Canal Current

A wave of information for Cape Coral's Canalwatch volunteers

Newsletter: 4th Quarter 2015

Environmental News

El Nino by the Numbers

El Nino Southern Oscillation (the occasional weather pattern that occurs in the Northern Pacific, but has global effects) is usually to blame for exceptionally wet winter in the Southeastern United States. The customarily cooler dryer months in southwest Florida did see some of El Nino's influence.

Here are the Canalwatch rainfall data for 2015. Totals are averages in inches among all volunteers.

2015

January	.44
February	2.12
March	2.28
April	2.44
May	6.41
June	7.28
July	13.81
August	9.36
September	12.71
October	3.44
November	3.34
December	4.93
Total	68.56

Additionally, January of 2016 Canalwatch rainfall data was 13.54 inches. Which paralleled the July 2015 total. Conditions became dryer and more typical during February 2016. Unquestionably, rainfall amounts are ahead of schedule for the beginning of 2016.

Questions? Comments? Let us know!

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Plant profile

Starry Rosinweed

Silphium asteriscus

Rosinweed is an eye-catching perennial herb that can grow to 3 to 4 feet. While only a small number of flowers are displayed per plant, their stature above the rest of the plant makes them stand out.

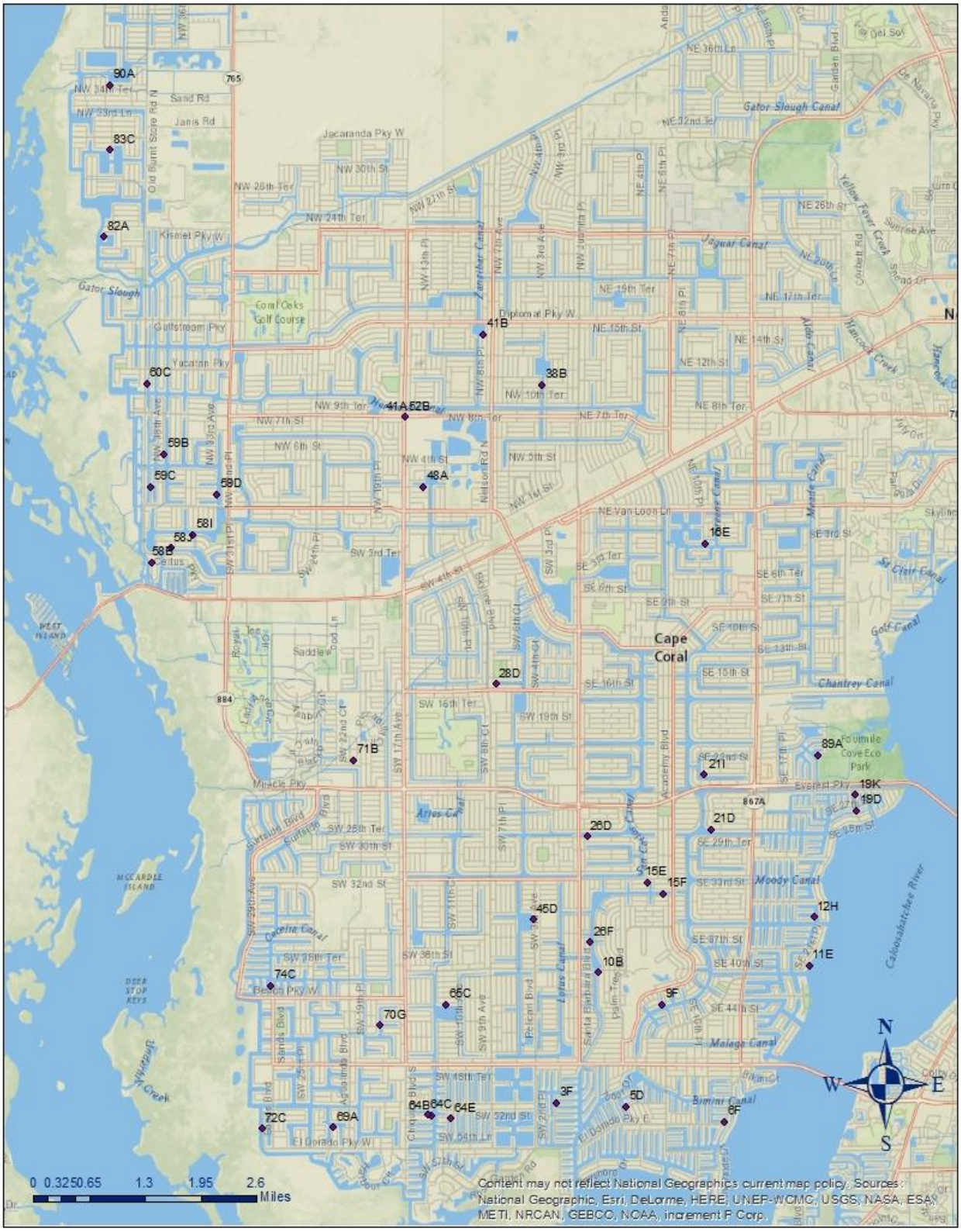
This daisy-like yellow wildflower is often found in pine forest upland habitats, blooming from April till September. It is a useful ornamental in drought tolerant or native landscapes and is regularly available at native nurseries.

