



*Florida Department of
Environmental Protection*

North Indian River Lagoon Basin Management Action Plan

Briefing to the City of Titusville City Council

October 9, 2012

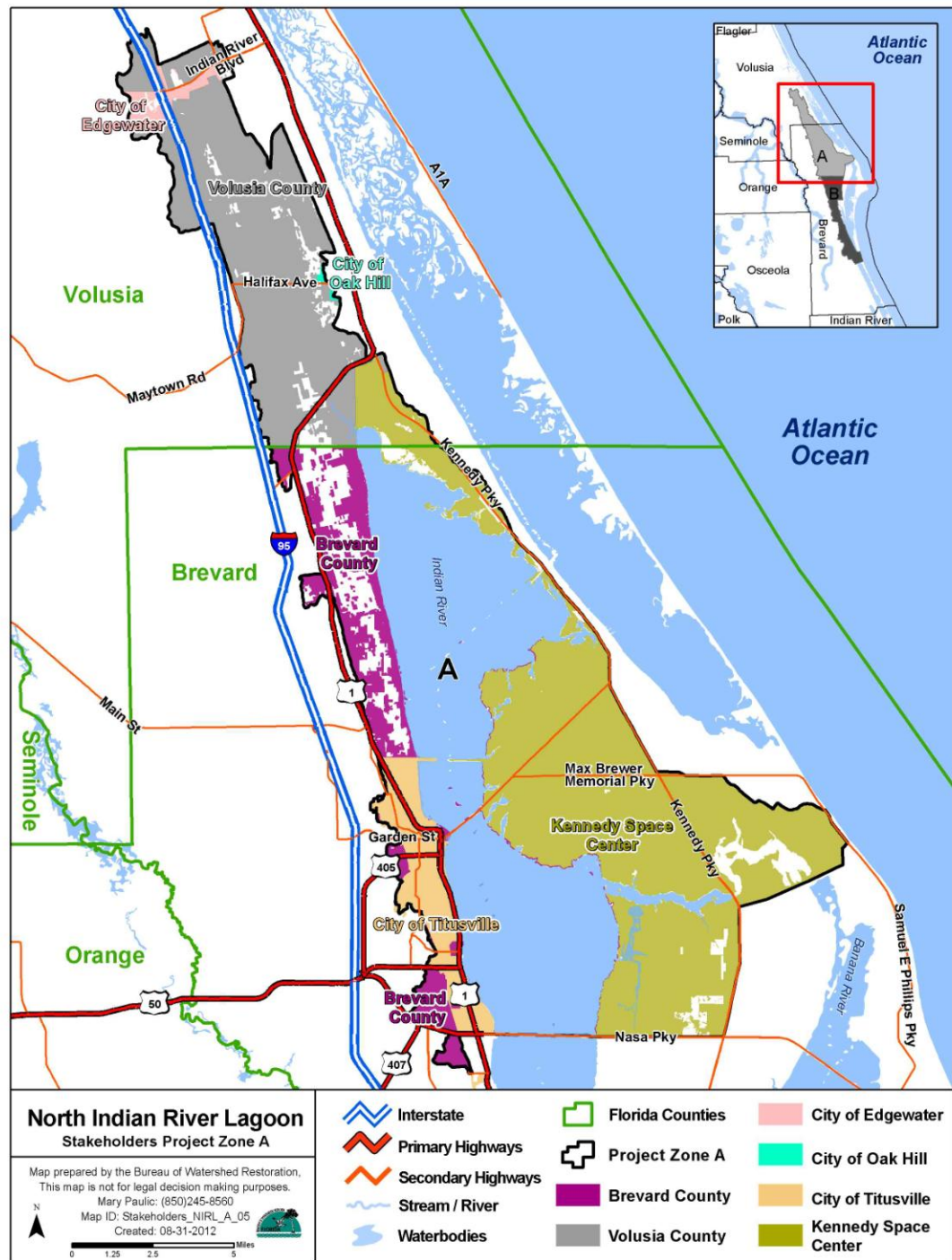


North Indian River Lagoon (IRL) Subbasin

- Listed as impaired due to seagrass loss in the lagoon compared to historical depths. Nutrient loadings identified as cause.
- FDEP adopted total maximum daily loads (TMDLs) in March 2009 that require reductions of total nitrogen (TN) and total phosphorus (TP).
- Basin Management Action Plan (BMAP) addresses TMDL and meetings with stakeholders began in June 2009.



