



*Florida Department of
Environmental Protection*

Indian River Lagoon Basin Management Action Plans

Briefing to the Brevard County Board of County
Commissioners

November 13, 2012



Indian River Lagoon (IRL) Basin

- 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 to reduce total nitrogen (TN) and total phosphorus (TP).
- Basin Management Action Plan (BMAP) meetings with stakeholders began in June 2009.





2011 and 2012 Algal Blooms

- In 2011, the algal “superbloom” occurred in the North IRL and Banana River Lagoon, with a separate bloom affecting part of Central IRL.
- Research is still underway to understand the causes of these blooms.
 - Appears to be due, in part, to legacy loads in the lagoon.
 - FDEP is assigning BMAP credit for removal of these legacy loads.
 - Impact to seagrass depths currently unknown.





2011 and 2012 Algal Blooms, continued

- Currently, there is a brown algae bloom affecting much of the IRL and Banana River Lagoon.
- The agencies are working together to determine the cause of this bloom.
- The first iteration of the BMAPs identifies nutrient load reduction projects that might mitigate typical bloom conditions.
- When better information on the causes of the blooms and impacts to seagrass is available, the BMAP can be revised.





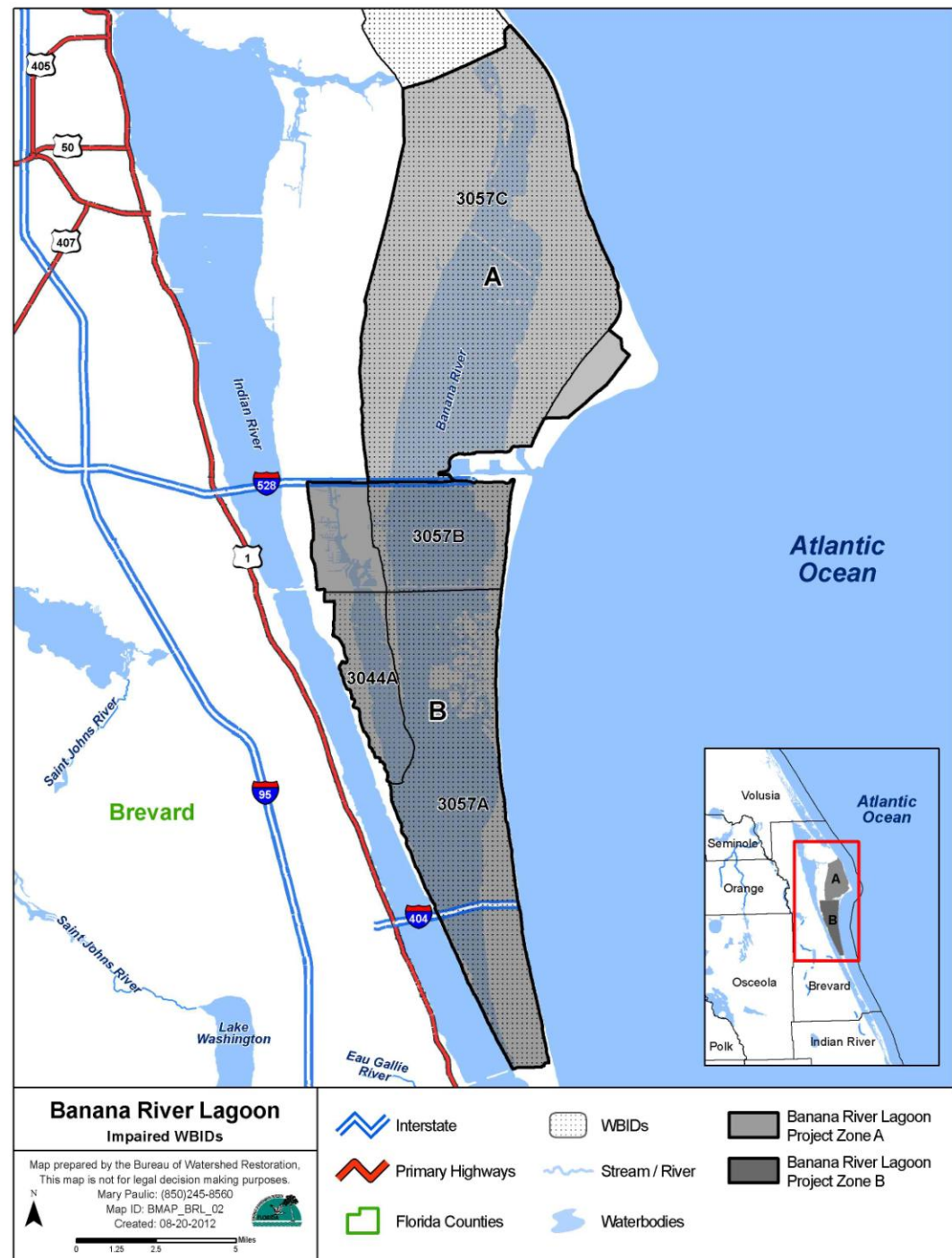
BMAP Approach

- Due to the large extent of the IRL Basin, separate BMAPs were prepared for the following subbasins:
 - Banana River Lagoon;
 - North IRL; and
 - Central IRL.
- Each BMAP addresses the TMDLs for that subbasin to achieve seagrass depth targets.

