

Water Quality and Algal Blooms in Southeast Florida

BBRRCT Update 9/21/2016

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Northern Indian River Lagoon



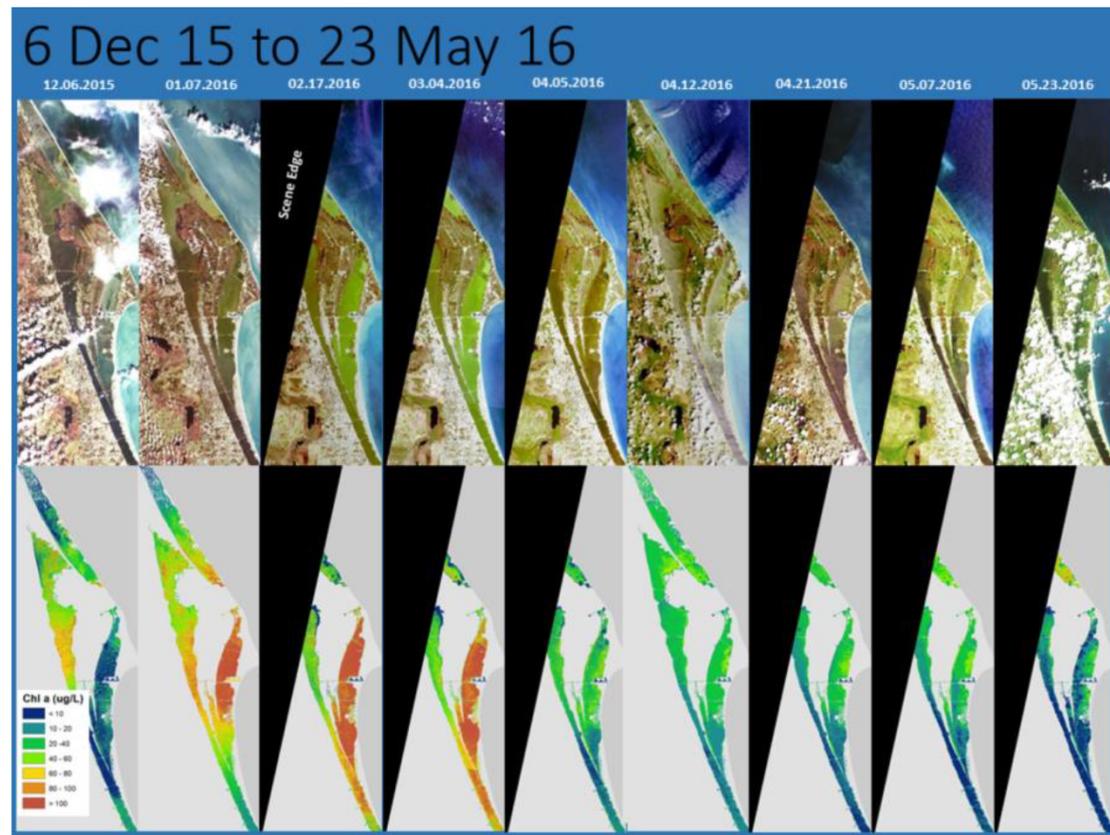
Brown tide composition

- *Aureoumbra* – 80-90%
- Pico/cyanobacteria – 10-15%
- Other – 5%



Image: Robbyn Spratt

Northern Indian River Lagoon



Action: Brevard County

- Save Our Indian River Lagoon Project Plan



- Referendum for ½ sales tax ordinance

Southern Indian River Lagoon/St. Lucie Estuary

Blue-green algal bloom composition

- *Microcystis aeruginosa*
- *Dolichospermum sigmaideum* (formerly *Anabaena*)

