

*Palm Beach County Board of County Commissioners Workshop*

**October 29, 2013**

# **Wet Season Freshwater Inflows to the Lake Worth Lagoon**

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[sfwmd.gov](http://sfwmd.gov)

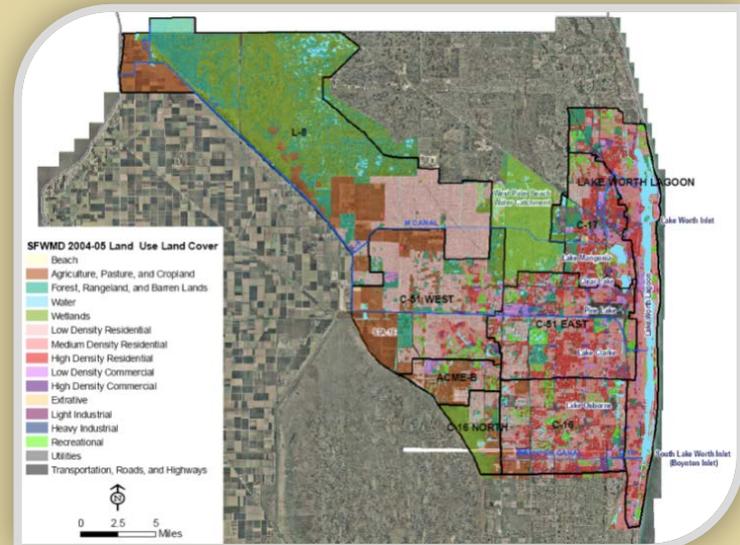
# *Topics:*

- Lake Worth Lagoon drainage basin delineation and land use characteristics
- 2013 wet season rainfall/runoff characteristics and discharges into LWL
- How much Lake Okeechobee water was discharged into LWL during 2013 wet season?

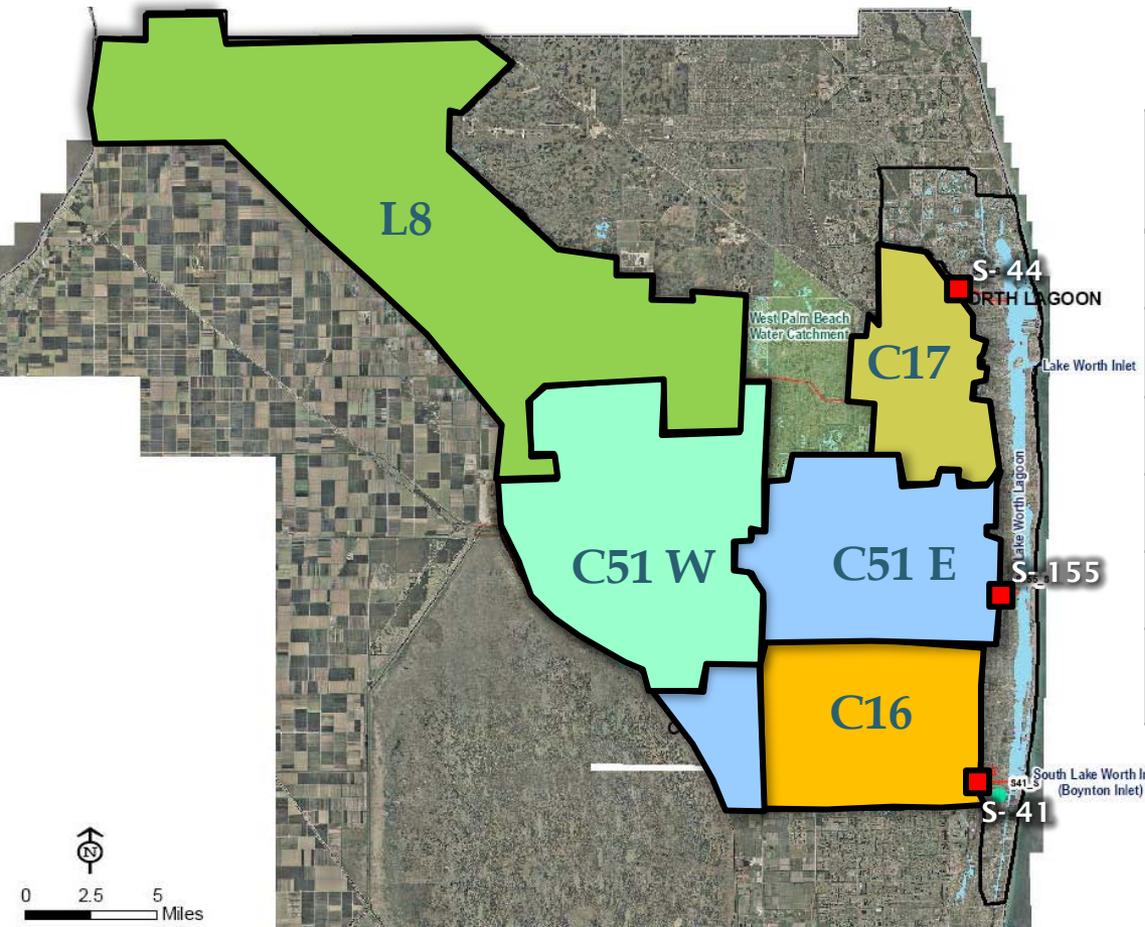


Wet Season  
Freshwater Inflows  
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# Lake Worth Lagoon Drainage Basin Delineation and Land Use Characteristics

