

**Water Symposium of Florida, Inc.**

**OUTREACH  
PROJECTS**

**BCB Board Meet**

**20 October 2015**

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**Michael R. Ramsey**

**Treasurer WSF, Inc**

**President, Ramsey Inc. Ecological Consulting**

# WATER SYMPOSIUM OF FLORIDA INC

501(c)3 Non Profit Corporation

Mission Statement: Educational Outreach of information pertaining to water use, water quality, and water conservation.

With a Focus in the Big Cypress Basin Area

# WATER SYMPOSIUM OF FLORIDA INC

Prior to 2010, WSF focused more on water use and trying to make individuals, home owners, HOA"s, business and governments understand their usage or "water footprint"

1 COTTON SHIRT = 713 GALLONS

1 SHEET OF PAPER = 2.5 GALLONS

1 HAMBURGER = 630 GALLONS

1 EGG = 53 GALLONS

1 SEMI CONDUCTOR CHIP = 30 GALLONS

1 GALLON OF MILK = 7 GALLONS

1 LB OF BEEF = 2,200 GALLONS

1 LB OF PET FOOD W/BEEF = 2,200 GAL +

FRACKING=250,000-500,000 GAL PER WELL

\*\*\*\* Source: Pacific Institute of Water Studies

# WATER SYMPOSIUM OF FLORIDA INC

SINCE 2010 WSF HAS BEEN MORE FOCUSED ON PROJECTS THAT LOOK AT WATER QUALITY ISSUES

AND HOW TO DECREASE THE AMOUNT OF MATERIALS DEPOSITED INTO THE BCB PRIMARY CANAL SYSTEM THAT CAUSE WATER BODY IMPAIRMENT.