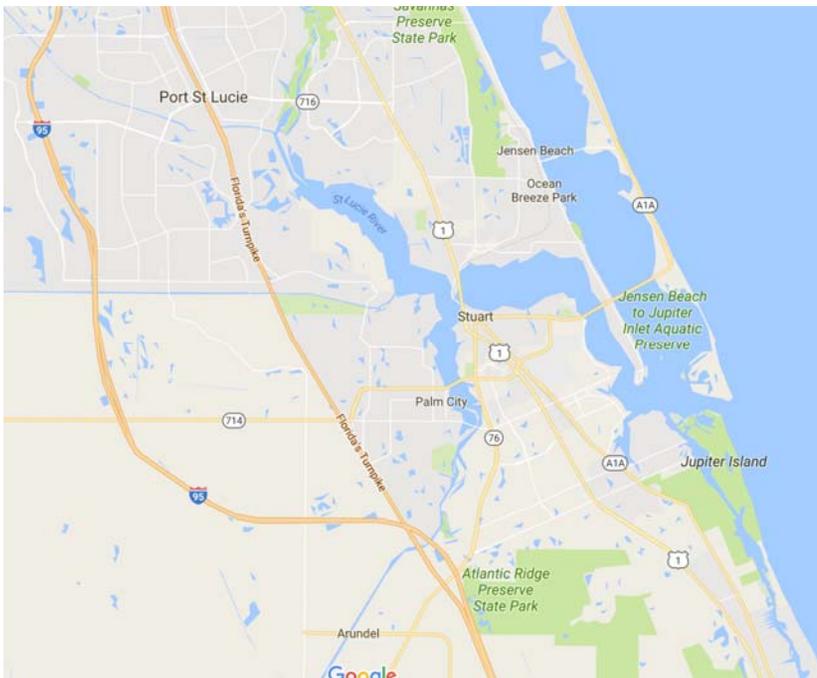


Image: Martin County

Lake Okeechobee Bloom

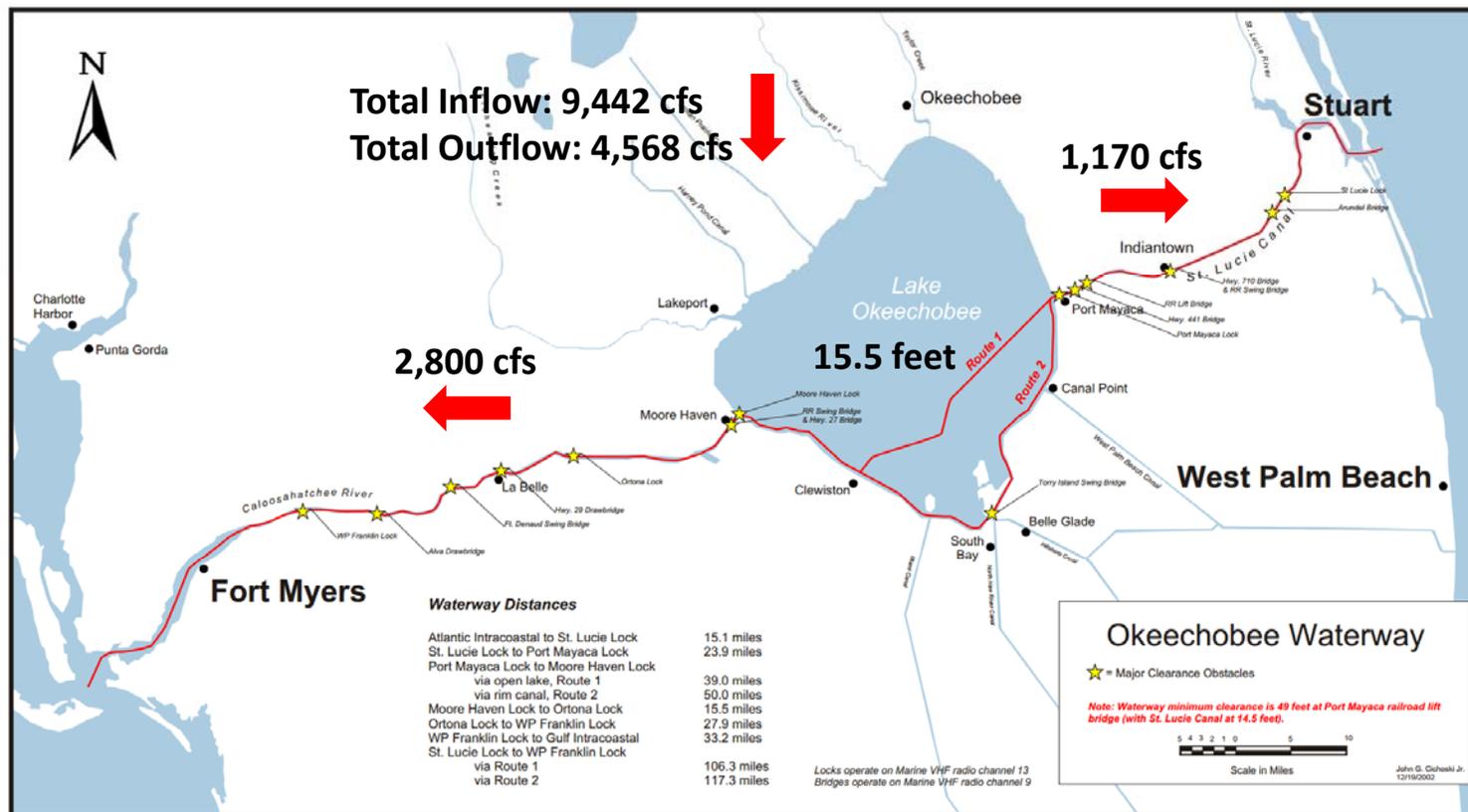


~33 square miles (May 2016)



