

Powerpoint presented by J. Gihring,
FDEP, at the July 21, 2009, St. Lucie
BMAP Kickoff Meeting

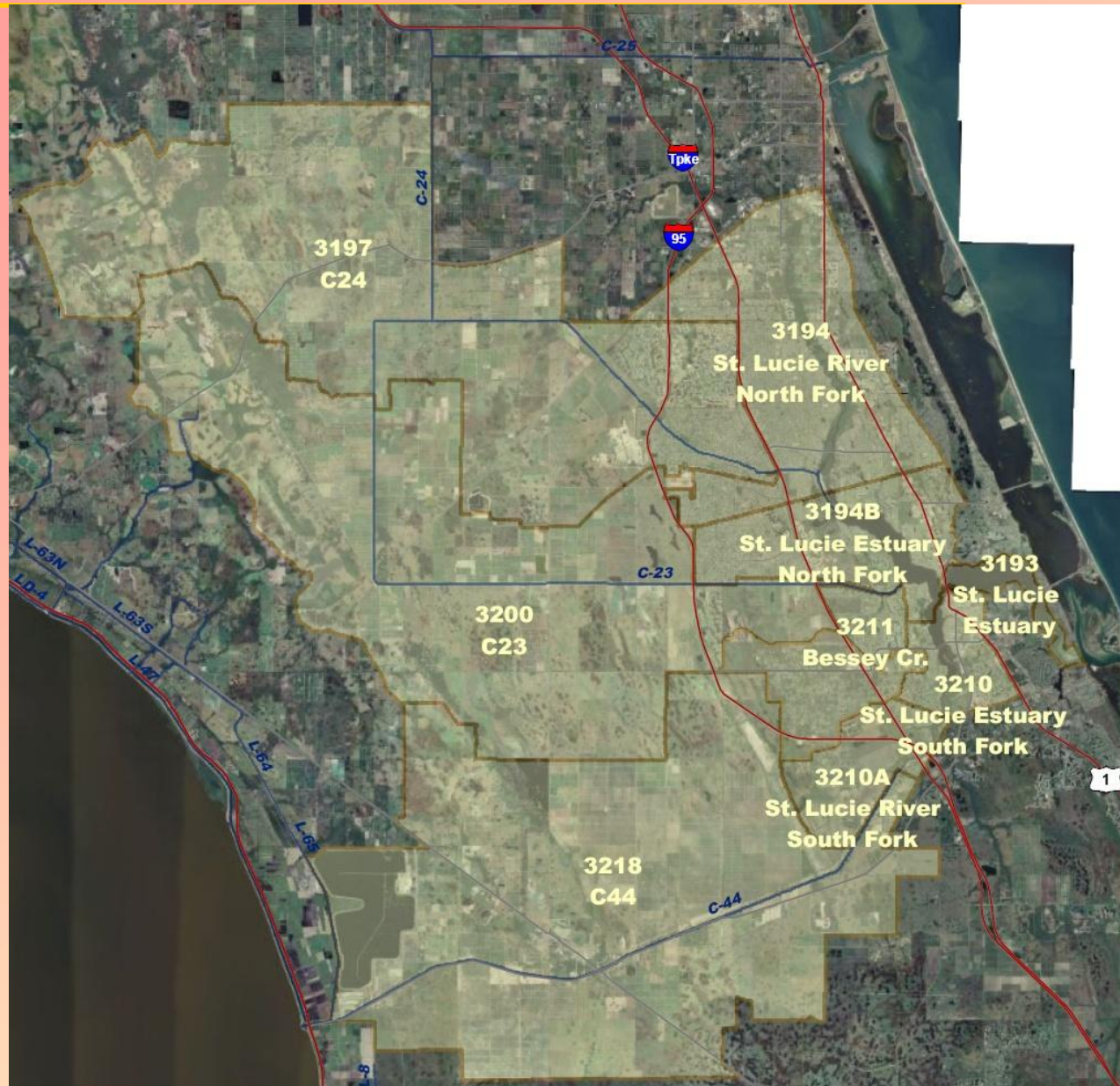
St. Lucie TMDL

- Estuary, river, & canal impairments
- Parameters include TN, TP, & BOD
- TMDL adopted March 26, 2009
- Available:
http://www.dep.state.fl.us/water/tmdl/final_tmdl.htm



Photo: SFWMD

St. Lucie TMDL: WBIDs



St. Lucie TMDL: **Targets** (Section 5.1)

- Based on TN & TP targets identified in the 2004 IRL-S Plan for the St. Lucie Estuary at Roosevelt Bridge
- St. Lucie Estuary targets in the 2004 report were an extrapolation from targets for IRL proper (seagrass)
- For TMDL, confirmed validity of 2004 targets for current conditions:
 - ✓ Values are comparable to IRL PLRG.
 - ✓ Relationship between IRL water chemistry and SLE water chemistry remains similar (i.e. extrapolation from IRL to SLE remains valid).
 - ✓ Recalculation of IRL-S targets with current data & new methods resulted in similar values.
 - ✓ Comparable unimpaired estuaries in other parts of the state have similar values.