# WATER SYMPOSIUM OF FLORIDA INC

2010 : ROAD MEDIAN LANDSCAPING, IRRIGATION

2011: FLORIDA FRIENDLY LANDSCAPING, IRRIGATION  
RAIN GARDENS, ESSAYS

2012: FLOATING ISLANDS, NUTRIENTS, COPPER

2013: LAKE SEDIMENTATION, LANDSCAPING PRACTICES

2014: ROAD WAY WATER TREATMENT PONDS

2015: EXTEND ROAD WAY WATER TREATMENT POND  
EVALUATION AFTER PROPOSED MGMT CHANGES



2010 MEDIAN





# 2011 WATER GARDEN



# 2011 WATER GARDEN



**LANTERN LN**

# 2012 LANTERN LAKE FLOATING ISLAND

**GALLEON DR**

**GORDON DR**

**HALF MOON  
WALK**

**LANTERN LN**

**HALF MOON WALK**

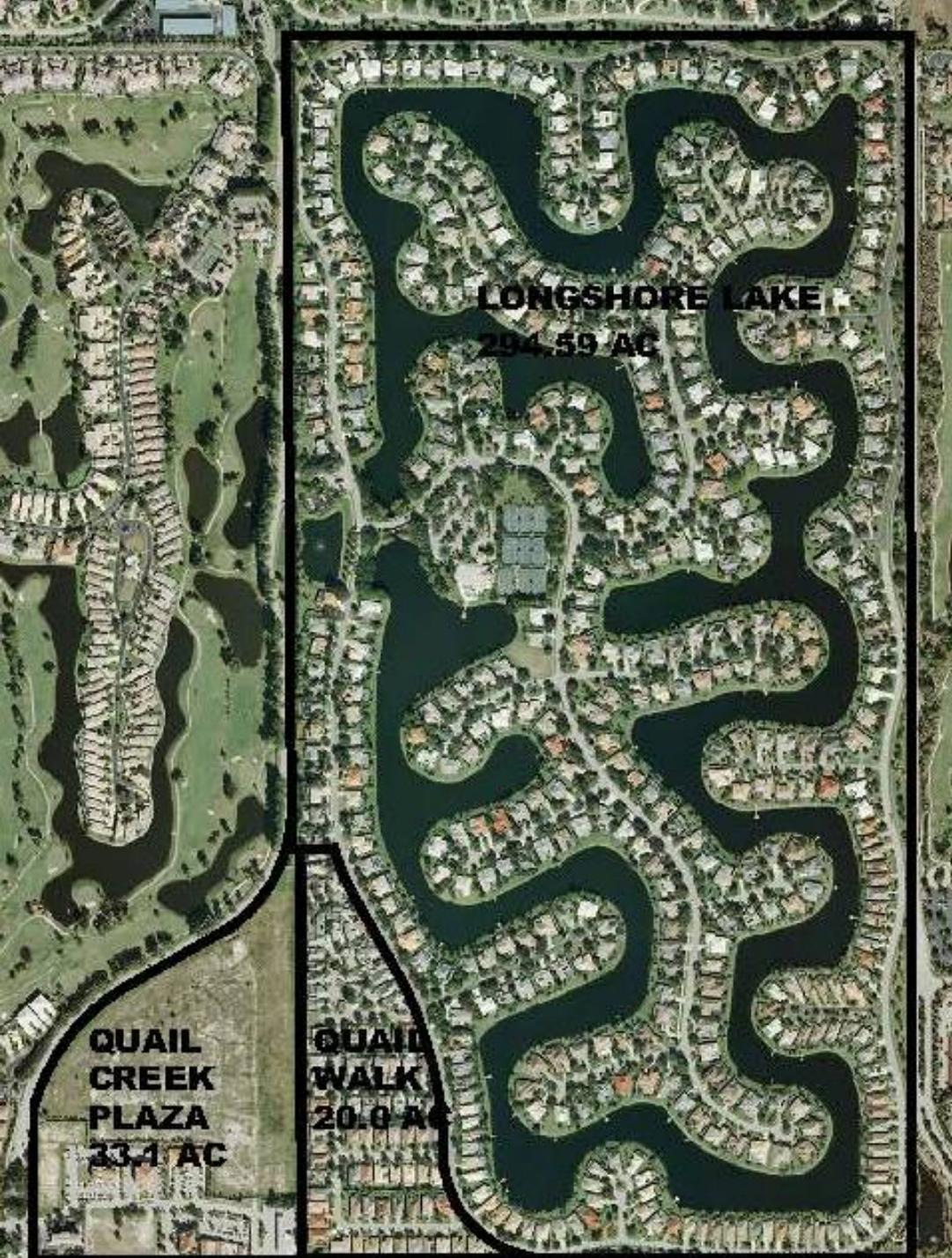


# 2012 LANTERN LAKE FLOATING ISLAND



# 2012 LANTERN LAKE FLOATING ISLAND





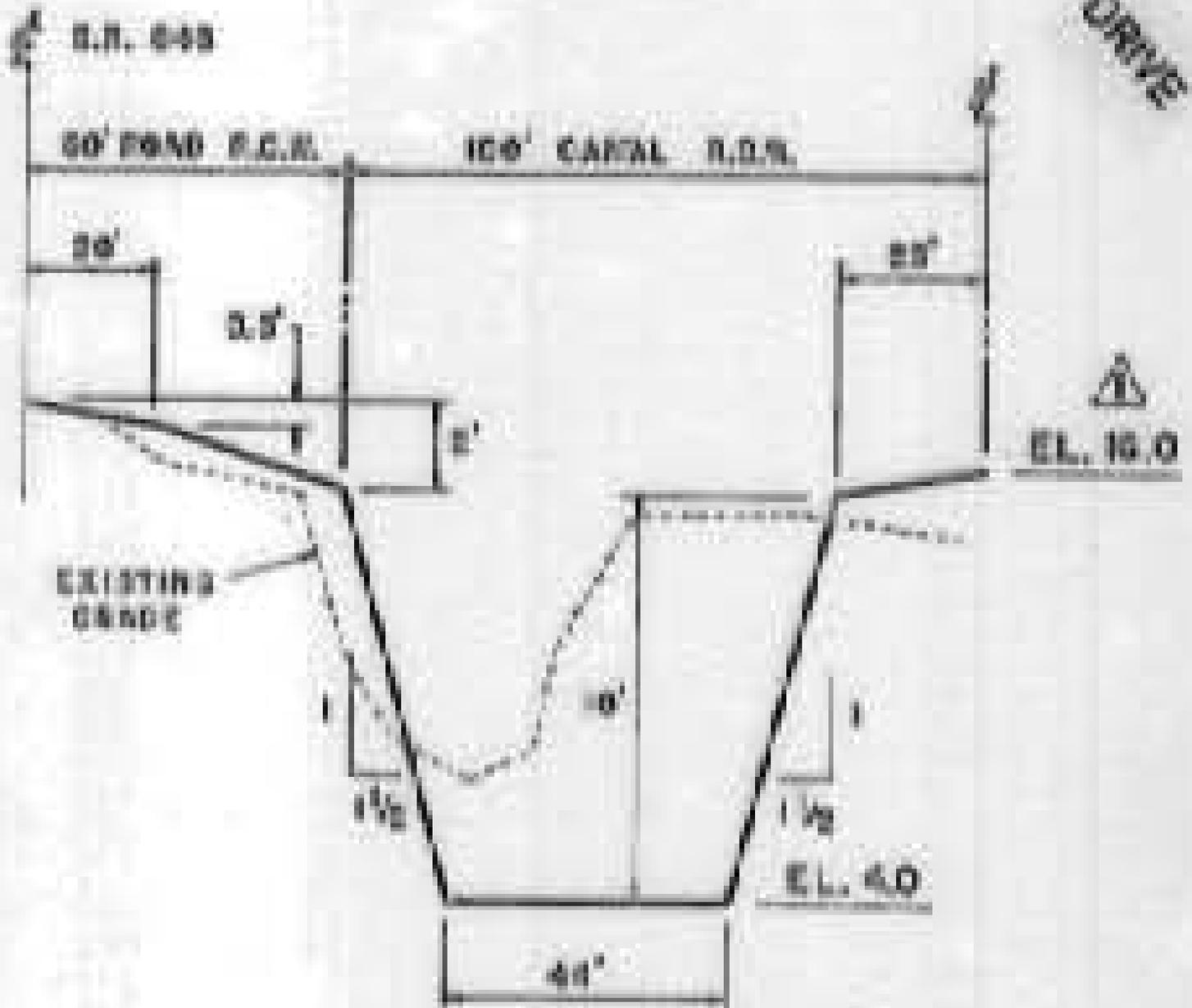
**LONGSHORE LAKE**  
**294.59 AC**

**QUAIL  
CREEK  
PLAZA**  
**33.4 AC**

**QUAIL  
WALK**  
**20.0 AC**

# 2013 LONGSHORE LAKES DREDGING

# 2013 DREDGING



**IMMOKALEE RD CR 846**

**7TH AVE NW**  
7th AVE NW

7th AVE NW

**FLOATING ISLAND POND**



5th AVE NW

5th AVE NW

**COLLIER BLVD CR 951**

3rd AVE NW

3rd AVE NW