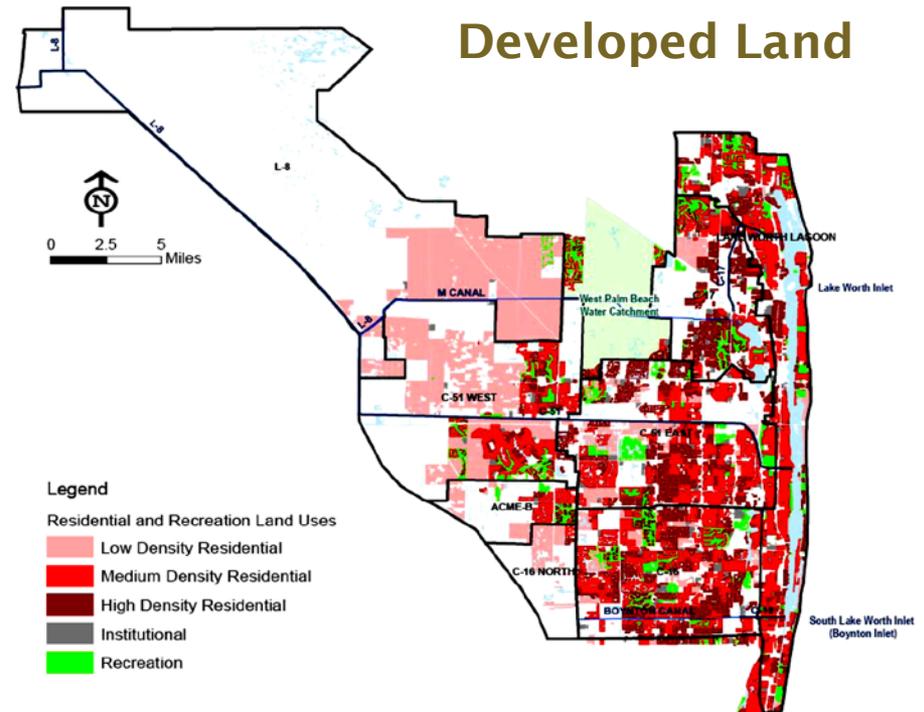
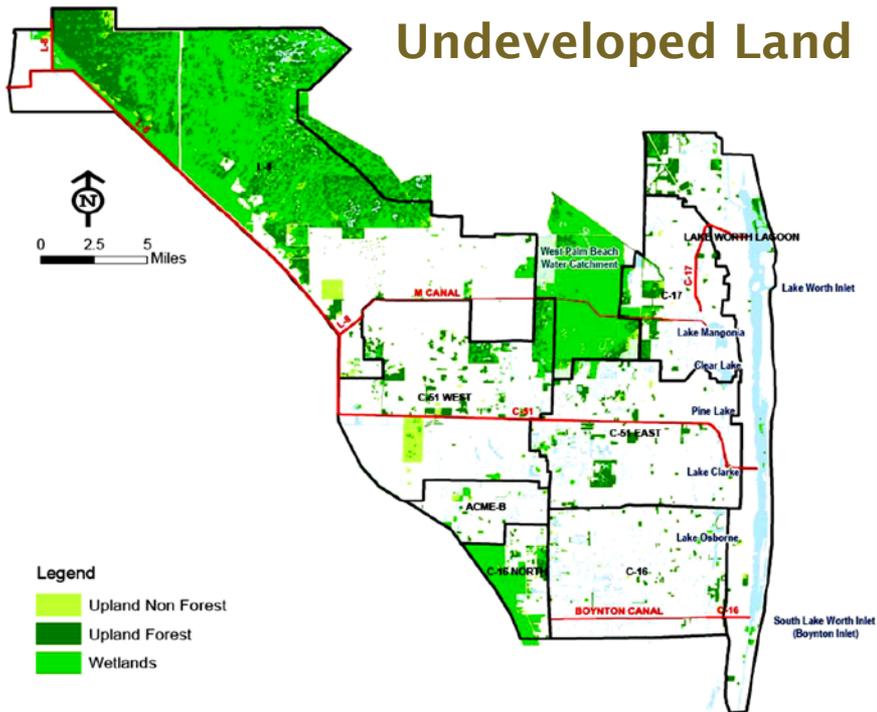


