Canal Current

A wave of information for Cape Coral's Canalwatch volunteers

Newsletter: 2nd Quarter 2011

Environmental News

The Toxic Algae Bloom

Starting in the spring of 2011 a toxic algae bloom developed along the Caloosahatchee River east of the Franklin Lock in Alva. Researchers from Sanibel Captiva Conservation Foundation (SCCF), Department of Environmental Protection (DEP), Fish & Wildlife Research Institute (FWRI), and Lee County Hyacinth Control District (LCHCD) believe the area between the Franklin Lock and the Ortona Lock (just east of Alva in Moore Haven) and the area between the Ortona Lock and Lake Okeechobee have become stagnant because the freshwater releases from Lake Okeechobee were cut off on March 6th by the South Florida Water Management District (SFWMD). This prevented flow from the Franklin Lock, west into the Caloosahatchee. The no flow conditions, combined with the summer heat, have created ideal conditions for algae blooms. A particular species, *Anabaena circinalis*, which produces a toxin that is poisonous to mammals and fish, *(article continues on page 2)*

Native Plant profile

Bamboo Vine
Smilax laurifolia

Bamboo vine is a common vine included in the catbriar or greenbrier families and is found throughout the south east among varying habitats. It is most common in pine flatwood and scrub ecosystems where it is often seen climbing up pines as high as 20 feet.

When thinking of suitable vines for landscape needs one doesn't usually include members of the greenbrier family. Bamboo vine does have its place trailing up tree trunks, fences or out of the way trellis, but its spines may discourage its use in 'high traffic' areas of the yard.

However, it does provide fruit in the form of small shiny black berries for birds such as the mocking bird or a nesting site if allowed to grow thick enough. Its inconspicuous flowers do not make this species of Smilax a very showy ornamental but it will add a unique aspect when combined with other vines or climbing on a trellis within a cactus garden.

Inside This Issue:

Questions? Comments? Let us know!
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(The Toxic Algae Bloom, continued from page 1)

has caused major environmental and human health concerns along those regions of the Caloosahatchee River.

The toxic algae bloom resulted in numerous fish kill events, and the water production plant in Olga had to stop production of potable water for its customers who mostly reside in Alva. Freshwater reserves are being used to meet the demand until production can begin again. For residents living along the Caloosahatchee River in the Alva area, complaints of respiratory problems, itchy watery eyes and sore throats were common and they are advised to minimize their exposure to the toxic algae bloom by health officials.

Rainfall can be a contributing factor in the recovery of the Caloosahatchee River. Once the Army Corps of Engineers begins releasing water again through the Ortona and Franklin Locks, the algae will be flushed down river toward the mouth of the Caloosahatchee Estuary. While this could lead to problems downstream, it is a necessary evil to regain the water quality and health of the areas east of the Franklin Lock. Tidal salt water flowing in from the Gulf of Mexico will be a limiting factor in the growth of more algae blooms; but increased rainfall and freshwater inflow from stormwater could keep toxic algae blooms as a viable threat to areas downstream of the Franklin Lock.

The Lee County Health Department (LCHD) is still monitoring the situation and advisories to stay clear of waters affected by the toxic algae blooms are still in effect. The LCHD will again be testing the waters at the Franklin Locks, as well as portions of the Caloosahatchee River downstream, to determine the impact after Lake Okeechobee freshwater releases. For more information regarding these postings, please visit the LCHD web site at **leeched.com** or call **239-332-9501** for the latest information and advisories.

References: Sanibel Captiva Conservation Foundation ***sccf.org***
South Florida Water Management District ***sfwmd.org***
Lee County Department of Health ***leeched.com***
Florida Department of Health ***floridashealth.com***

Farewell to Jim and Kathy Woodlock

After several years and over 300 samples collected we'd like to say "thanks" to our longtime champions of the Canalwatch program. Jim and Kathy Woodlock began with the program back in 2004. From that point forward they have excelled at canal watching by taking on six separate sampling sites! They also embraced the Florida Yards and Neighborhoods program, and are very active in the community through the Master Gardening Program and volunteering at the Cape Coral Historical Museum.