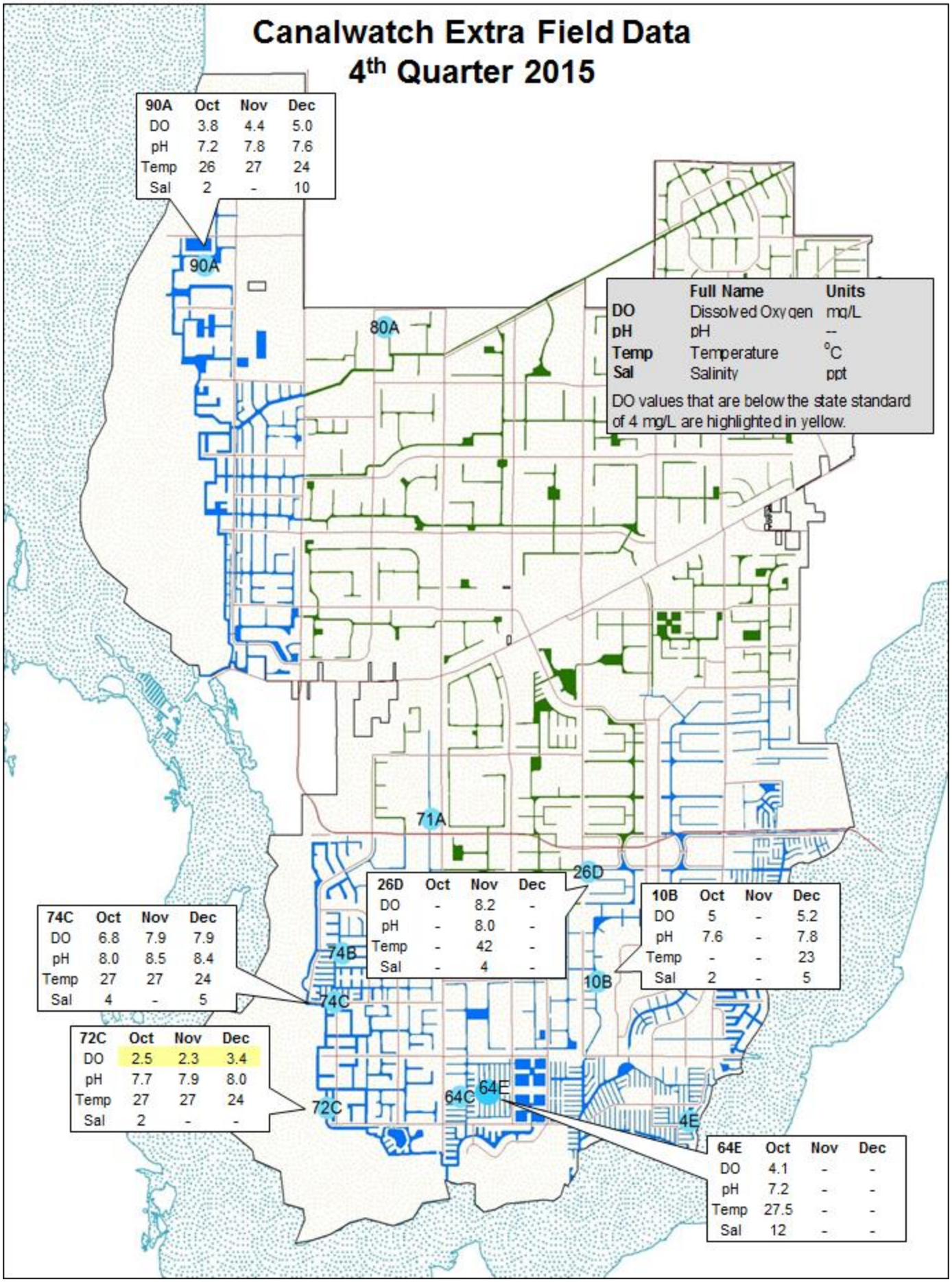
Starry Rosinweed is the most available species at native nurseries and is touted as a butterfly attracting wildflower in addition to its low maintenance status.

