

# Lower St. Johns River Tributaries Fecal Coliform

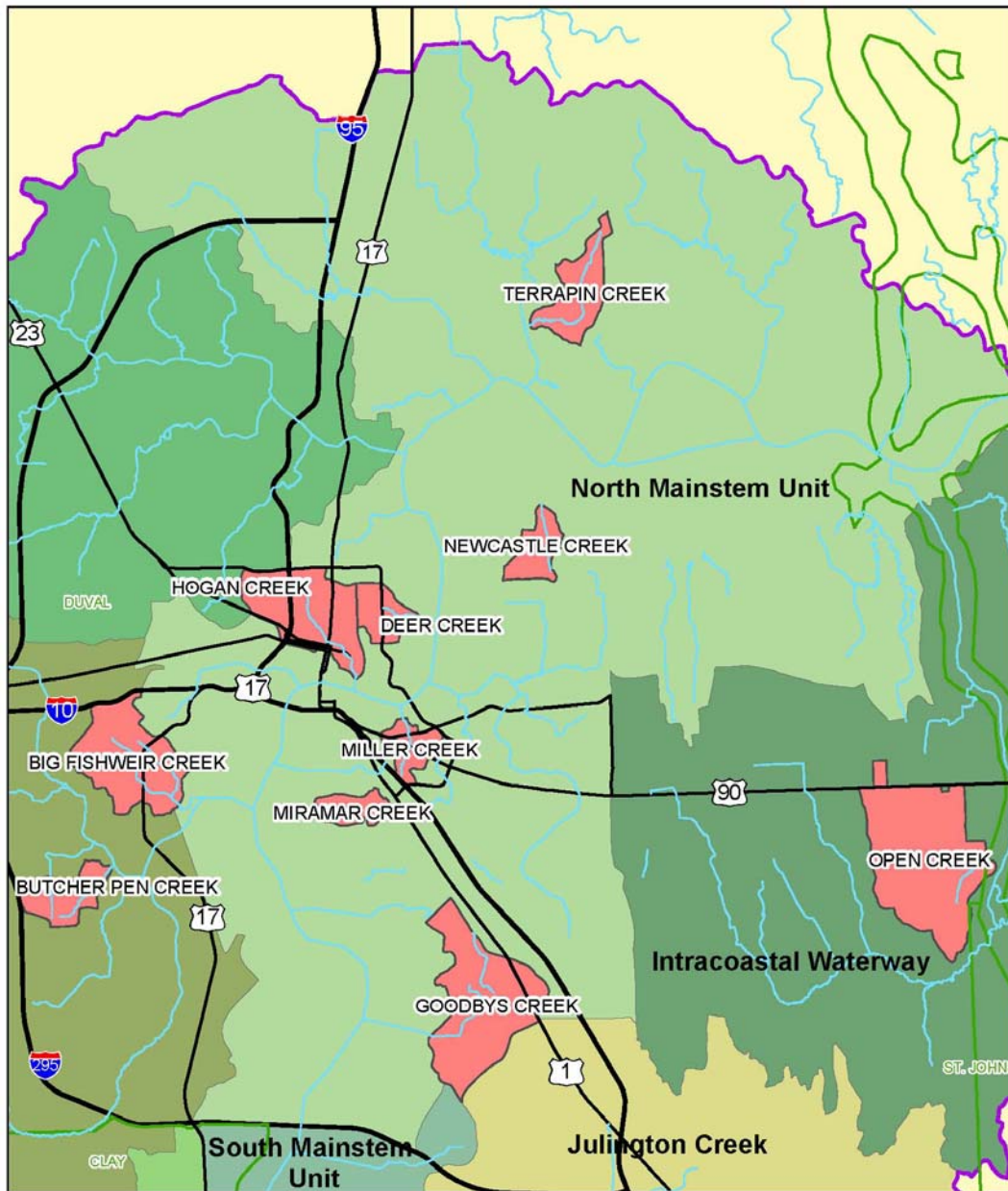
## Basin Management Action Plan

### Jacksonville Environmental Symposium



# WBIDs Addressed in This BMAP


- This BMAP includes 10 of the 75 (cycle 2) fecal coliform impaired tributaries in the Lower St. Johns River Basin.
- These initial 10 tributaries were identified as the worst-case WBIDs, based on a ranking method establishing the severity of bacterial contamination.