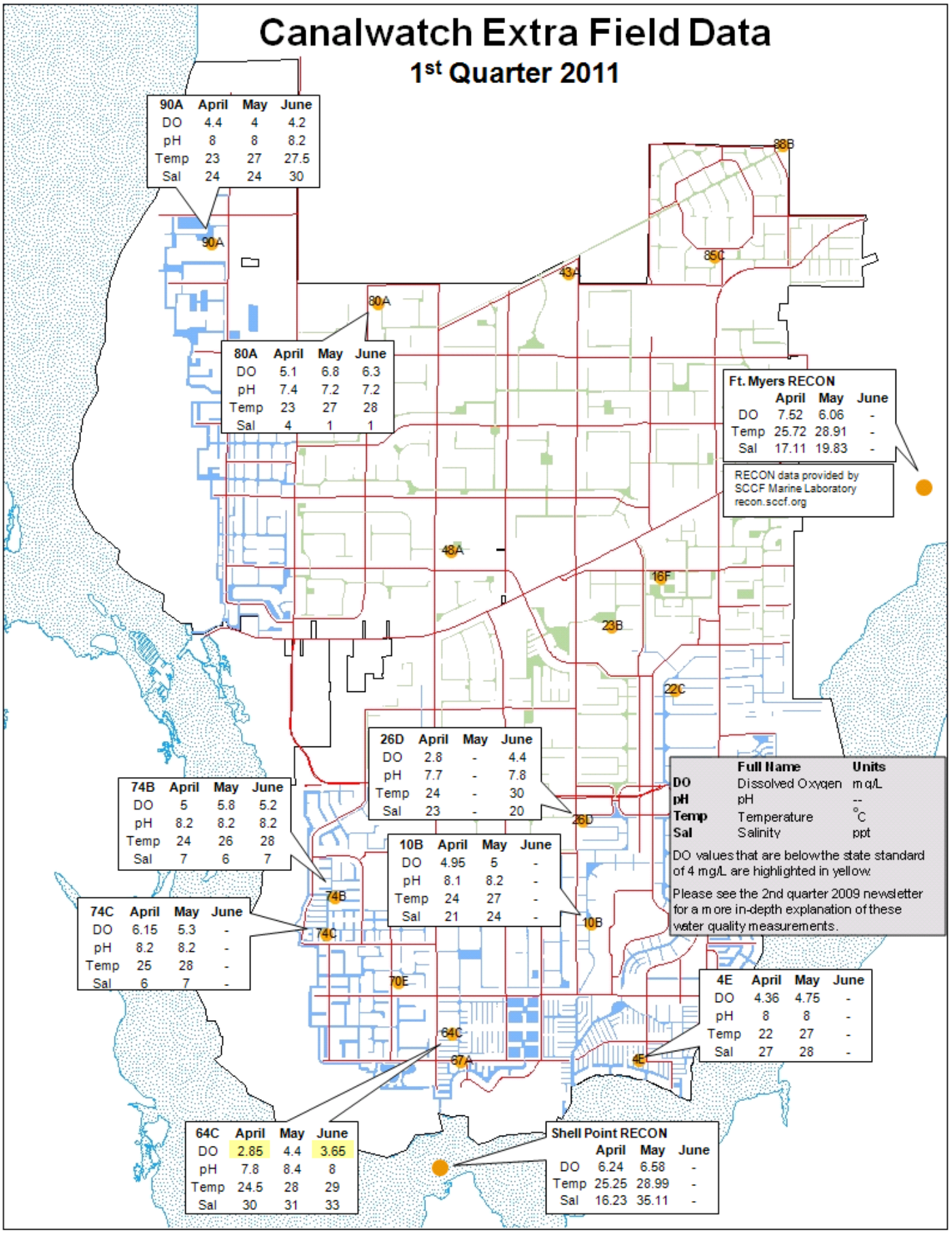
Jim and Kathy had sample sites in each of the four quadrants of the city including a few along Alligator Slough and one near Rose Garden Road. It is my pleasure to have known and worked with such a dedicated couple during the years that I have coordinated the Canalwatch program. While it saddens me to say farewell to Jim and Kathy, I feel they deserve their retirement from the Canalwatch program after all the hard work and hours they've devoted over the years.