St. Lucie TMDL: Data (Section 5.3)

- Flow: Used WaSH model for flow calculations (values calculated at control structures, where applicable; otherwise calculated as difference between modeled flow at the upstream & downstream WBID boundary)
- TN, TP, & BOD data: FDEP IWR Database
- Period of record 1996-2005
- Flow and concentration averaged annually, then across period of record

St. Lucie TMDL: Method (Section 5.3)

- The same TN/TP target concentrations were applied to all impaired WBIDs (0.72 mg/L TN; 81 ug/L TP)
- Current flow used to convert to load for all WBIDs except estuary proper (remained as concentration)

Average Flow x Average Current Concentration =
Current Load

Average Flow x TMDL Target =
TMDL Load

(Current Load – TMDL Load) / Current Load =
% Reduction

St. Lucie TMDL: Lake Okeechobee

(Section 4.2.3)

- Lake Okeechobee incorporated with current flow but nutrients reduced to TMDL concentrations

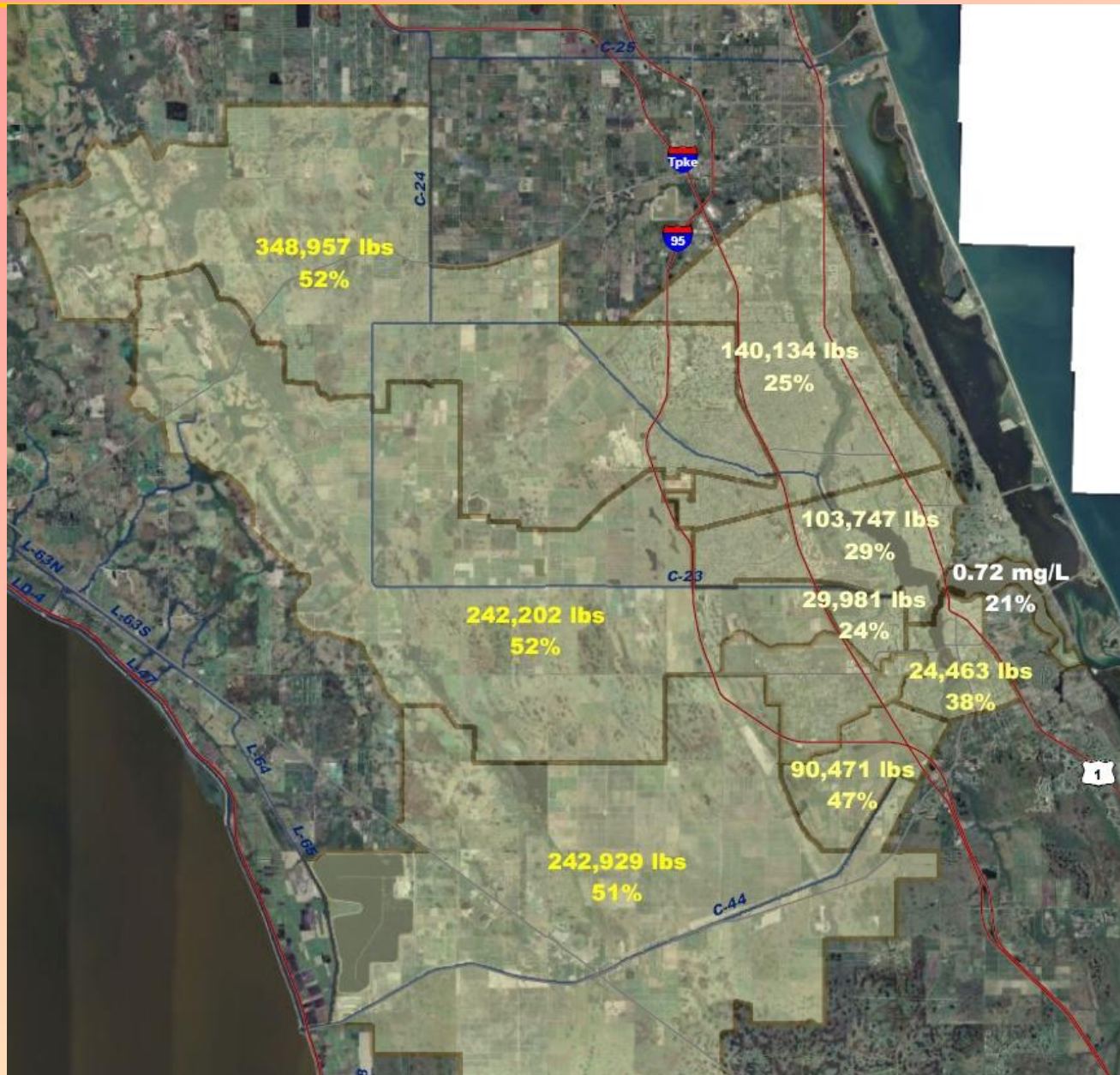
TP = 40 ug/L (TMDL Target)