~3 square miles

Lake Okeechobee Status – 9/20/2016



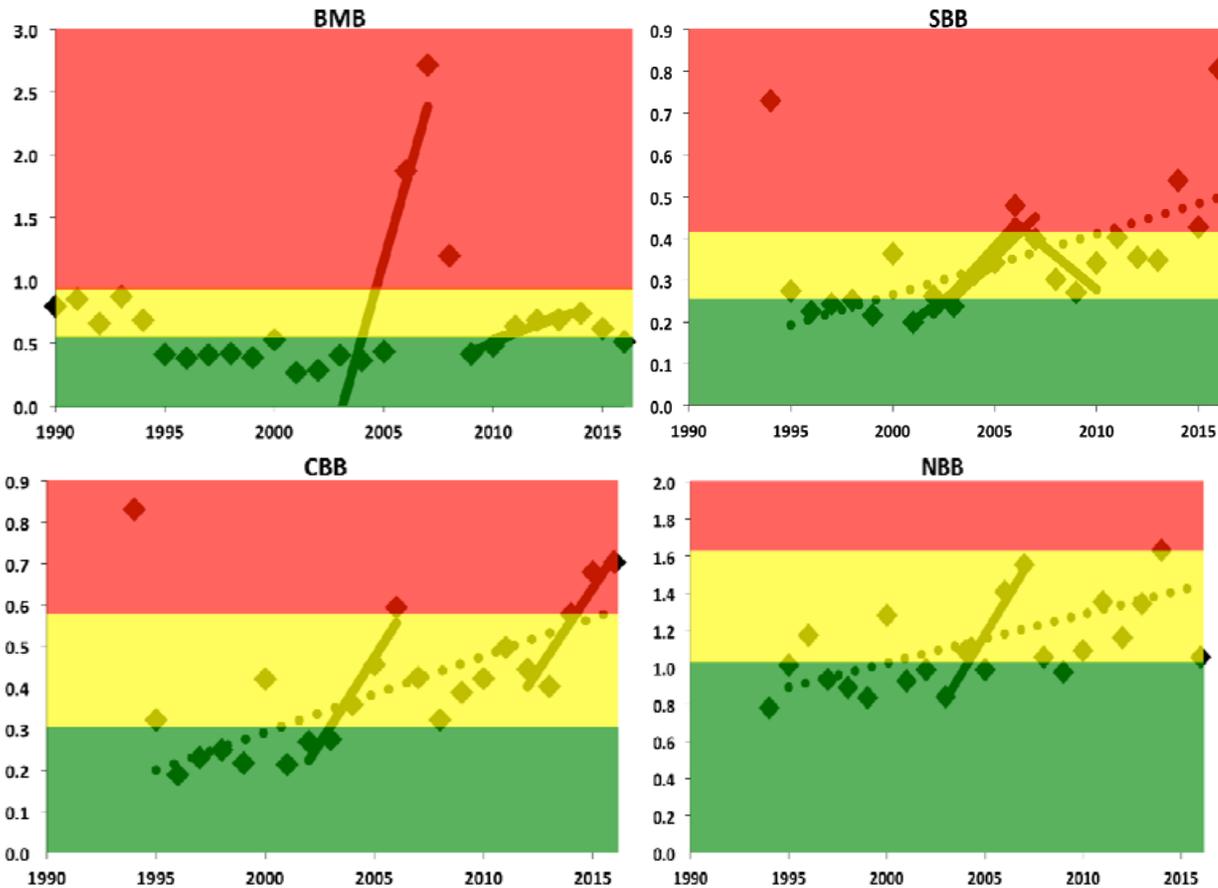
S-80 Pulse Release Schedule (starts on Friday)