Starry Rosinweed can grow to 3 to 4 feet and prefers part sun. It does well in well drained soils and is capable of re-seeding itself.

Starry Rosinweed (photo Atlas of Florida Vascular Plants)

Canalwatch Stations 2016




Canalwatch Extra Field Data
4th Quarter 2015
90A Oct Nov Dec
DO 3.8 4.4 5.0
pH 7.2 7.8 7.6
Temp 26 27 24
Sal 2 - 10
90A
80A
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.
71A
26D Oct Nov Dec
DO - 8.2 -
pH - 8.0 -
Temp - 42 -
Sal - 4 -
26D
10B Oct Nov Dec
DO 5 - 5.2
pH 7.6 - 7.8
Temp - - 23
Sal 2 - 5
10B
74C Oct Nov Dec
DO 6.8 7.9 7.9
pH 8.0 8.5 8.4
Temp 27 27 24
Sal 4 - 5
74B
74C
72C Oct Nov Dec
DO 2.5 2.3 3.4
pH 7.7 7.9 8.0
Temp 27 27 24
Sal 2 - -
72C
64C
64E
4E
64E Oct Nov Dec
DO 4.1 - -
pH 7.2 - -
Temp 27.5 - -
Sal 12 - -

	bd = below detection			benchmark numbers: Marked data are in the highest 20% of values found by Hand et. al, 1988.														
	October 2015						November 2015						December 2015						
	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	bd	0.1	0.1	0.03	bd	0.07	0.2	0.6	0.67	0.04	bd	0.06	0.1	0.5	0.56	0.03	46.91
4E	bd	bd	bd	0.1	0.1	0.03													50.09
5D	bd	bd	bd	0.6	0.6	0.05	bd	0.05	0.2	0.8	0.85	0.04	bd	0.08	bd	0.7	0.78	0.04	51.07
6F	bd	bd	bd	0.4	0.4	0.11	bd	0.13	0.1	0.7	0.83	0.08	bd	bd	bd	0.8	0.8	0.05	49.81
9F							bd	0.12	bd	0.5	0.62	0.07	bd	0.08	bd	0.9	0.98	0.05	50.75
10B	bd	bd	bd	0.8	0.8	0.12	bd	bd	bd	0.8	0.8	0.03	bd	0.05	bd	0.5	0.55	0.02	46.86
11E	bd	bd	bd	0.1	0.1	0.07	bd	0.11	bd	0.5	0.61	0.06	bd	0.09	bd	0.8	0.89	0.07	45.09
12H	bd	bd	bd	0.6	0.6	0.07	bd	0.09	bd	0.6	0.69	0.07	bd	0.05	bd	0.8	0.85	0.08	51.65
15E	bd	bd	bd	0.5	0.5	0.04	bd	bd	bd	0.3	0.3	0.03							54.78
16E	bd	bd	bd	0.2	0.2	0.02	bd	bd	bd	0.7	0.7	0.03	bd	bd	bd	0.7	0.7	0.01	42.79
17C	bd	bd	bd	0.1	0.1	0.02													40.52
19D	bd	bd	bd	0.4	0.4	0.08	bd	0.07	bd	0.5	0.57	0.06	bd	0.11	bd	0.8	0.91	0.07	55.03
19K	bd	bd	bd	0.5	0.5	0.09	bd	0.05	0.1	0.4	0.45	0.06	bd	0.11	bd	0.7	0.81	0.07	66.76
21D	bd	bd	bd	0.2	0.2	0.03	bd	0.05	bd	0.4	0.45	0.03	bd	0.06	bd	0.8	0.86	0.05	40.11
26D	bd	bd	bd	0.2	0.2	0.01							bd	0.12	bd	0.7	0.82	0.01	31.64
28D	bd	bd	bd	0.2	0.2	0.01	bd	bd	bd	0.2	0.2	0.01	bd	bd	bd	0.5	0.5	0.01	28.99
38B	bd	bd	bd	0.3	0.3	0.01	bd	bd	bd	0.5	0.5	0.01	bd	bd	bd	0.7	0.7	0.01	40.91
41A	bd	0.05	bd	0.1	0.15	0.01	bd	bd	bd	0.3	0.3	0.01	bd	0.06	bd	0.6	0.66	0.01	24.71
41B	bd	0.06	bd	0.4	0.46	0.02	bd	bd	bd	0.4	0.4	0.01	bd	bd	bd	0.8	0.8	0.01	29.27
45D	bd	bd	bd	0.1	0.1	0.01	bd	bd	bd	0.4	0.4	0.01	bd	bd	bd	0.6	0.6	0.01	40.44
48A	bd	bd	bd	0.2	0.2	0.01							bd	bd	bd	3.0	3.0	0.15	55.26
52B	bd	0.05	bd	0.1	0.15	0.01	bd	bd	bd	0.4	0.4	0.01	bd	0.10	bd	0.6	0.70	0.03	39.68
58B							bd	bd	0.1	0.4	0.4	0.03	bd	bd	bd	0.6	0.6	0.02	45.52
58I	bd	bd	bd	0.4	0.4	0.01	bd	bd	0.2	0.4	0.4	0.02	bd	bd	bd	0.9	0.9	0.06	41.82
58J	bd	bd	bd	0.7	0.7	0.01	bd	bd	0.1	0.5	0.5	0.01							37.41