**Lower St. Johns**



Florida Department of Environmental Protection, April 27, 2009  
 Not intended for legal decision making purposes.  
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-  Rivers
-  WBIDs
-  FDOT US Routes
-  Lower St. Johns Basin
-  Interstates
-  County Boundaries

# TMDLs Addressed in BMAP

WBID	WBID Name	Waterbody Type	Wasteload Allocation		Load Allocation
			Wastewater* (colonies/day)	NPDES Stormwater	
2235	Newcastle Creek	Stream	N/A	84%	84%
2252	Hogan Creek	Stream	200	92%	92%
2322	Butcher Pen Creek	Stream	Meet permit limits	83%	83%
2287	Miller Creek	Stream	N/A	92%	92%
2304	Miramar Creek	Stream	N/A	92%	92%
2280	Big Fishweir Creek	Stream	N/A	87%	87%
2256	Deer Creek	Stream	N/A	86%	86%
2204	Terrapin Creek	Stream	N/A	71%	71%
2326	Goodbys Creek	Stream	N/A	87%	87%
2299	Open Creek	Stream	N/A	60%	60%

# Stakeholders

## Technical Participants

- City of Jacksonville (COJ)
  - Environmental Quality Division (EQD)
  - COJ Public Works Department (PWD)
- Duval County Health Department (DCHD)
- FDOT District 2
- JEA (the regional utility provider)
- FDEP

# Sources of Fecal Coliform

- Sewer infrastructure
- Septic tanks
- Stormwater conveyances
- Pets
- Wildlife

# The Sufficiency of Effort Approach

- Tributary fecal coliform TMDLs are expressed as a percent reduction based upon in-stream concentrations.
- The Department could not allocate to the entities to reduce fecal coliforms by number of colony forming units and were struggling to “level the playing field.”
- There are nearly no data that show the efficiency of stormwater BMPs and management actions in removing or reducing fecal coliforms.
- We have non-quantifiable TMDLs with non-quantifiable management actions that need to be translated into a BMAP.

# How Sufficiency was Evaluated

- Sufficiency of effort was evaluated by *sources* (not by entity).
- Based on the identified potential sources.
- Entities compiled activities implemented since 1996 and provided current projects and projects planned in the next five years.
- FDEP compared the activities to the most likely sources in each WBID.



# BMAP Projects Overview

- Due to “Walk the WBID” and intensive assessment efforts, some follow-up activities were added to the project tables for stormwater and sewer.
- Due to differences in reporting at various geographic scales at the time of project tables, the Department requested some additional inspection and verifications of lift station locations.
- It is expected that through full implementation of the projects and activities as outlined in this BMAP, the TMDLs will be achieved. Through ongoing studies, the BMAP milestone evaluation and the annual & 5 year review we will be able to identify and address any additional sources that occur.

# OSTDS BMAP Considerations

- COJ is considering a review of their septic tank ordinance for potential modifications that could increase considerations for water quality impairments and cost-effective sewer expansion in addition to addressing public health concerns.
- This review could include reevaluating the criteria used to rank the septic tank failure areas to incorporate a greater focus on water quality and potentially increasing the sewerage requirements in highly impaired basins.
- Modification of the ordinance would enable COJ to more accurately identify surface waters that are most impacted by failing septic tanks and to focus their septic tank phase-out efforts to reduce fecal coliform and nutrients entering the COJ tributaries.

# OSTDS Projects

- COJ listed the septic tank phase out project in the Mainstem BMAP, agreeing to prioritize septic tanks in the Tributaries BMAP WBIDs for removal. This effort becomes a project obligation in both BMAPs, but more limited in geographic scope in the tributaries.
- DCHD has agreed to create a new geo-specific intensive inspection program in four BMAP WBIDs. These four WBIDs are considered high risk areas for future OSTDS failure. These inspections are proactive thus preventing a failure before it impacts surface waters.
- DCHD will investigate several homes with potential OSTDS problems.