- The North IRL subbasin extends from Turnbull Creek to the Melbourne Causeway (U.S. 192).
- 2 project zones – Titusville is mainly in North A, with a small portion in North B.





North IRL Seagrass Evaluation

- As part of the BMAP process, FDEP evaluated the seagrass depths based on newer data than provided for the TMDLs.
 - These data were collected in 2003, 2005, 2006, 2007, and 2009.
- The North IRL is not meeting seagrass depth targets for 2003-2007 and 2005-2009.
- Therefore, 15% nutrient reductions are required for all stakeholders in this sub-basin .
- The City of Titusville has met its required reduction for the next five years.





North IRL Seagrass Evaluation, con't

- Before the next BMAP iteration (in 2017) seagrass growth will be reevaluated. (2007-2013)
- However, additional reductions will be required in the second and possibly third 5-year BMAP cycle.
 - The recent algal blooms indicate that water quality problems still exist, while the science is underway to understand what caused this algal bloom.
 - *Even without algal blooms depth targets were not met.
- Long-term capital improvement programs, utility fees, and maintenance activities need additional planning time.
- Additional projects will take more effort since this BMAP accounts for existing policies and eligible projects completed since 2000.





City of Titusville Projects

- The City met its required reductions for the first five year cycle with projects that are completed, ongoing, or planned within the next 5 years including:
 - **Education and outreach** efforts;
 - **Street sweeping** in the North IRL subbasin;
 - **Wet detention ponds** - Area 1, Chain of Lakes, Draa Field, and St. Johns Basin (Senior Center Ponds);
 - **Baffle box** as part of the St. Johns Basin stormwater improvements; and
 - **Alum treatment** at Spaceview Park.





BMAP Compliance

- When adopted, the BMAP becomes the compliance schedule for nutrient load reductions.
- The project list is flexible and can be amended through the annual reporting process.
 - However, the compliance schedule is not.
- BMAP compliance is linked to the municipal separate storm sewer system (MS4) permit and the permit penalties for noncompliance.





Importance of Seagrass in the IRL

- Seagrass are an important part of the lagoon's ecology; foundation of food web for many of the animals that live in the lagoon.
- Based on a study for the IRL National Estuary Program, seagrass value was estimated as \$329 million (for 72,400 acres in 2007).
- The IRL is a valuable economic, recreational, and ecological asset for state and local governments.
 - Therefore, improvements in water quality and seagrass are not only environmentally important but economically important as well.





Economic Value

- The IRL provided over \$3 billion in benefits to residents and visitors for 2007.
- This is broken out to the county level as:

County	Value
Volusia	\$658,000,000
Brevard	\$1,251,360,000
Indian River	\$438,342,000
St. Lucie	\$545,041,000
Martin	\$370,240,000



Source: Hazen & Sawyer, 2008, *"Indian River Lagoon Economic Assessment and Analysis Update"*



First 5 Years of the BMAP

- At least one annual meeting will be held to track the status of projects.
- For Titusville, the projects that require completion include the Senior Center wet detention ponds, Draa Field, and continuation of public outreach and street sweeping activities.
- A monitoring plan will be implemented to measure water quality and seagrass.
 - New seagrass data will be collected in 2013 and 2015.
- The city is encouraged to apply for grants for water quality improvement projects :
 - 319 grants; and
 - TMDL water quality restoration grants.





BMAP Comments, continued

- Commitment by Titusville to complete projects proposed in BMAP.
 - 15% reduction will be met.
 - FDEP is aware of the uncertainties in the modeling but this approach allows for some reductions to occur while studies are underway to better understand the basin.
- The BMAP should be adopted by FDEP in early 2013.





Comments on the Draft North IRL BMAP

- Comments are welcome on the draft BMAP document and can be submitted through December 7, 2012.
- The BMAP is available on FDEP's website at: http://publicfiles.dep.state.fl.us/DEAR/BMAP/IndianRiverLagoon/BMAP_Documents/North_BMAP/.
 - Local projects are outlined in Appendix E.
- FDEP is holding a series of briefing and public meetings on the BMAP to obtain comments.





FDEP Contacts

- To submit questions or comments on the BMAP, please contact:
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Questions and Comments

