

# Recent and pending water quality regulations: implications for local governments in the Tampa Bay watershed

Holly Greening, Tampa Bay Estuary Program  
September 2010

# Importance of Water Quality Management

- Eutrophication (excess nutrients) common to many estuaries, streams and lakes in the US: low dissolved oxygen, loss of submerged aquatic vegetation, fish kills, algal mats
- Recent enhanced regulatory focus from state and federal: TMDLs, Tampa Bay Reasonable Assurance; Numeric Nutrient Criteria

# Recent and pending regulatory changes affecting Tampa Bay local governments

- Tampa Bay Reasonable Assurance
- Freshwater Total Maximum Daily Loads (TMDLs)
- Numeric Nutrient Criteria for freshwaters and saltwaters

# Tampa Bay

## Seagrass Restoration Goal: Nitrogen Management is Key



Difference between 1950 and  
1990 seagrass cover

**Seagrass  
Restoration Goal:  
Restore seagrass  
acreage to that  
observed in ~1950.**



# Tampa Bay Nitrogen Management Consortium

- Watershed government and regulatory agency participants, local phosphate companies, agricultural interests and electric utilities
- Formed in 1996
- Accepts responsibility for collectively meeting nitrogen load management goals.

# 250 projects implemented between 1996-2009

Improved  
fertilizer  
handling at  
ports



Reduced  
industrial and  
municipal  