Thank you both so much and I wish you the best of luck!

Jim Woodlock (Sorry Jim, I told you this picture would haunt you!)

Canalwatch Extra Field Data

1st Quarter 2011



90A	April	May	June
DO	4.4	4	4.2
pH	8	8	8.2
Temp	23	27	27.5
Sal	24	24	30

80A	April	May	June
DO	5.1	6.8	6.3
pH	7.4	7.2	7.2
Temp	23	27	28
Sal	4	1	1

Ft. Myers RECON

	April	May	June
DO	7.52	6.06	-
Temp	25.72	28.91	-
Sal	17.11	19.83	-

RECON data provided by SCCF Marine Laboratory recon.sccf.org

26D	April	May	June
DO	2.8	-	4.4
pH	7.7	-	7.8
Temp	24	-	30
Sal	23	-	20

74B	April	May	June
DO	5	5.8	5.2
pH	8.2	8.2	8.2
Temp	24	26	28
Sal	7	6	7

10B	April	May	June
DO	4.95	5	-
pH	8.1	8.2	-
Temp	24	27	-
Sal	21	24	-

74C	April	May	June
DO	6.15	5.3	-
pH	8.2	8.2	-
Temp	25	28	-
Sal	6	7	-

4E	April	May	June
DO	4.36	4.75	-
pH	8	8	-
Temp	22	27	-
Sal	27	28	-

64C	April	May	June
DO	2.85	4.4	3.65
pH	7.8	8.4	8
Temp	24.5	28	29
Sal	30	31	33

Shell Point RECON

	April	May	June
DO	6.24	6.58	-
Temp	25.25	28.99	-
Sal	16.23	35.11	-

	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.

Please see the 2nd quarter 2009 newsletter for a more in-depth explanation of these water quality measurements.

bd = below detection

benchmark numbers: Marked data are in the highest 20% of values found by Hand et. al, 1988.