1st AVE NW

1st AVE NW

**GOLDEN GATE BLVD**

Golden Gate Blvd W

**CONTROL POND**



1st AVE SW

1st AVE SW



Floating Island Pond							
Analyte <sup>1</sup>	Jun '13	Jul '13	Aug '13	Oct '13	Nov '13	Dec '13	
Alkalinity pH	42	54	88	72	95	103	
Ammonia (mg/L) NH <sub>4</sub>	0.010	0.010	0.010	0.010	0.010	0.010	
BOD (mg/L)	2.0	2.0	2.0	2.0	2.0	2.0	
Chloride (mg/L)	1.4	1.2	2.6	1.2	3.6	2.9	
Chlorophyll a (mg/m <sup>3</sup> ) <sup>2</sup> Chl a	6.1	5.5	10.0	13.1	4.4	7.0	
Coliform Fecal (cfu/100ml)	440	350	42	6	4	17	
Color (PCU)	10	10	20	15	15	15	
Copper (ug/L) Cu		0.859	1.240	0.881	0.750	0.750	
Nitrate-Nitrite (mg/L) NO <sub>3</sub> +NO <sub>2</sub>	0.020	0.012	0.002	0.002	0.007	0.006	
Nitrite (mg/L) NO <sub>2</sub>	0.002	0.002	0.002	0.002	0.002	0.002	
Nitrogen-Total Kjeldahl (mg/L)	0.210	0.230	0.156	0.258	0.220	0.089	
Orthophosphate (mg/L) Ortho P	0.004	0.004	0.004	0.004	0.004	0.004	
Phephytin (mg/M <sup>3</sup> ) Pheno	1.0	1.0	1.0	1.0	1.0	1.0	
Phosphorus-Total (mg/L) P	0.005	0.006	0.513	0.019	0.018	0.180	
Turbidity (NTU)	1.7	1.2	1.6	2.8	1.9	3.7	