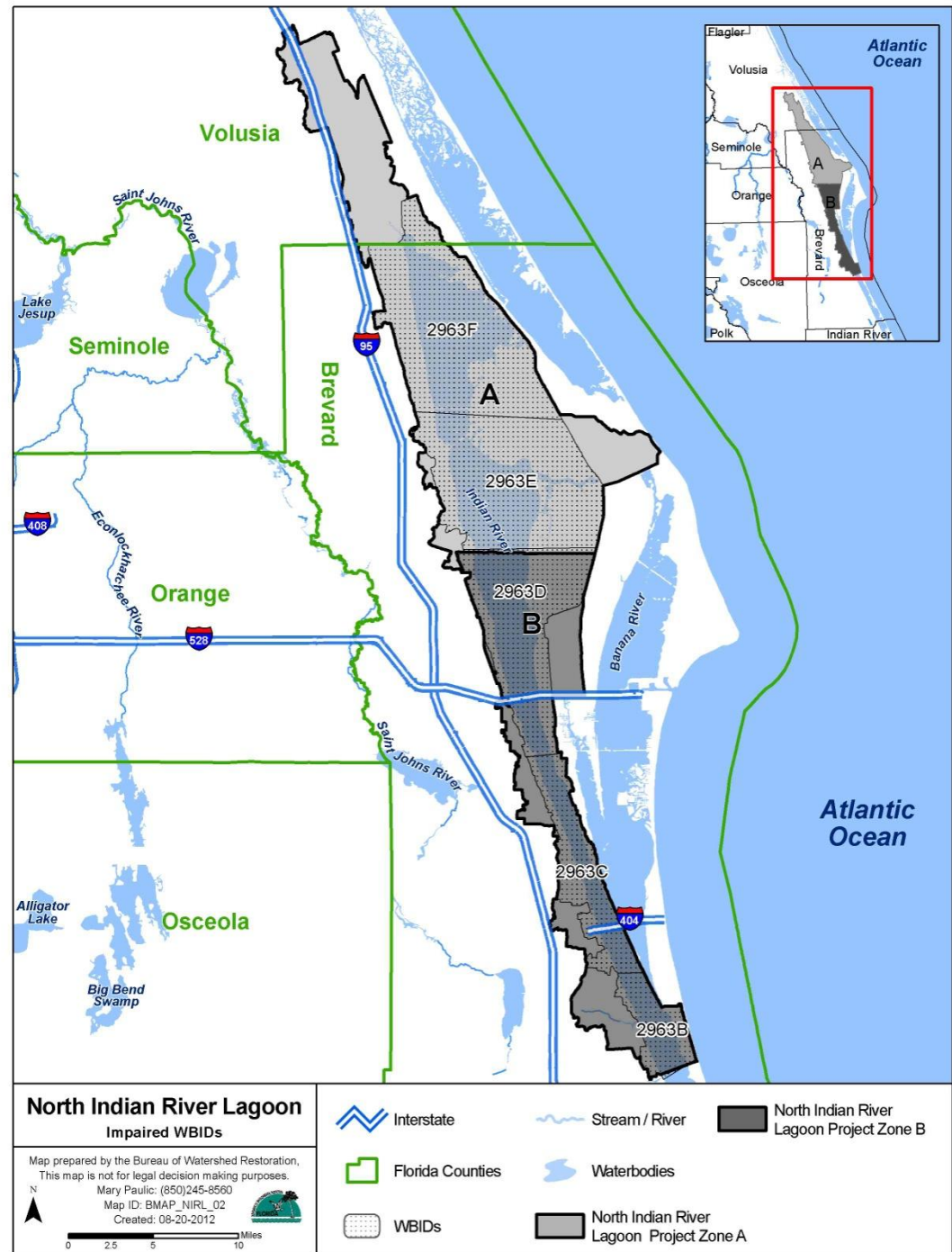




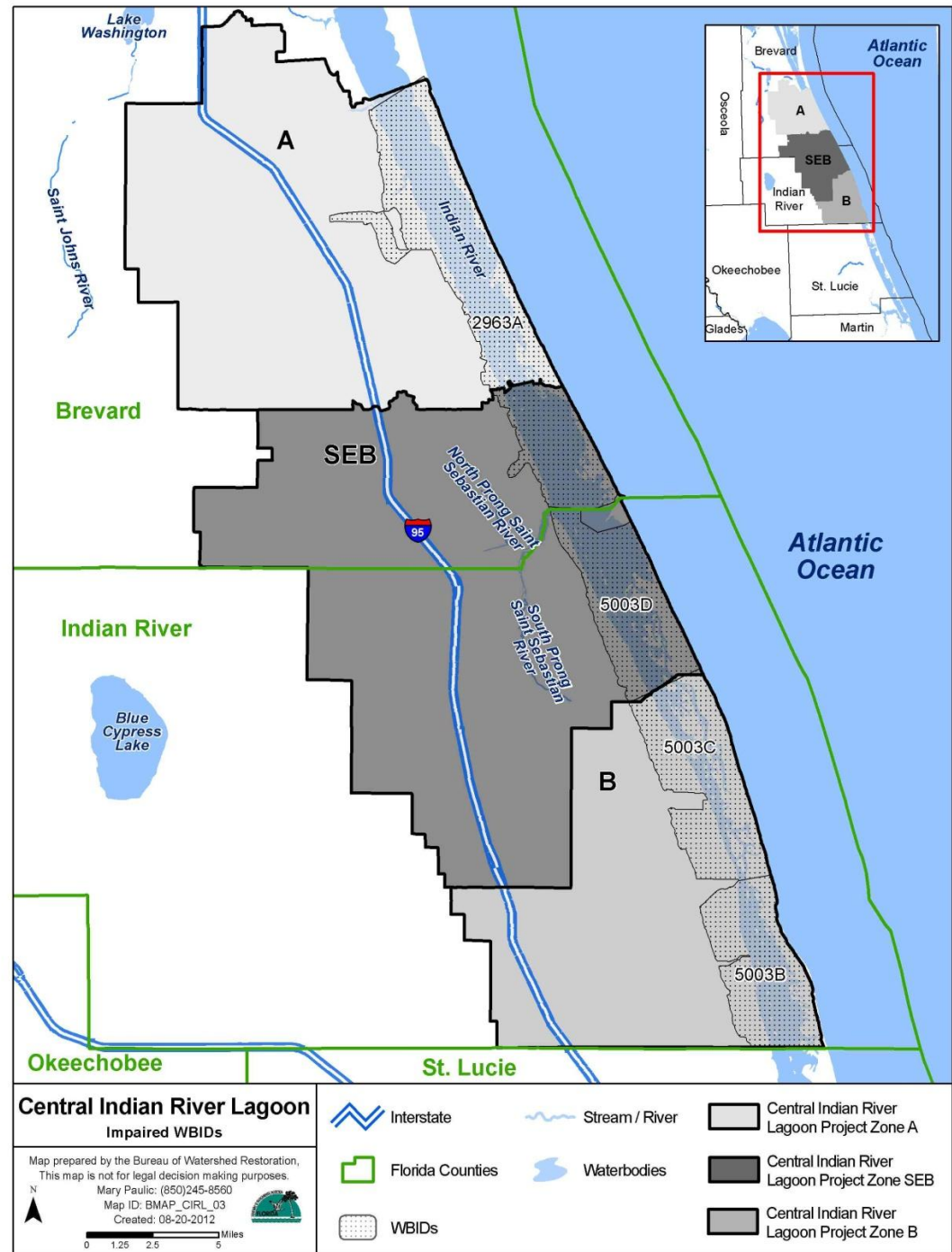
- The BRL subbasin includes the entire BRL watershed.
- 2 project zones – Brevard County is located in both zones.