	April 2011						May 2011						June 2011						
	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	bd	bd	0.3	0.4	0.4	0.04	bd	bd	bd	0.4	0.4	0.05	bd	bd	0.2	0.6	0.6	0.04	43.46
4E	bd	bd	0.3	0.4	0.4	0.05	bd	bd	bd	0.6	0.6	0.06							45.09
6F	bd	bd	0.2	0.5	0.5	0.07	bd	bd	bd	0.6	0.6	0.09	bd	bd	0.2	0.9	0.9	0.09	52.90
7B	bd	bd	0.2	0.4	0.4	0.06	bd	bd	bd	0.5	0.5	0.08	bd	bd	0.2	0.8	0.8	0.11	43.20
7C	bd	bd	0.2	0.5	0.5	0.07	bd	bd	bd	0.6	0.6	0.08	bd	bd	0.2	0.8	0.8	0.11	46.23
10B	bd	bd	0.2	0.4	0.4	0.03	bd	bd	bd	0.5	0.5	0.05							44.84
11D	bd	bd	0.2	0.7	0.7	0.11													48.94
15D	bd	bd	0.1	0.8	0.8	0.08	bd	bd	bd	0.6	0.6	0.06	bd	bd	0.2	0.8	0.8	0.08	58.75
15E	bd	bd	0.2	0.6	0.6	0.07	bd	bd	bd	0.7	0.7	0.07	bd	bd	0.2	1.0	1.0	0.10	60.01
16E	bd	bd	bd	0.5	0.5	0.02	bd	bd	bd	0.7	0.7	bd	bd	bd	bd	0.9	0.9	0.02	33.85
16F	bd	bd	bd	0.5	0.5	bd													24.43
16G	bd	bd	bd	0.5	0.5	0.02	bd	bd	bd	0.6	0.6	0.03	bd	bd	bd	0.9	0.9	0.04	47.38
17B	bd	bd	bd	0.6	0.6	0.03	bd	bd	bd	0.8	0.8	0.04	bd	bd	bd	1.3	1.3	0.05	65.80
18G	bd	bd	bd	0.7	0.7	0.04	bd	bd	bd	1.0	1.0	0.05	bd	bd	bd	1.2	1.2	0.05	64.79
18H	bd	0.05	bd	0.8	0.85	0.03													65.74
19D	bd	bd	0.3	0.7	0.7	0.10	bd	bd	bd	0.7	0.7	0.10	bd	bd	0.2	1.0	1.0	0.15	58.89
21D	bd	bd	0.2	0.6	0.6	0.07	bd	bd	bd	0.7	0.7	0.10	bd	bd	0.2	0.9	0.9	0.13	49.58
21F	bd	bd	0.2	0.6	0.6	0.07													52.33
26D	bd	bd	0.2	0.6	0.6	0.04							bd	bd	0.2	1.0	1.0	0.08	57.51
26F	bd	bd	0.2	0.5	0.5	0.04													50.79
28D	bd	bd	bd	0.7	0.7	0.04	bd	bd	bd	0.9	0.9	0.04	bd	0.05	0.2	1.8	1.85	0.12	64.34
30A	bd	bd	0.2	0.4	0.4	0.03	bd	bd	bd	0.6	0.6	0.06	bd	bd	0.2	0.8	0.8	0.07	49.76
30C							bd	bd	bd	0.6	0.6	0.07	bd	bd	0.2	1.0	1.0	0.08	52.72
35A	bd	bd	bd	0.6	0.6	bd													24.43
41A	bd	bd	bd	0.8	0.8	0.03	bd	bd	bd	0.7	0.7	0.03	bd	bd	bd	1.0	1.0	0.03	46.66
45D	bd	bd	bd	0.5	0.5	0.03	bd	bd	bd	0.6	0.6	0.03	bd	bd	bd	0.8	0.8	0.03	55.56
45E							bd	bd	bd	1.0	1.0	0.05	bd	bd	bd	0.9	0.9	0.04	58.85
48A							bd	bd	bd	0.5	0.5	bd							34.02
52B	bd	bd	bd	0.6	0.6	0.03	bd	bd	bd	0.6	0.6	0.02	bd	bd	bd	0.9	0.9	0.03	51.24
55B	bd	bd	bd	0.7	0.7	0.05							bd	bd	bd	0.8	0.8	0.03	49.93
58E	bd	bd	0.3	0.4	0.4	0.02							bd	bd	0.3	0.9	0.9	0.03	42.78