nitrogen loading  
to the bay

Reduced  
atmospheric  
deposition from  
power plants

## Residential actions



Residential fertilizer  
restrictions/education



# Assess water quality annually: Historical chlorophyll-*a* compliance

AWT Standards take effect

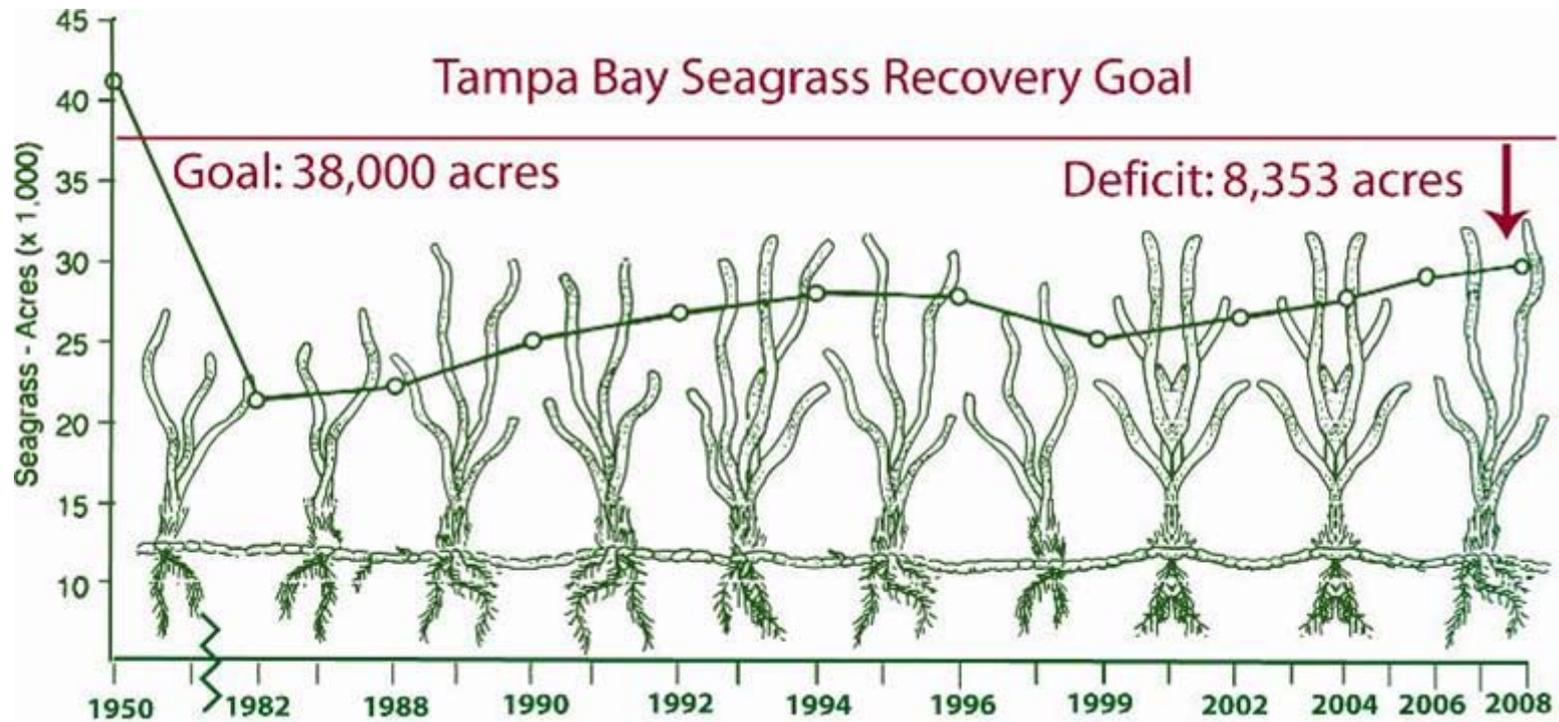
Stormwater regulations enacted

Consortium actions initiated

Since 1996, meeting water  
quality thresholds ~86% of  
the time

Year	Old Tampa Bay	Hills. Bay	Mid. Tampa Bay	Lower Tampa Bay
1974	No	No	No	Yes
1975	No	No	No	Yes
1976	No	No	No	Yes
1977	No	No	No	No
1978	No	No	No	Yes
1979	No	No	No	No
1980	No	No	No	No
1981	No	No	No	No
1982	No	No	No	No
1983	No	No	No	No
1984	Yes	Yes	No	Yes
1985	No	No	No	Yes
1986	No	No	Yes	Yes
1987	No	Yes	No	Yes
1988	Yes	Yes	Yes	Yes
1989	No	Yes	Yes	Yes
1990	No	Yes	Yes	Yes
1991	Yes	Yes	Yes	Yes
1992	Yes	Yes	Yes	Yes
1993	Yes	Yes	Yes	Yes
1994	No	No	No	No
1995	No	No	No	Yes
1996	Yes	Yes	Yes	Yes
1997	Yes	Yes	Yes	Yes
1998	No	No	No	No
1999	Yes	Yes	Yes	Yes
2000	Yes	Yes	Yes	Yes
2001	Yes	Yes	Yes	Yes
2002	Yes	Yes	Yes	Yes
2003	No	Yes	Yes	Yes
2004	No	Yes	Yes	Yes
2005	Yes	Yes	Yes	No
2006	Yes	Yes	Yes	Yes
2007	Yes	Yes	Yes	Yes
2008	Yes	Yes	Yes	Yes
2009	No	Yes	Yes	Yes

# Baywide Seagrass Coverage, 1950 - 2008



Data source: SWFWMD

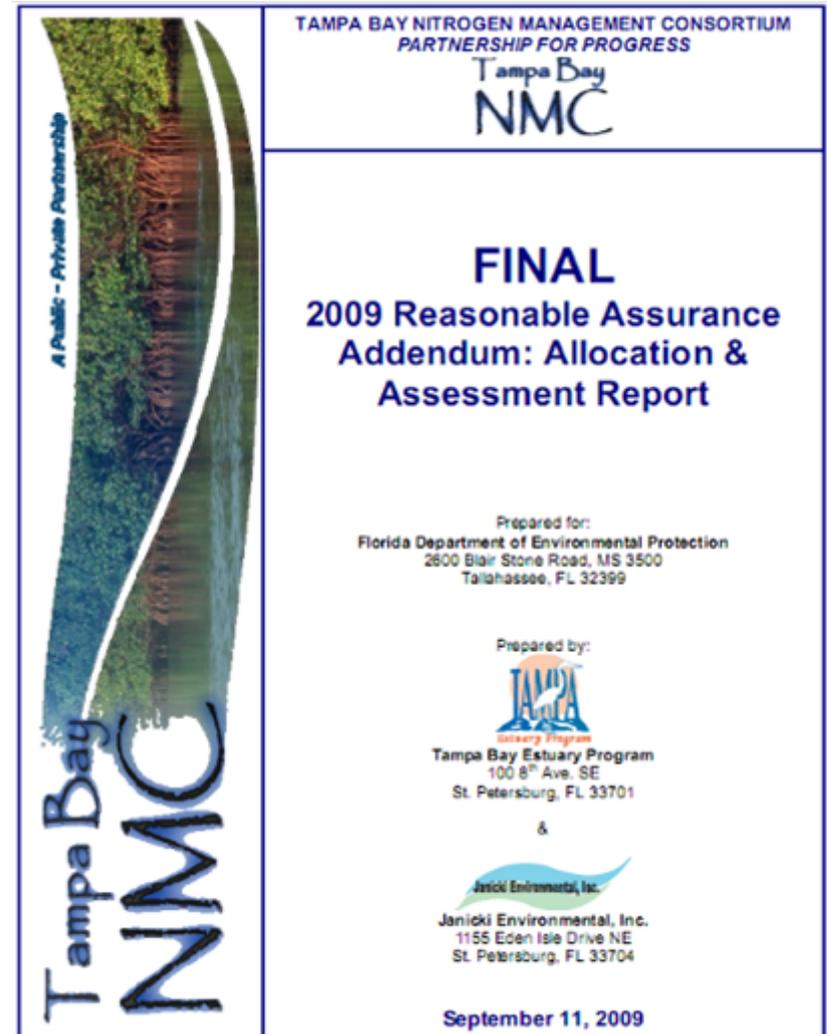
Since 1999, 4,800 acres increase- an average of more than 500 acres per year.