Control Pond							
Analyte <sup>1</sup>	Jun '13	Jul '13	Aug '13	Oct '13	Nov '13	Dec '13	
Alkalinity pH	110	117	95	114	121	138	
Ammonia (mg/L) NH <sub>4</sub>	0.027	0.010	0.013	0.098	0.010	0.010	
BOD (mg/L)	2.0	2.0	2.0	2.0	2.0	2.0	
Chloride (mg/L)	21.9	21.0	22.6	15.8	19.2	18.4	
Chlorophyll a (mg/m <sup>3</sup> ) <sup>2</sup> Chl a	4.4	4.3	3.0	3.6	3.4	7.7	
Coliform Fecal (cfu/100ml)	270	280	6	8	4	1	
Color (PCU)	15	20	20	15	15	5	
Copper (ug/L) Cu		0.944	0.847	0.750	0.750	0.750	
Nitrate-Nitrite (mg/L) NO <sub>3</sub> +NO <sub>2</sub>	0.009	0.007	0.006	0.002	0.018	0.005	
Nitrite (mg/L) NO <sub>2</sub>	0.002	0.002	0.002	0.002	0.002	0.002	
Nitrogen-Total Kjeldahl (mg/L)	0.326	0.323	0.260	0.339	0.436	0.067	
Orthophosphate (mg/L) Ortho P	0.004	0.004	0.004	0.004	0.004	0.009	
Phephytin (mg/M <sup>3</sup> ) Pheno	1.0	1.0	0.0	1.0	1.0	1.0	
Phosphorus-Total (mg/L) P	0.004	0.009	0.013	0.160	0.019	0.004	
Turbidity (NTU)	1.7	1.6	1.9	1.9	2.1	4.4	

# 2012 LANTERN LAKE - FLOATING ISLAND

Date of Lab Report:	24-Feb-12	12-Mar-12	12-Apr-12	10-May-12	12-Jun-12	11-Jul-12
Analyte <sup>1</sup>						
Alkalinity pH	146	142	134	134	134	146
Ammonia (mg/L) NH <sub>4</sub>	1.44	0.849	0.109	0.079	0.069	0.031
CC-Nitrate-N		0.40	0.021	0.007	0.016	0.002
Chlorophyll a (mg/m <sup>3</sup> ) <sup>2</sup> Chl a	3.1	3.4	10.4	1.2	50.5	60.3
Copper (ug/L) Cu	4.87	2.24	2.55	0.86	7.71	2.52
Nitrate-Nitrite (mg/L) NO <sub>3</sub> +NO <sub>2</sub>	0.224	0.514	0.027	0.012	0.02	0.006
Nitrite (mg/L) NO <sub>2</sub>	0.130	0.110	0.006	0.005	0.004	0.004
Nitrogen-Total Kjeldahl (mg/L) TKN <sup>3</sup>	2.25	1.54	0.623	0.818	1.72	1.34
Orthophosphate (mg/L) Ortho P	0.840		0.92	0.65	0.32	0.17
Phephytin (mg/m <sup>3</sup> ) Pheno	8.5	2.7	18.8	3.4	3.3	9.7
Phosphorus-Total (mg/L) P	0.920		0.99	0.755	0.457	0.272
Total Nitrogen <sup>4</sup> (mg/L) Total N	2.47	2.05	0.65	0.83	1.74	1.35

<sup>1</sup> Analyte Criteria:

pH = Shall not vary more than one unit above or below natural background.

NH<sub>4</sub> = ≤0.02 mg/L (marine Class III standard)

Chl a = 4.3 ug/l (proposed for Naples Bay)

Cu = ≤3.7 ug/l (marine Class II standard)

P = 0.045 mg/L (proposed for Naples Bay)

N = 0.57 mg/L (proposed for Naples Bay)

<sup>2</sup> Chlorophyll a, secchi depth, and total phosphorus values provide an indirect measure of algal biomass or trophic state.

<sup>3</sup>Total Kjeldahl Nitrogen (TKN) is a test performed that is made up of both organic nitrogen and ammonium.

<sup>4</sup> Total Nitrogen is the sum of nitrate (NO<sub>3</sub>), nitrite (NO<sub>2</sub>), organic nitrogen<sup>5</sup> and ammonia NH<sub>4</sub> (all expressed as N).

<sup>5</sup> You determine Organic Nitrogen by subtracting Ammonia Nitrogen from Total Kjeldahl Nitrogen.

## FINDINGS:

Prior to 2010 WSF focused on water usage

Since 2010 WSF has focused on understanding and reducing water quality components transmitted by the BCB Primary Canal System to Naples Bay that influence impairment classification

Specifically WSF has focused on fertilizer runoff, landscaping practices, Florida Friendly plant selection and algae treatment

Since 2010 estimated we have outreached to :

- 20-25 HOA's
- 5 Local government organizations and their departments
- 4000 individuals with homes, condos, businesses in the Big Cypress Basin

Overall, most important finding to date is to educate individuals, HOA's and managers with accurate information so that it is translated to the contractor, consultant or into management activities correctly.