

Integrating Nitrogen Management with Planning



NRLI 2012 PRACTICUM PRESENTATION
APRIL 12, 2012

LINDSAY CROSS
TAMPA BAY ESTUARY PROGRAM



Presentation overview

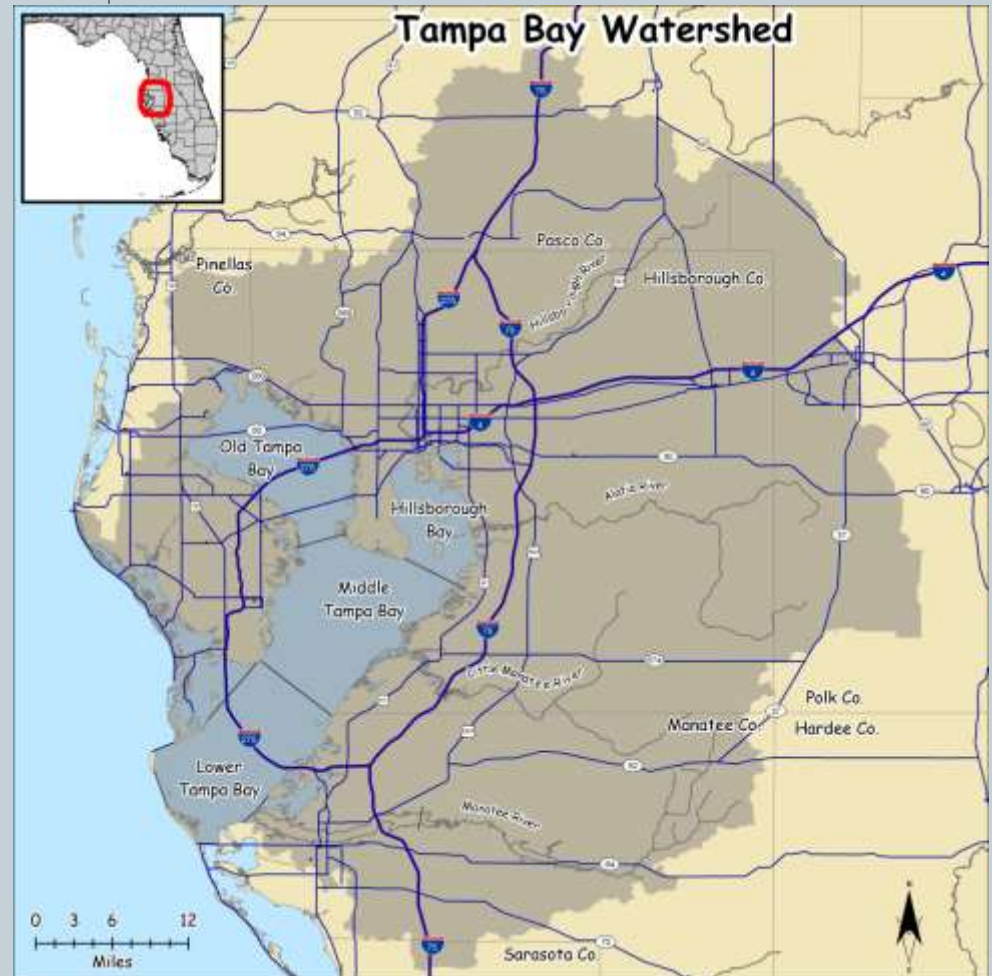


- Fast facts about Tampa Bay
- Tampa Bay nitrogen management strategy
- How NRLI fits in
- Practicum objectives
- Stakeholders and interests
- Process
- Progress
- Next steps and future work