Friday = 628 cfs
 Saturday = 352 cfs
 Sunday = 0 cfs
 Monday = 1252 cfs
 Tuesday = NR cfs

Actions:

- State of Emergency declared: Martin, St. Lucie, Palm Beach and Lee Counties
- Martin County BOCC
 - Declaration of disaster
 - Presidential candidate tours
 - Resolutions
- Indian River Council (NEP) Board of Director's Position Statement on Restoration of the IRL

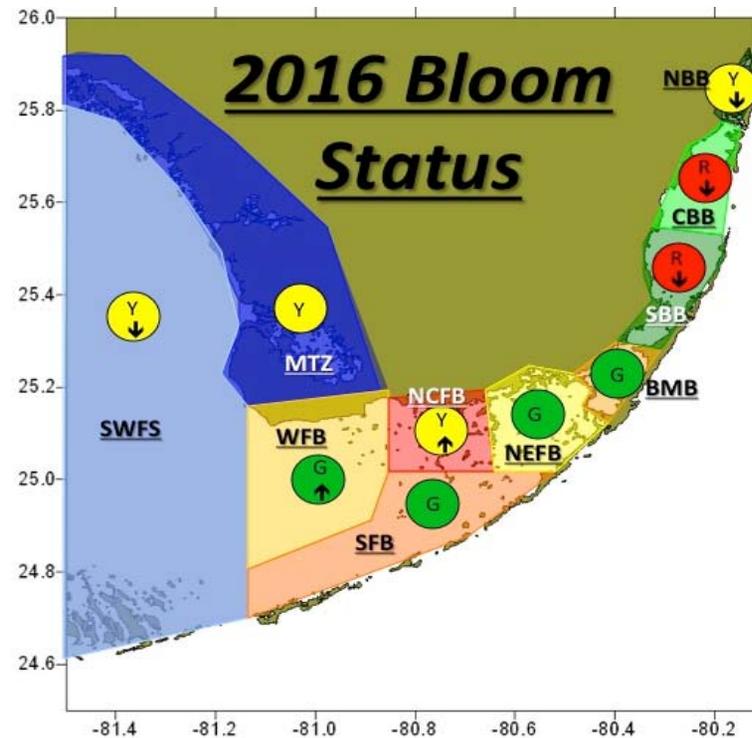
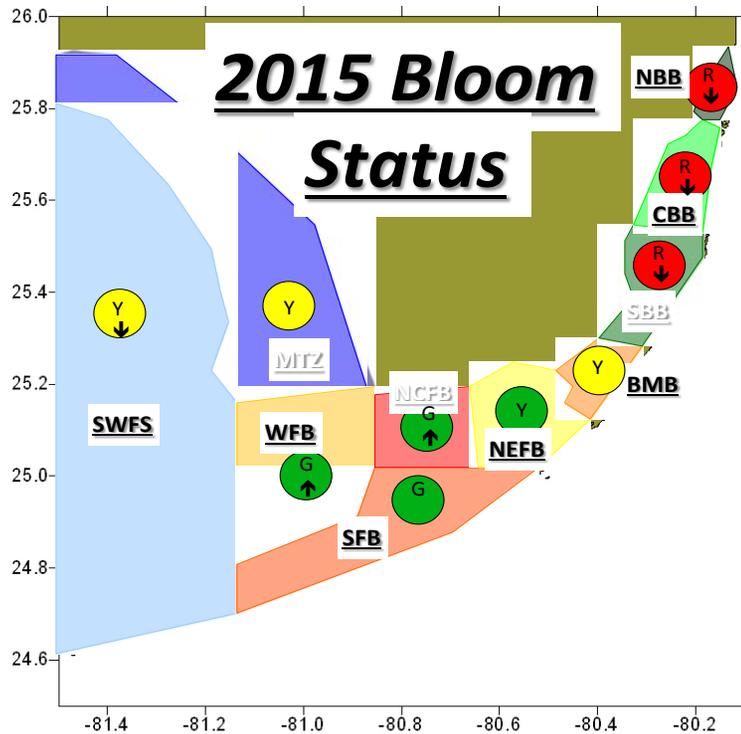
Biscayne Bay



