd	bd	bd	0.5	0.5	0.04	bd	bd	bd	0.4	0.4	0.02	bd	bd	bd	0.7	0.7	0.04	54.84
18K	bd	bd	bd	0.6	0.6	0.04	bd	bd	bd	0.5	0.5	0.01							51.47
18L	bd	bd	bd	0.6	0.6	0.09	bd	bd	bd	0.8	0.8	0.12	bd	bd	bd	0.8	0.8	0.13	52.84
18M	bd	bd	0.1	2.0	2.0	0.07	bd	bd	0.2	0.5	0.5	0.09	bd	bd	bd	0.6	0.6	0.03	54.66
19D	bd	bd	bd	0.7	0.7	0.09	bd	bd	bd	0.7	0.7	0.09							53.81
19K	bd	bd	bd	0.6	0.6	0.09	bd	bd	bd	0.7	0.7	0.09	bd	bd	bd	0.6	0.6	0.12	52.70
21D	bd	bd	bd	0.4	0.4	0.08	bd	bd	bd	0.6	0.6	0.07	bd	bd	bd	0.8	0.8	0.12	50.70
28D	bd	0.05	bd	0.8	0.8	0.05	bd	bd	bd	0.6	0.6	0.01	bd	bd	bd	0.9	0.9	0.10	43.77
38B	bd	bd	bd	0.6	0.6	0.04	bd	bd	bd	0.6	0.6	0.02	bd	bd	bd	0.7	0.7	0.03	56.50
41A	bd	bd	bd	0.5	0.5	0.02													52.80
41B	bd	bd	bd	0.5	0.5	0.02	bd	bd	0.1	0.6	0.6	0.01	bd	bd	bd	0.9	0.9	0.04	38.76
45D	bd	bd	bd	0.4	0.4	0.02													37.59
48A	bd	bd	bd	0.3	0.3	0.02	bd	bd	0.2	0.4	0.4	0.01	bd	bd	bd	0.5	0.5	0.03	37.99
52B	bd	bd	bd	0.5	0.5	0.03													39.52
58B	bd	bd	bd	0.2	0.2	0.05													46.92
58I	bd	bd	bd	0.3	0.3	0.04	bd	bd	0.3	0.5	0.5	0.04	bd	bd	bd	0.7	0.7	0.04	44.73
58J	bd	0.06	bd	0.5	0.5	0.04	bd	bd	bd	0.5	0.5	0.02	bd	bd	bd	1.1	1.1	0.03	48.95
59C	bd	0.08	bd	0.5	0.5	0.04	bd	bd	bd	0.4	0.4	0.02	bd	bd	bd	0.7	0.7	0.08	47.46
59D	bd	bd	bd	0.9	0.9	0.04	bd	bd	bd	0.4	0.4	0.02	bd	bd	bd	0.9	0.9	0.04	47.24

64B							bd	bd	bd	0.3	0.3	0.05							32.16
64F	bd	bd	bd	0.3	0.3	0.09	bd	bd	bd	0.3	0.3	0.07							32.16
65C	bd	bd	bd	0.3	0.3	0.08	bd	bd	0.2	0.6	0.6	0.08	bd	bd	bd	0.9	0.9	0.04	43.37
65E	bd	bd	bd	0.5	0.5	0.06													36.81
66D	bd	bd	bd	0.7	0.7	0.06	bd	bd	bd	0.6	0.6	0.02	bd	bd	bd	1.0	1.0	0.03	46.60
69A	bd	bd	bd	0.6	0.6	0.04	bd	bd	bd	0.5	0.5	0.03							45.81
69D													bd	bd	bd	0.9	0.9	0.13	25.67
71B	bd	bd	bd	0.8	0.8	0.06	bd	bd	bd	0.4	0.4	<0.02	bd	bd	bd	1.2	1.2	0.08	50.99
72C	bd	bd	bd	0.4	0.4	0.08							bd	bd	bd	0.8	0.8	0.11	48.84
72E	bd	bd	bd	0.4	0.4	0.05	bd	bd	0.1	0.8	0.8	0.05	bd	bd	bd	1.2	1.2	0.10	49.00
74C	bd	bd	bd	0.5	0.5	0.06	bd	bd	0.2	0.6	0.6	0.07							45.11
82A	bd	bd	bd	0.5	0.5	0.02	bd	bd	0.1	0.6	0.6	0.02	bd	bd	bd	1.2	1.2	0.04	55.51
83C	bd	bd	bd	0.3	0.3	0.02	bd	bd	0.1	0.4	0.4	0.01	bd	bd	bd	1.0	1.0	0.03	49.52
89A	bd	bd	bd	0.5	0.5	1.00	bd	bd	bd	0.6	0.6	0.07	bd	bd	bd	1.1	1.1	0.17	57.05
90A	bd	bd	bd	0.8	0.8	0.03	bd	bd	0.3	0.7	0.70	0.01	bd	bd	bd	1.4	1.4	0.03	47.68
Median	bd	0.50	0.50	0.50	0.05		bd	0.20	0.50	0.50	0.04		0.14	bd	0.85	0.85	0.07	48.57	
Max	0.08	0.60	2.00	2.00	1.00		0.00	0.40	0.80	0.80	1.00		0.16	0.00	1.40	1.40	1.00	57.05	

NO2 = Nitrite (inorganic)	TKN = Total Kjeldahl Nitrogen (organic + NH4)	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.
NO3 = Nitrate (inorganic)	TN = Total Nitrogen (inorganic + organic)	
NH3 = Ammonia (inorganic)	TP04 = Total Phosphate	

All nutrient concentrations shown in mg/L

TSI = Trophic State Index, a quick indicator of canal health. TSI = Trophic State Index, a quick indicator of canal health. 44 sites this quarter scored as GOOD (<60). zero sites scored FAIR (60-70), and zero scored POOR (>70). With the onset of the dry season canal conditions had a chance to recover from last summer's hurricane season. Although, red tide conditions persist off the coast in the Gulf of Mexico. This dry season ended in late May, and combined with Lake Okeechobee water releases, dramatically altered the state of the Caloosahatchee River. Beginning with a Cyanobacteria bloom in early July. The Cyanobacteria and Red Tide conditions are unchanged at the time of this report. Scientist from multiple agencies, throughout the state are studying both occurrences. It is undetermined how long this will persist.

Free Gardening Series Schedule

All classes are held from 9:00 am – 10:30 am. Refreshments are provided.

Classes are provided by the Lee County Master Gardeners and the UF/IFAS Extension Service.

10/12 **Vegetable Gardening** with Adrienne Diaz

10/26 **Name that Bug** with Ralph Mitchell

11/02 **Plant Propagation** with Millisa Bell

11/16 **Attracting Butterflies** with Cheryl Anderson

11/30 **10 Worst Yard Mistakes** with Kraig Hankins

Classes are held at the Rotary Park Environmental Center.
Please RSVP at 239-549-4606



Reminder: November sample collection will be on Wednesday, the 7th at Rotary Park Environmental Center for the November Event

City of Cape Coral
Environmental Resources
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