Fast Facts about Tampa Bay

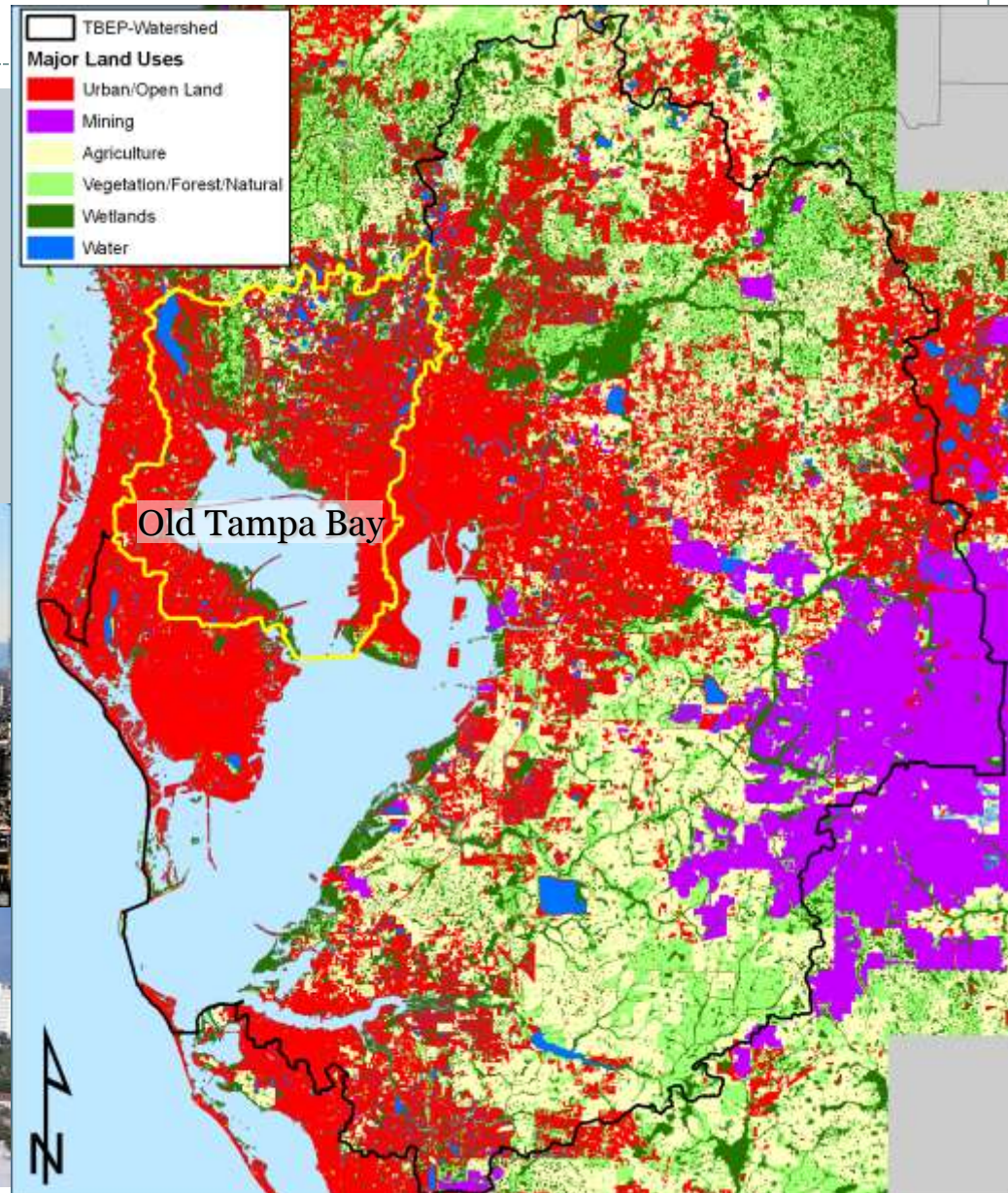


- Florida's largest open-water estuary
- Open water: 400 square miles
- Watershed: 2,600 square miles
- Average water depth: 12 feet
- Watershed population: 2.3 million
- Port of Tampa is a Top 10 US Port



A watershed of many uses

- Urban
- Agriculture
- Mining
- Natural areas



The way it was: the “bad old days”



- Half of Tampa Bay seagrasses lost by 1982
- Half of Tampa Bay’s natural shoreline altered
- 40% of tidal marshes destroyed
- White ibis populations plummeted by 70%
- Visibility reduced to 2 feet in Hillsborough Bay
- Fish kills common



What caused the bay's decline?



- Poorly treated sewage
- Unrestricted dredging and filling
- Untreated stormwater runoff and industrial discharges



Common pollutant:
NITROGEN!