# LWL Watershed Consists of 6 Major Drainage Basins (Totaling About 480 Square Miles)



Basin	Area (acres)	Structure
C17	22,569	S- 44
L8	106,440	
C51 EAST	47,012	S- 155
C51 WEST	51,737	
C16	39,813	S- 41
LAKE WORTH LAGOON	38,139	UNGAUGED

# About 50% of Land Use is Residential and Urban Development

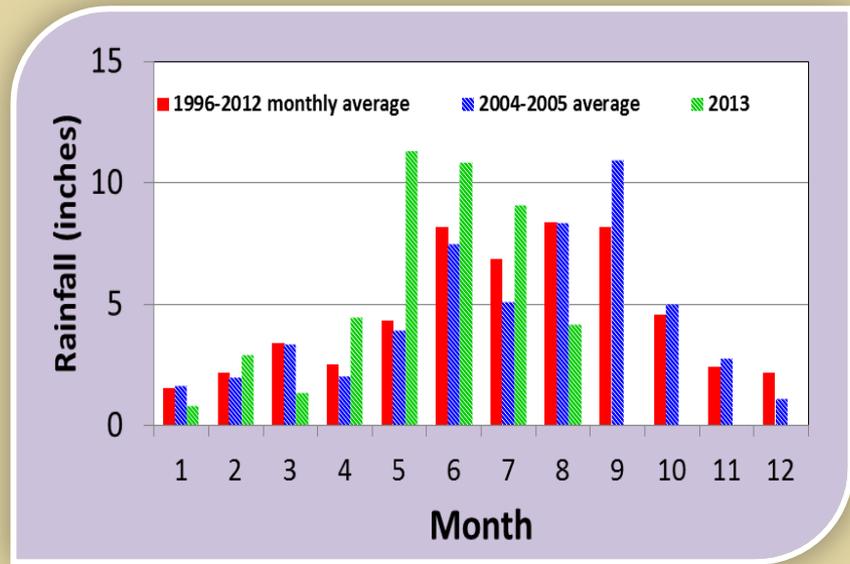


High and medium density residential: high percentage of impervious areas for runoff generation