59B	bd	bd	bd	0.3	0.3	0.01	bd	bd	0.1	0.5	0.5	0.01	bd	0.08	bd	0.7	0.78	0.03	38.77
59C	bd	bd	bd	0.8	0.8	0.01	bd	bd	0.1	0.4	0.4	0.01	bd	bd	bd	0.7	0.7	0.03	42.59
60C													bd	bd	bd	0.7	0.7	0.02	40.46
64B	bd	bd	bd	0.5	0.5	0.05	bd	0.05	0.2	0.4	0.45	0.03	bd	bd	bd	0.5	0.5	0.05	43.98
64E	bd	bd	bd	0.4	0.4	0.06													37.86
65C	bd	bd	bd	0.3	0.3	0.02							bd	0.11	bd	0.5	0.61	0.05	47.66
69A							bd	bd	bd	0.9	0.9	0.06	bd	bd	bd	1.3	1.3	0.11	49.81
70G	bd	bd	bd	0.2	0.2	0.01	bd	bd	bd	0.5	0.5	0.07							46.87
71B	bd	0.08	bd	0.4	0.48	0.04	bd	0.05	bd	0.3	0.35	0.01							35.13
72C	bd	bd	bd	0.3	0.3	0.05	bd	bd	bd	0.7	0.7	0.03	bd	bd	bd	0.9	0.9	0.07	54.64
74C	bd	0.09	bd	0.4	0.49	0.03	bd	bd	bd	0.4	0.4	0.02	bd	bd	bd	0.7	0.7	0.05	49.53
82A	bd	bd	bd	0.5	0.5	0.01	bd	bd	bd	0.6	0.6	0.01	bd	bd	bd	0.7	0.7	0.01	44.03
83C	bd	bd	bd	0.4	0.4	0.01	bd	bd	0.1	0.5	0.5	0.01	bd	bd	bd	1.8	1.8	0.01	40.42
89A	bd	bd	bd	0.6	0.6	0.15	bd	0.09	0.3	1.5	1.59	0.10	bd	0.16	bd	0.8	0.96	0.12	56.3
90A	bd	bd	bd	0.7	0.7	0.01	bd	bd	0.2	0.6	0.6	0.01	bd	0.06	0.2	1.2	1.26	0.04	45.67
Median		**0.06**	**bd**	**0.40**	**0.40**	**0.02**		**bd**	**0.10**	**0.50**	**0.50**	**0.03**		**bd**	**0.10**	**0.70**	**0.78**	**0.04**	**44.03**
Max		**0.09**	**0.00**	**0.80**	**0.80**	**0.15**		**0.13**	**0.30**	**1.50**	**1.59**	**0.10**		**0.16**	**0.10**	**3.00**	**3.00**	**0.15**	**66.76**

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. 39 sites this quarter scored as GOOD (<60). 1 site scored FAIR (60-70), and zero scored POOR (>70).
Rainfall has been prevalent again this quarter. This rainy season extended ino fall. This occurrence is due to a strong El Nino this time of year, which resulted in an increased amount of freshwater from rainfall. Despite the increased freshwater inflows the canals have remained relatively healthy. This issue is also compounded by the Lake Okeechobee water releases. This increase in freshwater may result in some tannic water, algae blooms and the prevalence of duck weed in the canals that are influenced by the Caloosahatchee River. Once salinity levels increase, conditions should stabilize, and our weather pattern should normalize by summer.

Photo: Harry Phillips

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Environmental Resources
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