A “poster child” for polluted waters



- “60 Minutes” segment brought national attention
- Citizens demanded action!
- Earth Day 1970
- Save Our Bay formed
- In 1978, State legislation (Grizzle-Figg Act) required upgrades to all wastewater treatment plants
 - Tampa upgraded sewage plant
 - St. Petersburg went to reuse



The turnaround begins...



- 90% reduction in Nitrogen from wastewater plants discharging to the bay
- Seagrasses begin to reappear
- Development of Agency on Bay Management and Tampa Bay National Estuary Program

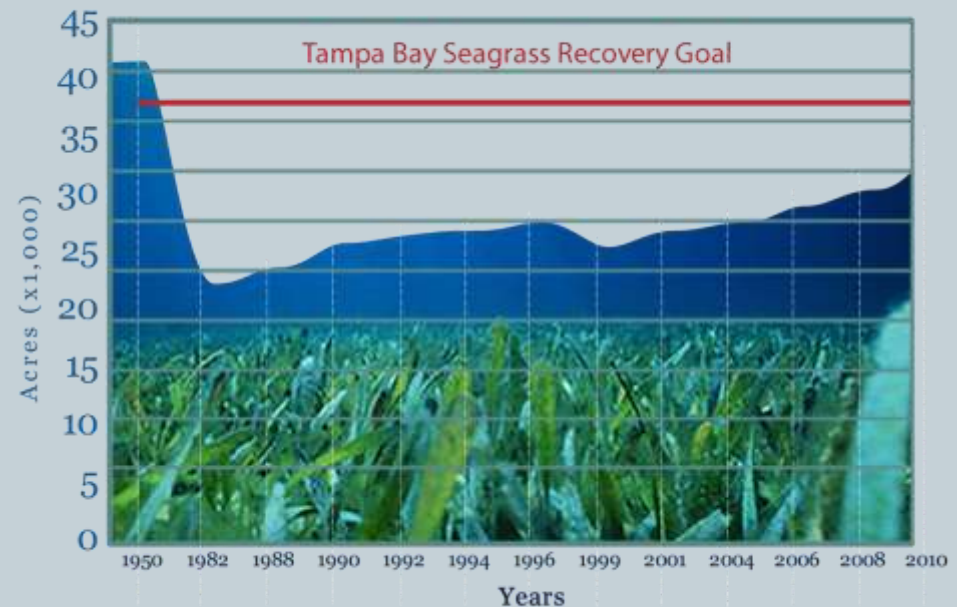


Water quality and seagrass coverage improves!



- Water quality goals met in most bay segments in recent years
- Seagrass at highest recorded acreage since 1950
- Nitrogen loading decreased by more than half
 - Shift from point sources to non-point sources