All three sub-regions in Biscayne Bay, (South Biscayne [SBB], Central Biscayne Bay [CBB], North Biscayne Bay [NBB]) have long-term significant increases in chlorophyll *a* since 1995. The southern sub-region of Biscayne Bay encompassing Barnes, Manatee, and Blackwater sounds [BMB] also has a significant increasing trend, if the anomalous bloom in 2005-2008 is removed

Data: Chris Kelble, NOAA AOML
System-wide Ecological Indicators for Everglades Restoration

Biscayne Bay



Spatial distribution of the water quality indicator scores throughout the SCS in WY2015 and WY2016. The arrows indicate trends of degrading water quality (downward arrows) and improving water quality (upward pointing arrows).

Data: Chris Kelble, NOAA AOML

System-wide Ecological Indicators for Everglades Restoration

Biscayne Bay

Chlorophyll a Indicator	WY05	WY06	WY07	WY08	WY09	WY10	WY11	WY12	WY13	WY14	WY15	WY16	Current Status
Barnes, Manatee, & Blackwater Sounds (BMB)													BMB experienced an unusual cyanobacterial bloom from WY06 through WY08. This region is currently showing signs of improvement.
South Biscayne Bay (SBB)													SBB is in need of immediate action. The indicator has been in the red for 3-years and there is a long-term significant trend of water quality degradation.
Central Biscayne Bay (CBB)													CBB is in need of immediate action. The indicator has been in the red for 3-years and there is a long-term significant trend of water quality degradation.
North Biscayne Bay (NBB)													NBB is in need of immediate action. The indicator has been in the red for 2 of the past 3-years and there is a long-term significant trend of water quality degradation.

Data: Chris Kelble, NOAA AOML

System-wide Ecological Indicators for Everglades Restoration

Action: Miami-Dade BOCC

- Miami-Dade Legislative Item File Number: 161855

Sponsor Rebeca Sosa

RESOLUTION DIRECTING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO PREPARE A REPORT ON ANY PROACTIVE MEASURES THAT MAY BE TAKEN TO SAFEGUARD WATER SOURCES AND WATER BODIES IN MIAMI-DADE COUNTY AGAINST ALGAE BLOOMS TO PROTECT THE COUNTY'S RESIDENTS, VISITORS, ENVIRONMENT, AND LOCAL ECONOMY

- Miami-Dade Legislative Item File Number: 162129

Sponsor: Jose "Pepe" Diaz

RESOLUTION URGING THE SOUTH FLORIDA WATER MANAGEMENT DISTRICT TO FULLY IMPLEMENT ITS PLAN FOR FLORIDA BAY AND URGING THE UNITED STATES ARMY CORPS TO EXPEDITE AND COMPLETE THE HERBERT HOOVER DIKE REHABILITATION PROJECT