# EPA Region 4 TMDL Approval

- 1998- EPA Region 4 approves TN loads for 1992-1994 as TMDL for nitrogen for Tampa Bay.
- 2008- EPA stated that allocations would be incorporated into regulatory permits in 2010
- Allowed Consortium to collaboratively develop recommended allocations to all sources within the watershed

# Tampa Bay TMDL/RA

- 40+ public and private partners throughout watershed
- Consortium developed and agreed to limits on nitrogen loads for 189 sources in Sept. 2009
- Incorporation into permits ongoing



# Reasonable Assurance: Challenges Ahead

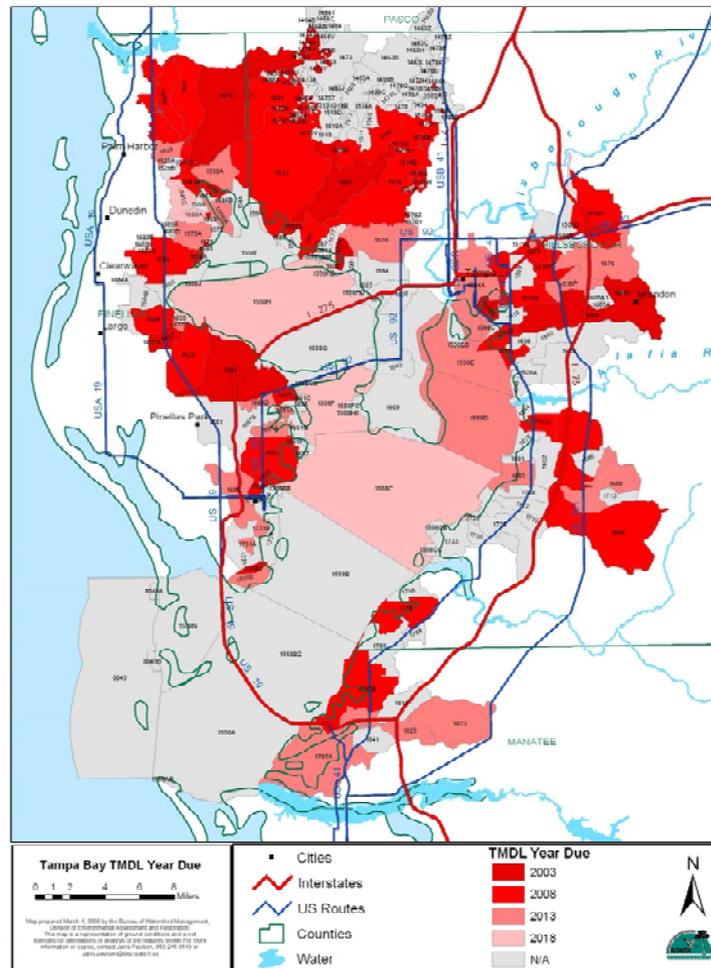
- Accepted allocation limits will result in wastewater plants & stormwater permits that are based on loading levels for 2003-2007
- New or expanded nitrogen sources associated with growth will have to show offsets to be permitted
- Offsets can include new N reduction actions or transfers between sources.

# Freshwater TMDLs- many freshwaters designated as impaired

## Group 1 Verified Impaired List Updated 2/29/08

- DO/Nutrient Impaired
  - ~32 Estuarine WBIDs
  - ~21 FW Stream WBIDs
  - ~16 FW Lakes WBIDs

WBID: WaterBody segment



# Status of watershed freshwater TMDLs

- FDEP issued freshwater TMDLs for Tampa Bay watershed in late 2009- required up to 80% nutrient load reductions
- Challenged by many local governments
- Administrative Law Judge allows local governments to prepare alternative plans by Sept 30, 2010, for consideration by FDEP.
- FDEP can adopt proposed alternatives or adopt original TMDLs.

# Numeric Nutrient Criteria (EPA)

- Separate and distinct from TMDLs
- Freshwater and saltwater
- Concentration of nutrients in waterways which fully support "designated uses"- swimming, fishing, living resources, water supply

# Status of Nutrient Criteria

- Freshwater criteria finalized Oct 2010
- Estuarine criteria draft due Oct 2011; finalized Aug 2012
- TBEP working with EPA and FDEP to ensure that Estuarine Nutrient Criteria are consistent with Reasonable Assurance and Bay TMDLs

# Implications for local governments

- Existing regulations will require *compensation* for any additional nutrient loading (changes in land use; new business discharges; increased nutrient discharges from wastewater or stormwater)
- Pending regulations may require *reductions* from existing loadings

# Conclusions

- Previous and ongoing actions have resulted in significant water quality and seagrass improvements
- Near term: compensation for new growth or discharges
- Longer term: permit limits may require more treatment:
  - ◆ Municipalities and counties
  - ◆ Private development
  - ◆ Industries

# TBEP-TBRPC Project: Integrating Nitrogen Management Goals with Planning Activities in Tampa Bay

- Inform planning depts, business and development groups of new regulatory requirements related to WQ standards
- Education and outreach materials; workshops; web-based tools
- Integration with other planning venues: Resilient Tampa Bay, TBARTA; One Bay Tampa Bay