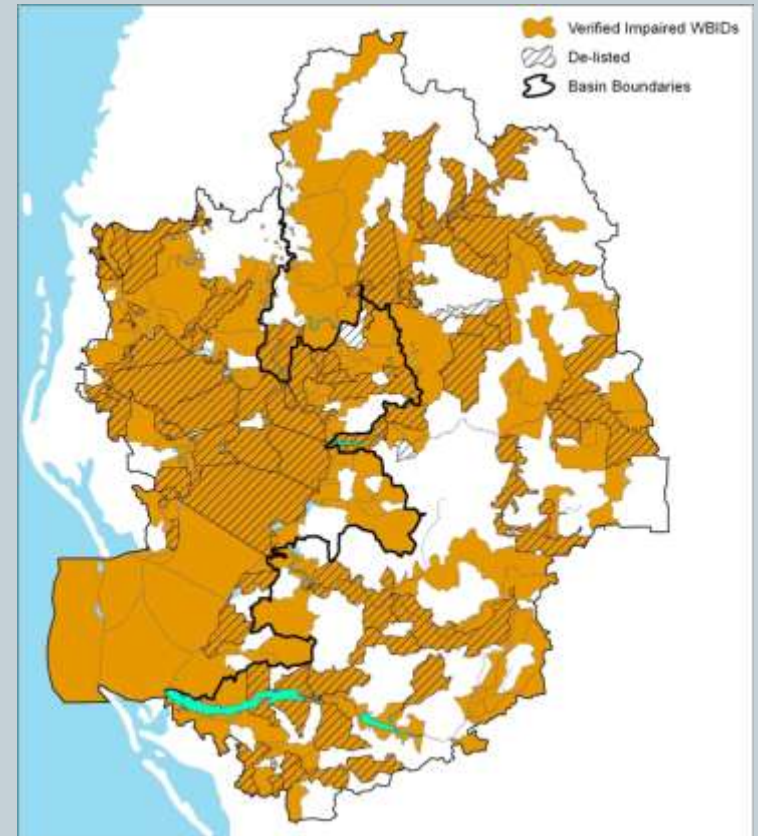
TAMPA BAY SEAGRASS ACREAGE ESTIMATES



But the hard work continues



- Tampa Bay listed as “impaired” for nutrients
 - Nutrient Total Maximum Daily Load (TMDL) issued
- Tampa Bay Nitrogen Management Consortium (NMC) cooperatively develops nitrogen load allocations for all members/dischargers



Tampa Bay
NMC

“Hold the line” strategy: what does it mean?



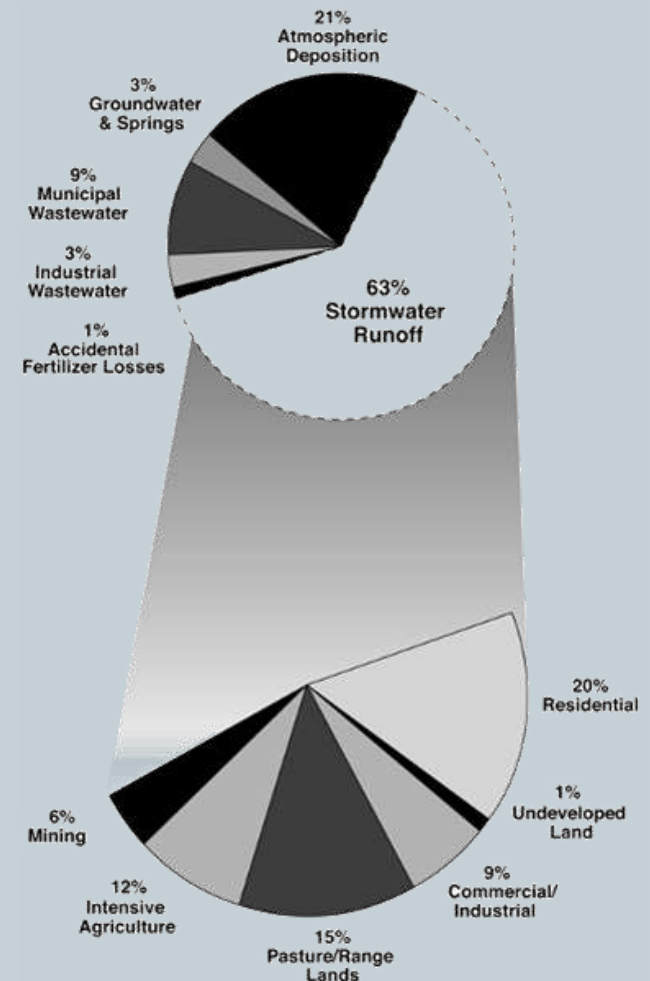
- Tampa Bay currently meeting water quality goals, BUT
- **NO NEW NITROGEN** inputs allowed
- (And 2 million additional people expected within 50 years!)



How can we grow but protect Tampa Bay?



- New nitrogen inputs will need to be OFFSET by nitrogen reduction projects
- Examples:
 - Stormwater treatment ponds
 - Reductions in air pollution
 - Improvements at industrial facilities
 - Agricultural Best Management Practices (BMPs)



Burden will fall heavily on new development



- **Municipalities:**
 - Upgrades to wastewater treatment plants and stormwater systems
- **Developers:**
 - **Green infrastructure**
- **Planners:**
 - Local codes to allow new techniques
- **Policy makers:**
 - Revised permitting processes
- **Citizens:**
 - Must demand “greener” building techniques



inspirationgarden.com



sciotgardens.com

How NRLI fits in



- Opportunity to engage diverse stakeholders
- Apply consensus-building techniques
- Look for interests, not just positions
- Include everyone at the beginning for better stakeholder buy-in of potential solutions