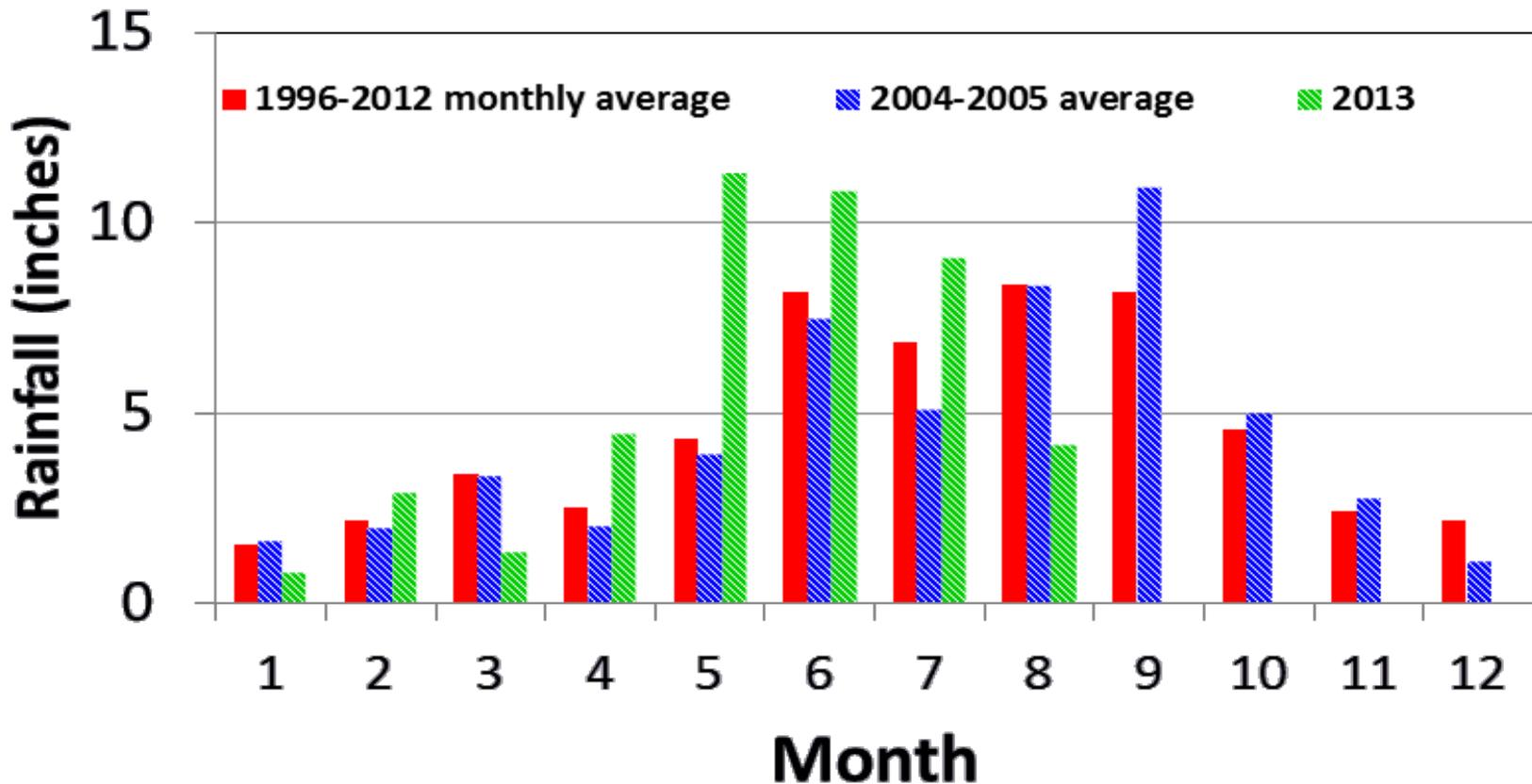


# 2013 Wet Season Rainfall/Runoff Characteristics and Discharges into LWL

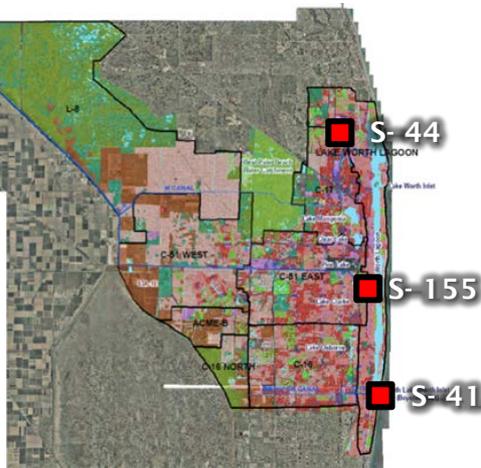