- The North IRL subbasin extends from Turnbull Creek to the Melbourne Causeway (U.S. 192).
- 2 project zones – Brevard County is located in both zones.



- The Central IRL subbasin extends from the Melbourne Causeway (U.S. 192) to the boundary between Indian River County and St. Lucie County.
- 3 project zones – Brevard County is located in Central A and SEB.





Seagrass Evaluation

- As part of the BMAP process, FDEP evaluated the seagrass depths based on newer data than were used for establishing the TMDLs.
- For the periods of 2003-2007 and 2005-2009:
 - The Central IRL is meeting seagrass depth targets;
 - The BRL A project zone (northern) is meeting targets;
 - The BRL B project zone (southern) is not meeting targets; and
 - The entire North IRL subbasin is not meeting targets.





Seagrass Evaluation, con't

- Over the coming years, seagrass depths will be reevaluated in all three subbasins.
- The recent algal blooms indicate that water quality problems still exist, and the science is underway to understand what caused these blooms.
- Nutrient load reductions will be required in the second BMAP cycle based on available seagrass data.
 - Additional projects will be needed in at least the North IRL and BRL B project zones.
- Long-term capital improvement programs, utility fees, and maintenance activities should be planned accordingly.
- Additional projects will take more effort since the BMAPs account for existing policies and eligible projects completed since 2000.





Brevard County Projects

- For the BRL BMAP, the County will meet its required reductions for the first five year BMAP cycle with projects that are completed, ongoing, or planned within the next 5 years.
- For the North IRL BMAP, the County will meet its required reductions for the first BMAP cycle and have credits towards the second BMAP cycle using projects that are completed, ongoing, or planned within the next 5 years.
- The County also submitted projects for the Central IRL BMAP, although reductions were not required in this first BMAP cycle.





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.





First 5 Years of the BMAPs

- At least one annual meeting will be held for each BMAP to track the status of projects.
- Monitoring plans to measure water quality success and ensure continued seagrass restoration are included in each BMAP. New seagrass data will be collected in 2013.
- The county is encouraged to apply for grants for water quality improvement projects:
 - 319 grants; and
 - TMDL water quality restoration grants.
- Agriculture will implement best management practices (BMPs) – largely citrus and pasture in the North IRL and Central IRL subbasins.





Comments on the Draft BMAPs

- The BMAPs are available on FDEP's website at:
http://publicfiles.dep.state.fl.us/DEAR/BMAP/IndianRiverLagoon/BMAP_Documents/.
 - Local projects are outlined in Appendix E of each BMAP.
- Comments are welcome on the draft BMAPs and can be submitted through December 7, 2012.
- The BMAPs will be adopted by FDEP in early 2013.





BMAP Comments, continued

- Commitment by the County to complete projects proposed in the BMAPs.
 - 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.





FDEP Contacts

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