TN = 1.4 mg/L (T. James, SFWMD)

- No specific “allocation” assigned to Lake Okeechobee
- C44 reductions apply to in-basin loads only
- This approach means local stakeholders are not held responsible for reductions needed to address effects of Lake O nutrient load on the estuary

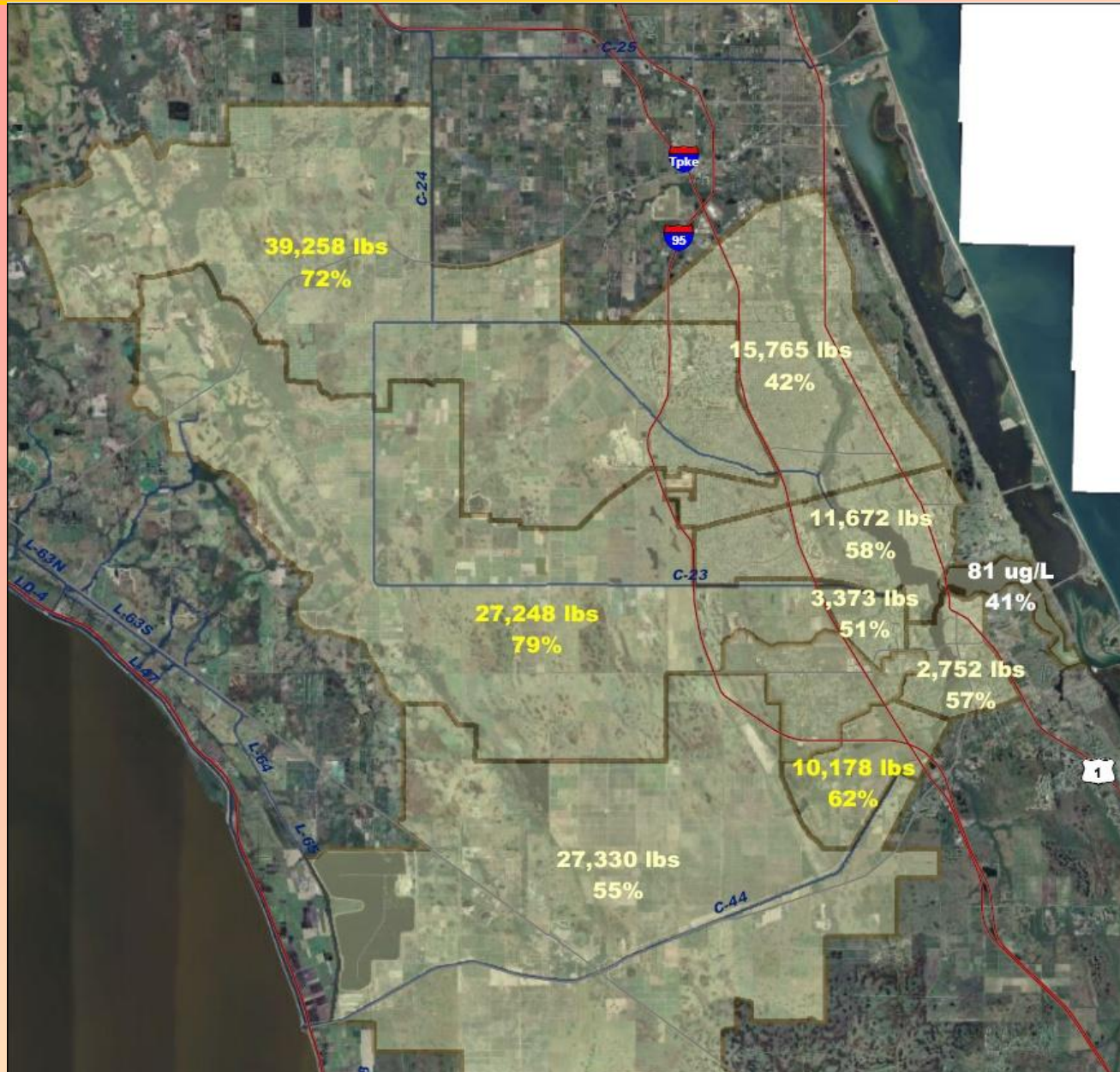
St. Lucie TMDL: TN Load & % Reductions

(Table 6.1)



St. Lucie TMDL: TP Load & % Reductions

(Table 6.1)



St. Lucie TMDL: Converting the TMDL into a BMAP

Parameters

- BOD TMDL set at the MDL (2.0 mg/L). Is this appropriate for implementation?

Spatial Issues

- Focus on reductions needed to meet target in the estuary
- Allows us to allocate by entity and implement cost-effective solutions instead of limiting projects geographically

Technical Issues

- May recalculate loads in the BMAP to achieve an equitable allocation