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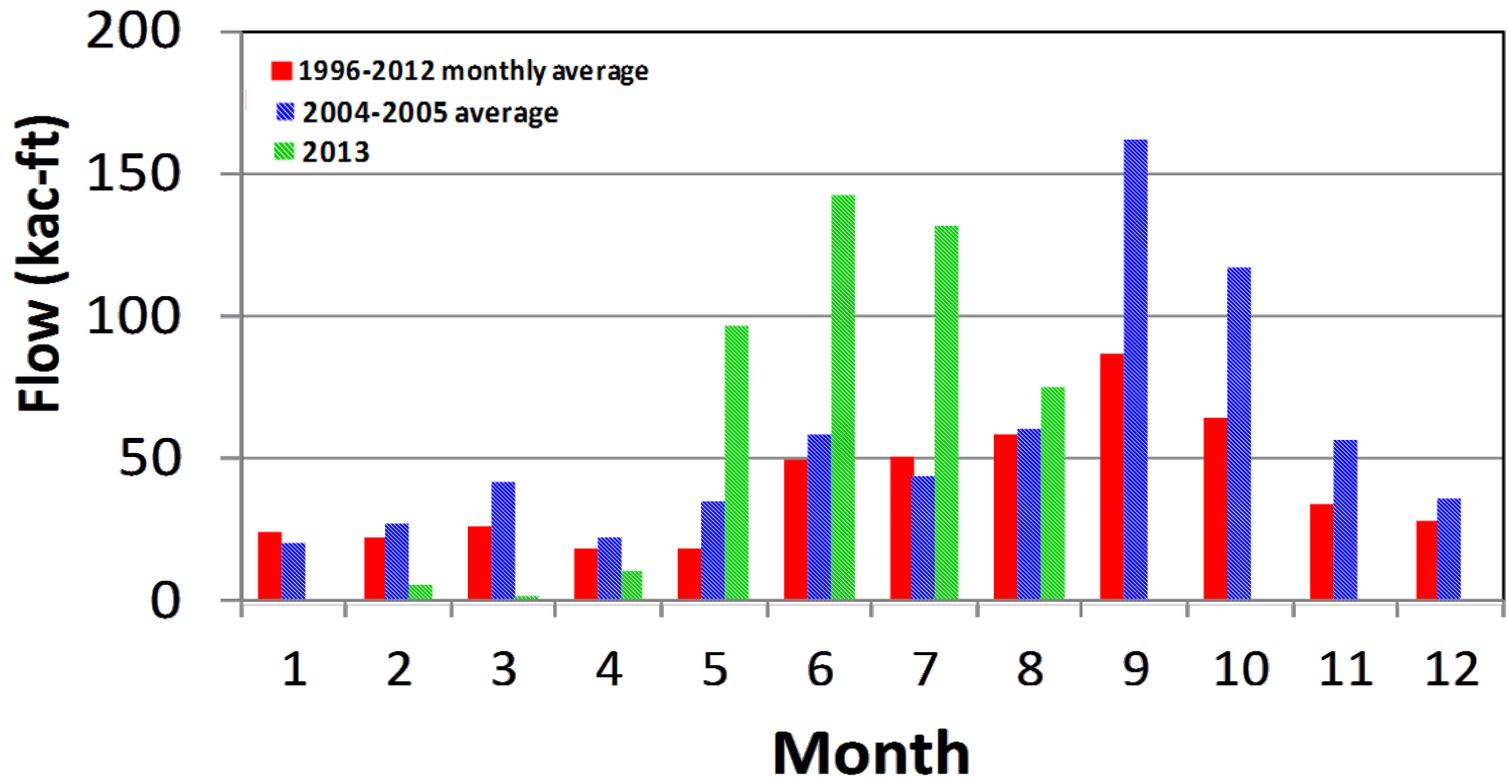
# Total rainfall in May- August in Palm Beach is ranked 11<sup>th</sup> in the past 75 yrs, 26% more than normal



