



Florida Department of Environmental Protection

Caloosahatchee Basin HSPF/EFDC Modeling

Douglas Gilbert

March 11, 2016





Caloosahatchee Basin Modeling

AGENDA

- Introductions
- Background and Project Overview (DEP-Douglas Gilbert)
- Existing model review and Recommended review
(Tetra Tech-Erin Lincoln, Marcy Frick)
- Next Steps
- Stakeholder/Public comments
- Adjourn



Caloosahatchee Basin: Background

- Estuary TMDLs Completed in 2009
 - 3 Estuary WBIDs Require 23% Reduction in Total Nitrogen based on Seagrass Target
 - Goal of 25% Photosynthetically Active Radiation reaching seagrass depth of 2.2 m in San Carlos Bay
 - Since all Caloosahatchee Basin contributes to the estuary, allocation for load reduction includes the entire basin
 - Basin Management Action Plan, a TMDL Implementation plan, was completed in December 2012

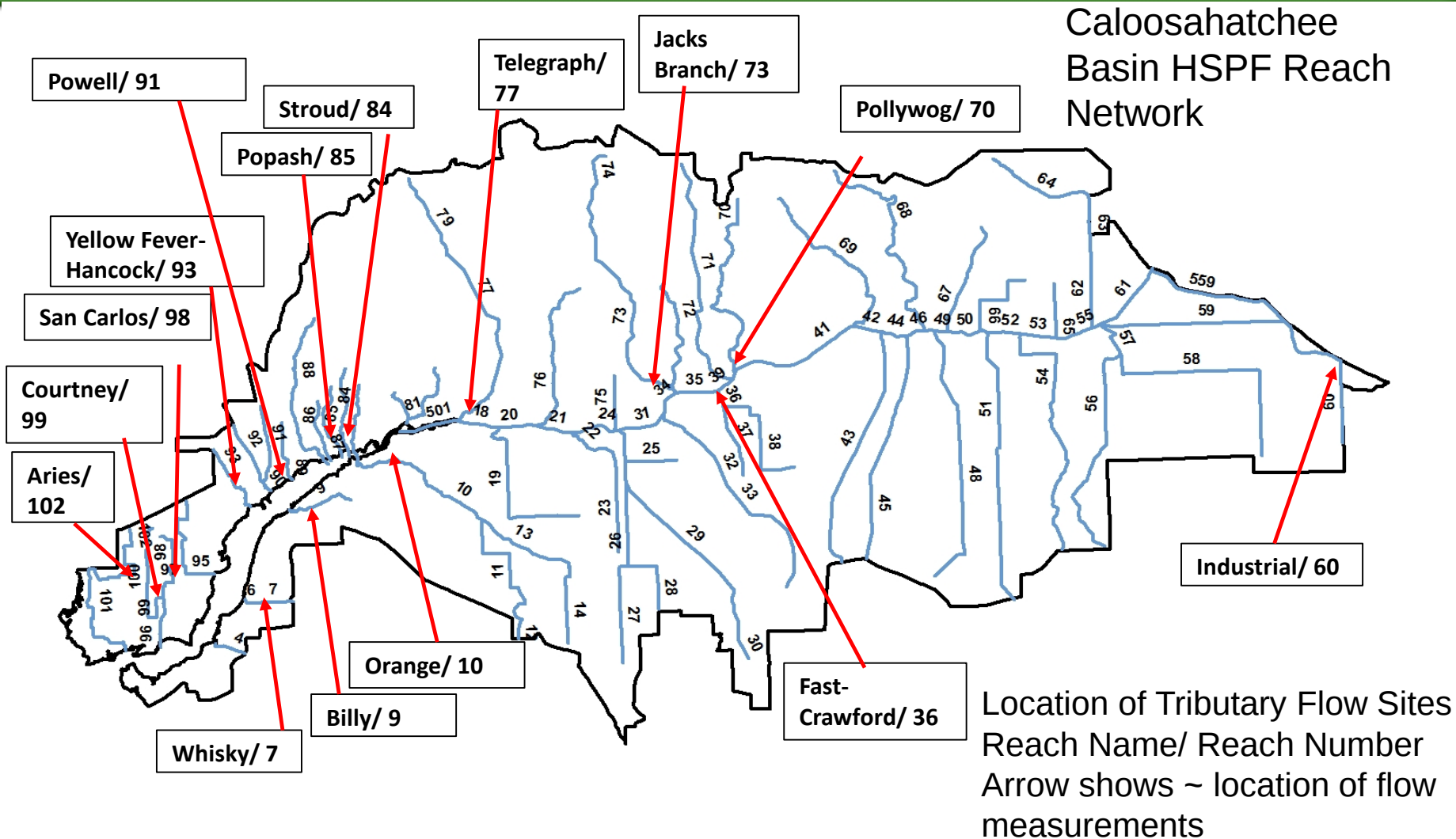


Caloosahatchee Basin: Modeling

- Improvements to Model
 - [Grid For Estuary Model Improved](#)
 - [Refinement & Expansion](#)
 - Light Attenuation Module Improved
 - [NEXRAD Rain data which covers 2003 through 2010 was developed and replaced initial data from weather stations.](#)
 - Estuary and Watershed models populated with more recent data
- Participation and Assistance From Agriculture Community
 - Provided vital new information about
 - flow
 - Irrigation and drainage
- Participation of Modeling Technical Stakeholder Group
 - Major Assistance at Critical Points in Process
- Flow Monitoring for additional calibration provided by
 - United States Geological Survey (USGS)
 - Florida Department of Environmental Protection (DEP) South ROC
 - South Florida Water Management District (SFWMD)
 - Army Corps of Engineers (ACOE)