Practicum Objectives



- **Educate** planners, policy makers and developers (stakeholders) within Tampa Bay region about nitrogen management regulations
- **Engage** stakeholders in developing appropriate implementation strategies for future development and re-development
- **Create** an inclusive process to gather input on opportunities and hurdles

NRLI skills: used and anticipated



Conceptual/Analytical Tools	Physical/Material/Process Tools
Understanding sources of conflict	Flip charts
Values, perceptions, interest	Small group discussion
Stakeholder analysis	Advisory committee
Situation assessment	Models, mapping
Field trip	Agenda design
Circle of conflict	Room arrangement
Triangle of satisfaction	Food and beverage

Stakeholder	Position	Interests	Power	Context	Other
Tampa Bay Regional Planning Council	Promote a high-quality region.	Substantive: develop and sustain partnerships Procedural: neutral, convening body	Moderate: Local comprehensive (comp) plans must be consistent with Strategic Regional Planning Policy.	Gov't body that convenes regional partners to address issues that impact Tampa Bay and its citizens.	Agency convening the meetings
Florida Dept. of Environmental Protection	Mandated to protect environmental quality in FL	Substantive: Improving water quality in "impaired" water bodies through TMDLs, etc.	High: Abe write and enforce NPDES permits. Some experience working on collaborative solutions (e.g., BMAPs)	Delegated authority to promulgate water quality standards from US EPA.	Current administration has emphasis on job creation, which may lead to more lax environmental regulations
Members of NMC (e.g., Pinellas County, City of Tampa)	Have NPDES permits and must meet TMDLs. Also want to maintain or increase revenues	Substantive: Meet TMDL and permit requirements. Bay protection. Procedural: Must treat entities fairly.	Moderate: Flexibility to meet load reductions in multiple ways. All NMC members will face penalties if standards not met	Each NMC operating under its own NPDES permit(s) but are collectively responsible for bay improvement.	Undeveloped areas may face stricter standards than already developed areas.
Local Planners	Need clear guidance on comp plans. Want livable communities.	Substantive: New requirements shouldn't create unnecessary burden. Procedural: Need tools to work with developers.	Moderate: Write and implement comp plans but at mercy of development review boards and elected officials to approve.	Each community has different vision for the future. Nitrogen strategies must be tailored to meet those goals, e.g., rural vs. urban.	
Developers	No new regulations/requirements.	Primarily economic.	High: If req. too high, may develop in other areas of the state.	May use "green" techniques if they help the bottom line.	

Process



- **A:** Meetings with project team: ID objectives, stakeholder assessment, develop meeting agendas (Winter 2012)
- **B:** 1st Stakeholder workshop: introduce objectives and implications, begin brainstorming (Feb 1, 2012)
- **C:** 2nd Stakeholder workshop: focus on development community (April 2012)
- **D:** 3rd Stakeholder workshop: focus on comprehensive plan language (July 2012)
- **E:** 4th Stakeholder workshop (if needed)
- **F:** Develop work products: web-based, GIS tools, guidebooks (Summer/Fall 2012)



Progress to Date:



- Stakeholder meeting:
February 1, 2012
 - 50 attendees from development, stormwater and planning departments
 - Discussion items:
 - ✦ Nitrogen management policies and practices which would work best in each community;
 - ✦ The hurdles to putting these policies and practices into place; and
 - ✦ The tools needed (draft language, successful examples, data ...)



EPA Green Infrastructure Program



- EPA assistance for green infrastructure
- *a qualitative assessment of barriers posed by local codes and permitting processes to green infrastructure approaches*
- Hillsborough County as applicant
 - 1.5 million people
 - City of Tampa, Plant City, Temple Terrace
 - Mix of land uses: industrial, residential, agricultural, mining
- Project team will ensure transferability to Tampa Bay region



Long-term project goal is a healthier Tampa Bay



Bryon Chamberlin

Thanks!



Questions:

lcross@tbep.org

(727) 893-2765