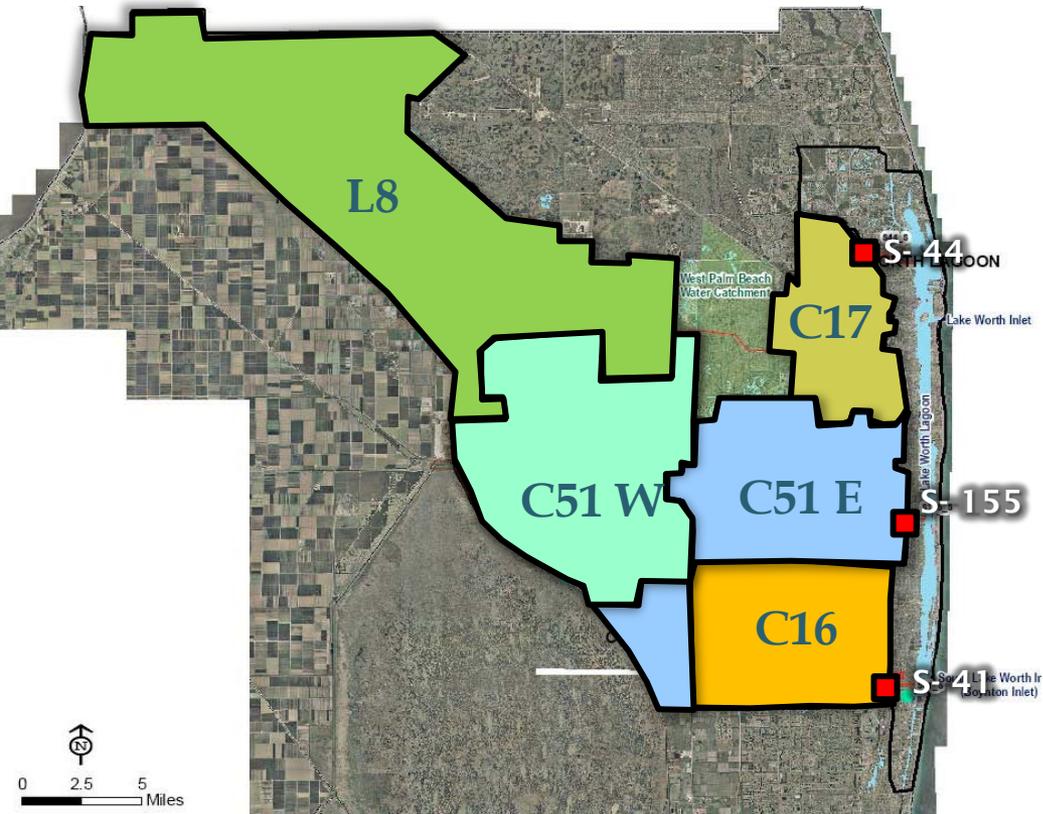
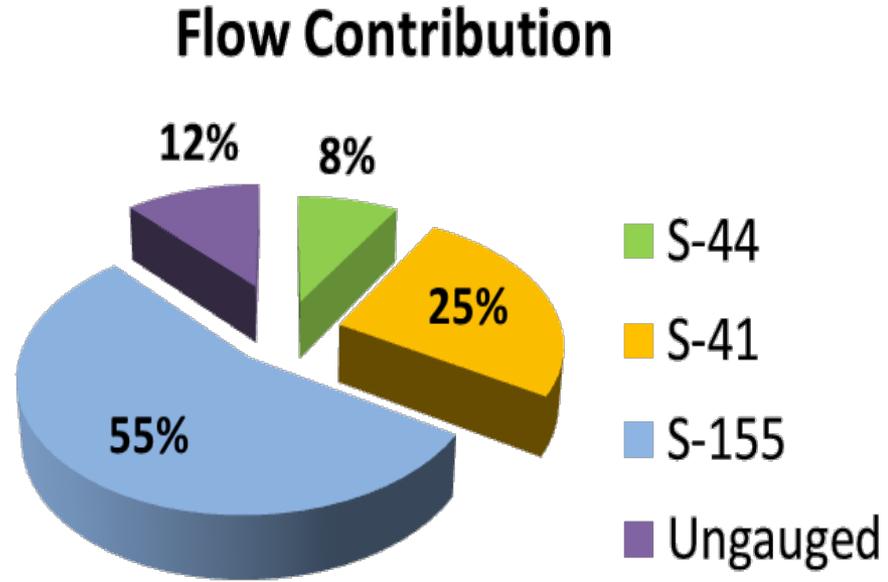
# LWL received abnormally high amounts of freshwater during May-August