58F	bd	bd	0.3	0.6	0.6	0.04	bd	bd	bd	0.8	0.8	0.05	bd	bd	0.3	1.4	1.4	0.08	54.63
58G	bd	bd	0.3	0.3	0.3	0.03	bd	bd	bd	0.6	0.6	0.05	bd	bd	0.4	0.8	0.8	0.05	47.20
58I	bd	bd	0.2	0.3	0.3	0.03	bd	bd	bd	0.9	0.9	0.06	bd	bd	0.3	0.8	0.8	0.04	45.02
59B	bd	bd	0.2	0.4	0.4	0.03	bd	bd	bd	0.8	0.8	0.03	bd	bd	0.2	0.8	0.8	0.03	46.47
64B	bd	0.06	0.2	0.1	0.16	0.05	bd	bd	bd	0.5	0.5	0.06	bd	bd	0.3	0.5	0.5	0.06	33.82
64C	bd	0.07	0.2	0.2	0.27	0.05	bd	bd	bd	0.3	0.3	0.05	bd	bd	0.3	0.6	0.6	0.06	39.78
65B	bd	bd	0.2	0.1	0.7	0.05	bd	bd	bd	0.7	0.7	0.07	bd	bd	0.3	0.6	0.6	0.08	59.33
66A	bd	bd	bd	0.7	0.7	0.02	bd	bd	bd	1.0	1.0	0.02	bd	bd	bd	3.0	3.0	0.02	37.32
67C							bd	bd	bd	0.5	0.5	0.06	bd	bd	0.2	0.5	0.5	0.06	30.78
69A	bd	bd	bd	0.7	0.5	0.06	bd	bd	bd	1.1	1.1	0.05							54.74
70F	bd	bd	bd	0.5	0.5	0.04	bd	bd	bd	0.8	0.8	0.04	bd	bd	bd	0.9	0.9	0.06	52.59
71A							bd	bd	bd	0.7	0.7	0.04	bd	bd	bd	0.4	0.4	bd	37.00
72A	bd	bd	bd	0.5	0.9	0.05							bd	bd	bd	0.8	0.8	0.04	44.68
74B	bd	bd	bd	0.9	0.7	0.06	bd	bd	bd	1.2	1.2	0.05	bd	bd	bd	1.5	1.5	0.05	61.43
74C	bd	bd	bd	0.7	0.8	0.07	bd	bd	bd	1.0	1.0	0.05	bd	bd	bd	1.0	1.0	0.04	56.24
74D	bd	0.08	bd	0.8	0.88	0.06	bd	bd	bd	1.0	1.0	bd							53.03
80A	bd	bd	bd	0.2	0.2	bd	bd	bd	bd	0.3	0.3	bd	bd	bd	bd	0.3	0.3	bd	26.95
81A	bd	bd	bd	3.8	3.8	0.16													79.22
82A	bd	bd	0.2	0.6	0.6	0.04	bd	bd	bd	1.1	1.1	0.04	bd	bd	0.2	1.1	1.1	0.06	60.42
83A							bd	bd	bd	1.2	1.2	0.06	bd	bd	0.2	1.1	1.1	0.05	60.19
89A	bd	0.06	0.3	0.8	0.86	0.08	bd	bd	bd	0.9	0.9	0.11	bd	bd	0.2	0.9	0.9	0.13	60.61
90A	bd	bd	0.2	0.8	0.8	0.03	bd	bd	bd	1.1	1.1	0.03	bd	bd	0.3	1.3	1.3	0.06	53.89
91A	bd	bd	0.2	0.5	0.5	bd	bd	bd	bd	0.5	0.5	bd	bd	bd	bd	0.6	0.6	0.02	30.15
93B	bd	bd	bd	0.6	0.6	0.04	bd	bd	bd	0.7	0.7	0.03	bd	bd	bd	1.0	1.0	0.05	55.13
97A	bd	bd	bd	0.5	0.5	bd	bd	bd	bd	0.5	0.5	bd	bd	bd	bd	0.8	0.8	0.02	28.73
Median		**0.06**	**0.20**	**0.60**	**0.60**	**0.04**		**bd**	**bd**	**0.70**	**0.70**	**0.05**		**0.05**	**0.20**	**0.90**	**0.90**	**0.05**	**50.36**
Max		**0.08**	**0.30**	**3.80**	**3.80**	**0.16**		**0.00**	**0.00**	**1.20**	**1.20**	**0.11**		**0.05**	**0.40**	**3.00**	**3.00**	**0.15**	**79.22**

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.
45 sites this quarter scored as GOOD (<60). 2 sites scored FAIR (60-70), and two were POOR (>70).

Water quality remained consistent (GOOD) with last quarter. This could be attributed to the lack of rainfall during the course of the quarter. Very little rain was reported on the April, May and June data sheets, so the dry season was indeed dry. The latter part of June and early July (at the time of this newsletter) rainfall increased so this may lead to some significant changes in the next quarter.

July

4th Happy Birthday USA!

6th Canalwatch

6th Sunset Celebration
Yacht Club Pier 4-7pm

13th Free Hurricane Seminar
Yacht Club 1-2pm
Info: 574-0806

15th Mangrove Gathering
Environmental Club 7-10pm
Rotary Park
Info: 549-4606

22nd Florida Yards and
Neighborhoods
Introductory Class
6-9pm Rotary Park
Info: 549-4606

23rd Florida Native Plant Sale
9am – 1pm at Rotary Park
Info: 549-4606

August

3rd Canalwatch

3rd Sunset Celebration
Yacht Club Pier 4-7pm

13th Gardening for Butterflies
Rotary Park
10:30am-12:30pm
Info: 549-4606

September

7th Canalwatch

7th Sunset Celebration
Yacht Club Pier 4-7pm

17th Gardening for Butterflies
Rotary Park
10:30am-12:30pm
Info: 549-4606

20th Friends of Wildlife
Meeting at Rotary Park
7-9pm info: 980-2593

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Environmental Resources
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