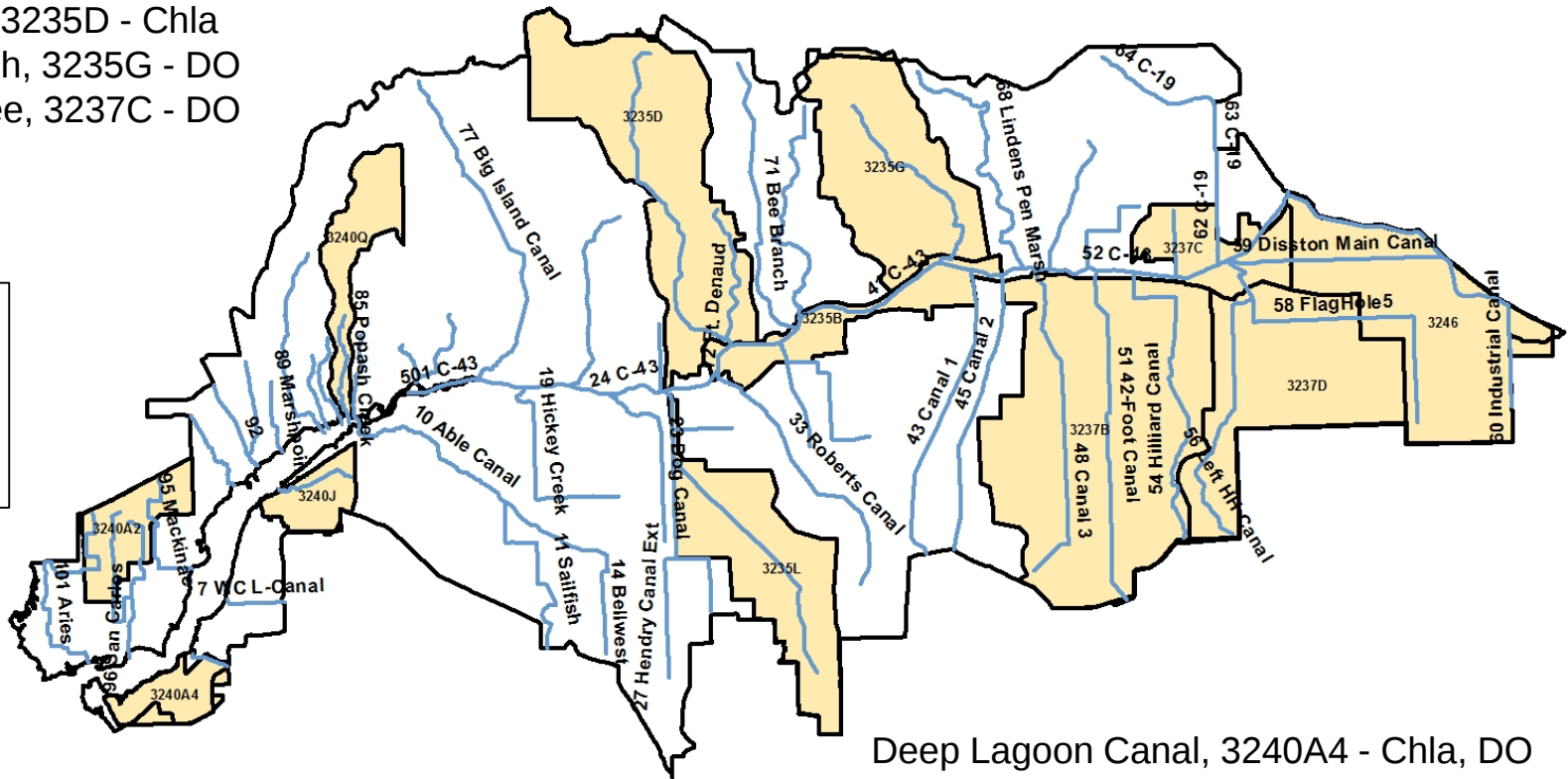


Caloosahatchee Basin: Flow Stations





1 - H-Chla
3 - Chla
4 - Chla-DO
4 - DO



Deep Lagoon Canal, 3240A4 - Chla, DO
 Billy Crk, 3240J – DO
 Townsend Canal, 3235L – Chla, DO
 Long Hammock Crk, 3237B – Chla
 Ninemile Canal, 3237D – DO
 S-4 Basin, 3246 – Chla, DO

3/14/2016



Caloosahatchee Basin Modeling

Dr. Xueqing Gao and Douglas Gilbert met with the modeling technical subgroup on October 22, 2014, and DACS on October 24, 2014.

- At those meetings the department committed to address the remaining modeling issues before drafting new TMDLs for the basin.
- S-79 flow and estuary salinity calibration
- Agricultural irrigation and landuse
- OSTD representation
- HSPF subbasin representation and model calibration
- Landuse (2009 update)
- Reversing flows upstream and downstream of S-79 (Franklin Lock)

A Contract with AMEC/Tetra Tech was signed January 18, 2016, includes 11 Tasks and will take slightly over a year (58 weeks) to complete.



Caloosahatchee Basin: DEP TMDL Contacts

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