Sum of 3 Structures: S44, S155, S41  
(Ungauged basin flow not included)

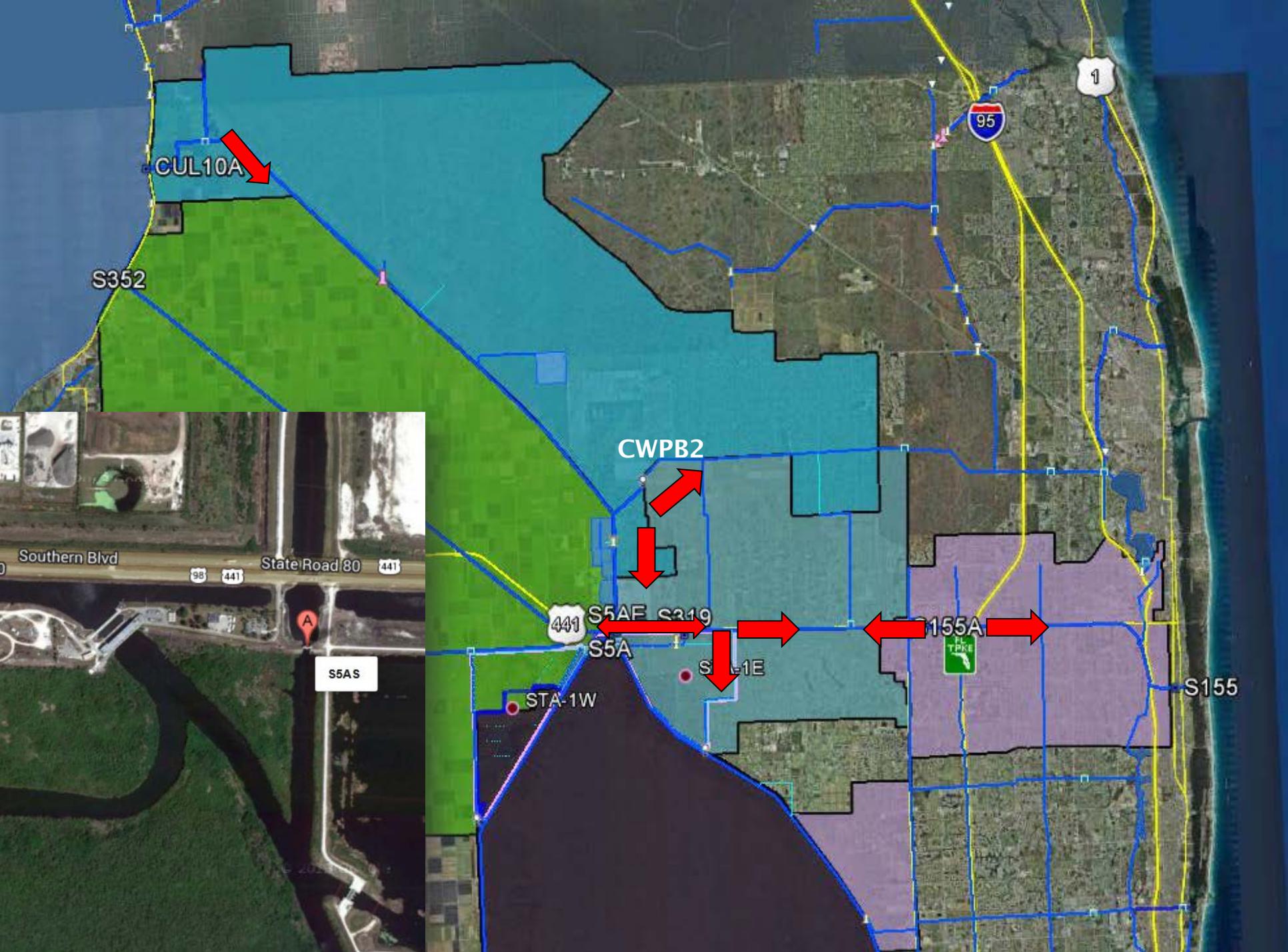


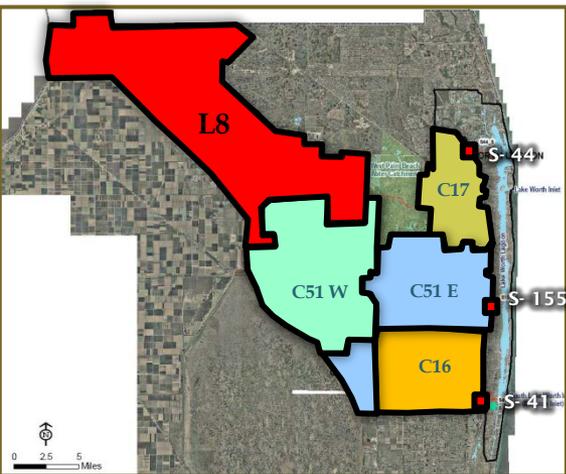
**S- 155 contributed 55% of total inflows and the ungauged basin 12%**



# How Much Lake Okeechobee Water Was Discharged to LWL During 2013 Wet Season?

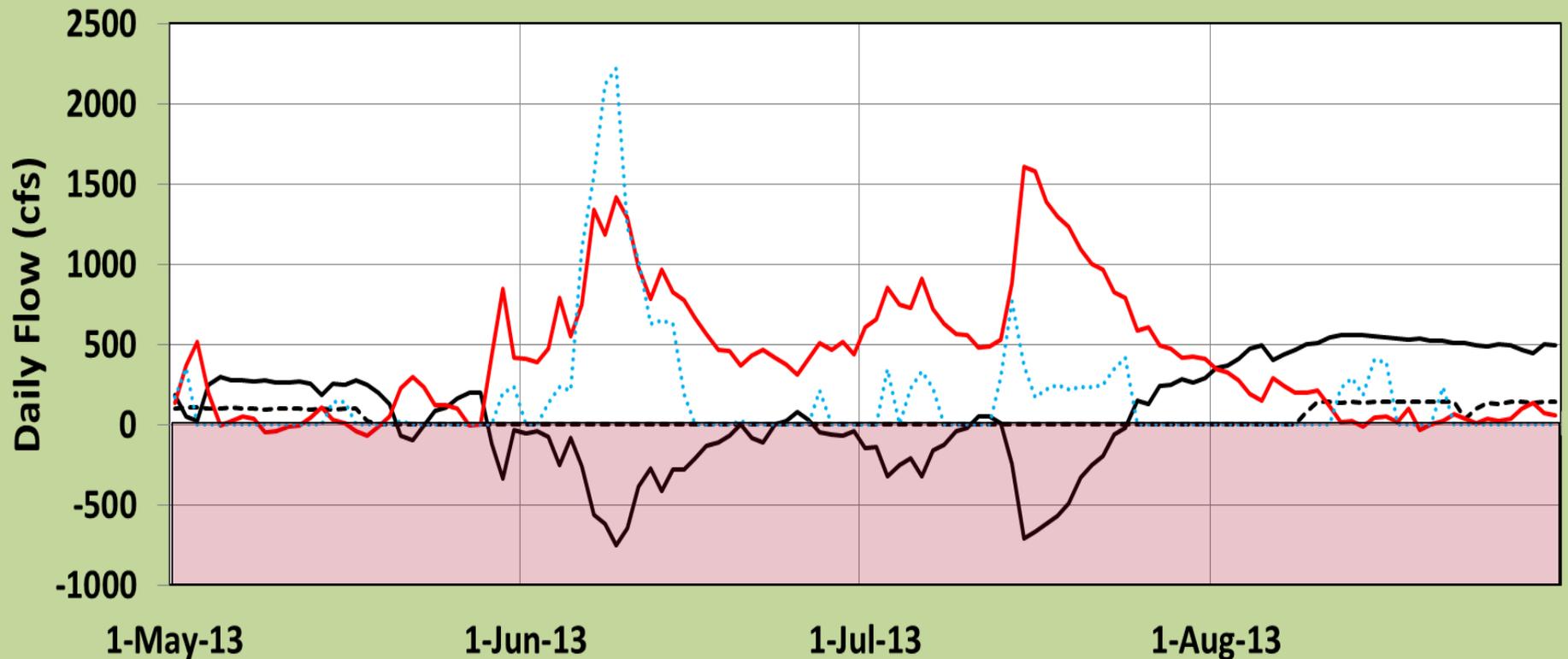




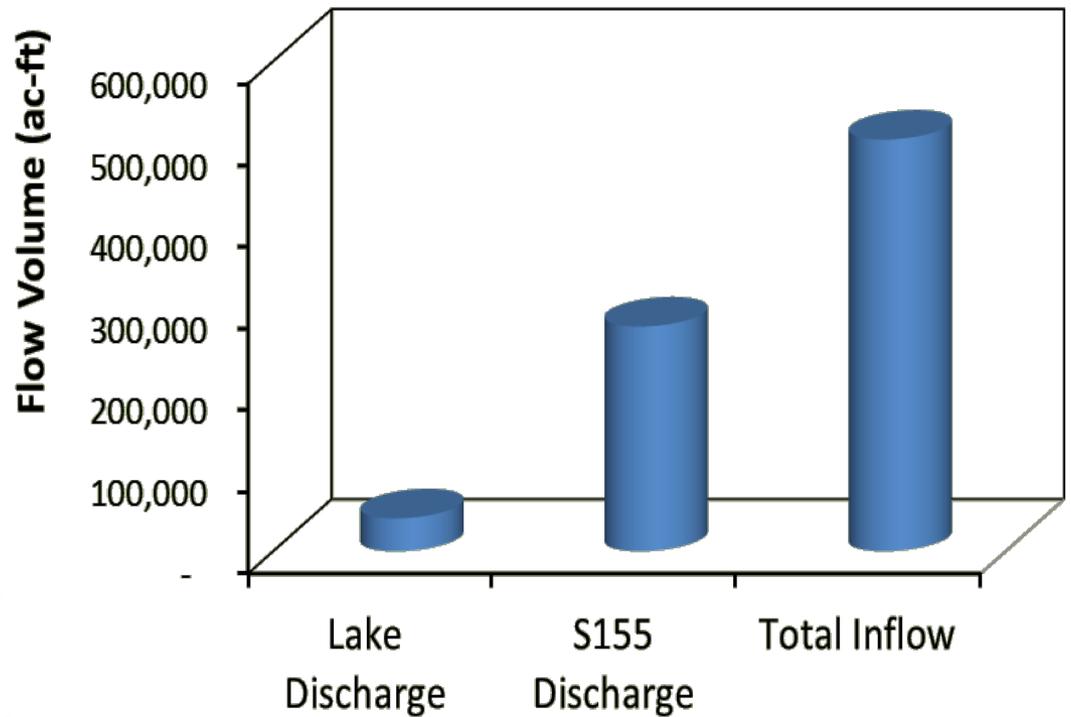
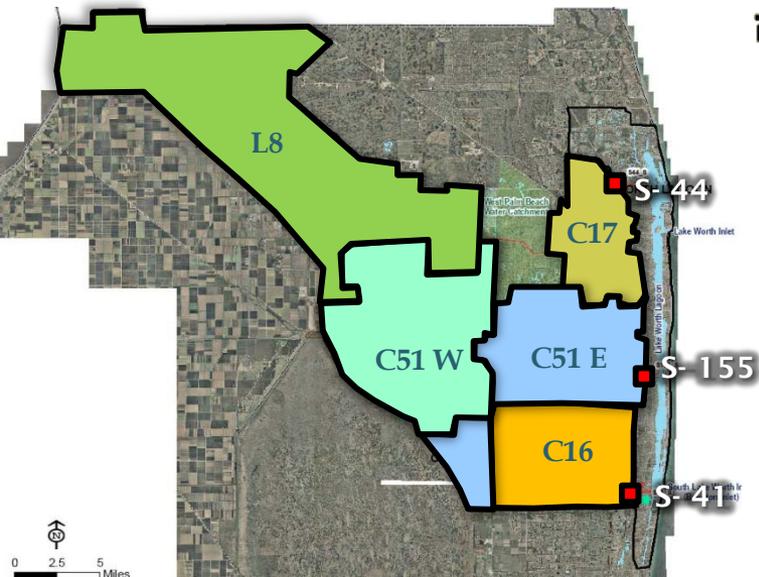


# L8 Basin Runoff Back-flowed to the Lake During High Flow Events

— L8.441    - - - CWPB2\_P    — L8 Runoff    ··· S319\_P



# The Amount of Lake Okeechobee Water Discharged to LWL During May- August 2013 was 7- 8% of the Total Inflow



# Summary

- ✓ Lake Worth Lagoon Watershed is highly urbanized with 12% of the area ungauged
- ✓ 2013 May- August rainfall was 26% more than normal, resulting in extremely high discharges into LWL
- ✓ LO water discharged into LWL was 7- 8% of total inflow during May- August 2013



# Acknowledgements for Data Support

- ▶ From Coastal Ecosystems Section, SFWMD
  - **Teresa Coley**
  - **Zhiqiang Chen**
  
- ▶ From Hydro Data Management Section, SFWMD
  - **John Raymond**

# Questions?