# Additional Sewer Projects

- JEA: Provide results of inspection for manhole at 4557 Arthur Durham Drive and pump station repair at 4807 Ducheneau Drive; confirm which WBID some lift stations reside; inspect 6 lift stations near surface waters and remaining 21 ARVs in Miller Creek basin; and clean and reline pipes at North Davis (scheduled).
- COJ: Provide enforcement status for the lift station and manhole at The Preserve at St. Nicholas Apartments and The Loop Restaurant; and as private lift stations are identified or new stations constructed, implement annual inspections.

# Stormwater Projects

- COJ
  - Follow up on outstanding PIC investigations
  - Schedule maintenance to address thick vegetation, eroded stream banks, and remove abundant trash from headwaters and stormwater ponds in specified areas.
  - Report on the progress of proposed flood projects.

# Other Additional Recommendations

- COJ: Recommendations to address homeless populations in basins; and potential Walk the WBID exercise in Deer Creek if high bacteria counts continue.
- FDACS: Obtain NOI for cow/calf operation in Terrapin Creek.

# The BMAP Monitoring Plan

- *Primary Objective*

- Identify additional sources in the ten tributaries to guide the implementation of future actions to reduce fecal coliform.

- *Secondary Objective*

- Track trends in fecal coliform colony counts in the tributaries through ambient monitoring to determine if reductions are occurring with implementation of BMAP actions.

# Monitoring Details

- The monitoring network builds on existing sampling programs by COJ and FDEP, but expands it.
- JEA is committed to processing up to 32 samples per month through the JEA laboratory for COJ and FDEP.
- Stations listed as trend will be sampled quarterly and will continue at existing locations.
- Stations shown as source assessment will be sampled monthly with additional sampling occurring to follow-up on high bacteria counts.
- Most of the monitoring stations are preexisting; however, additional stations were added to meet the objectives of the monitoring plan.
- The BMAP monitoring plan will be initiated once the BMAP is adopted.



# TMDL Milestone

- During fifth year of the BMAP (2014) the water quality results for each tributary will be compared to the TMDL median.
- The TMDL median was calculated to determine the in-stream percent reduction required from current conditions to achieve the fecal coliform standard of 400 counts.
- To meet milestone goals, each tributary should achieve a minimum of 50% reduction from the TMDL median.
- For those tributaries that do not achieve this standard, additional efforts may be required.

# Percent Fecal Coliform Reduction Since TMDL Verified Period

WBID	WBID Name	TMDL Median (1996-2003)	2004-2008 Median	Percent Reduction
2235	Newcastle Creek	2,500	1,650	34
2252	Hogan Creek	5,000	1,091	78
2322	Butcher Pen Creek	2,400	3,000	-25
2287	Miller Creek	5,000	5,000	0
2304	Miramar Creek	7,000	3,350	52
2280	Big Fishweir Creek	3,000	1,700	43
2256	Deer Creek	2,765	652	76
2204	Terrapin Creek	1,367	860	37
2326	Goodbys Creek	3,000	600	80
2299	Open Creek	1,000	600	40

# What's Next ?

- The first Fecal Coliform BMAP public comment period ended on August 27, and the Department will begin to move the plan through the Secretarial Adoption Process.
- Adoption by the Secretary makes the plan and its commitments enforceable by FDEP.
- We are kicking off a second fecal coliform BMAP on September 10 at City Hall in exam room 3 at 9:00 am.
- We anticipate completing the second BMAP in Summer 2010.

# WBIDs in Second BMAP

WBID Number	WBID Name
2297	Craig Creek
2257	McCoy Creek
2316	Williamson Creek
2324	Fishing Creek
2361	Deep Bottom Creek
2228	Moncrief Creek
2207	Blockhouse Creek
<b>2266</b>	<b><i>Hopkins Creek</i></b>
2381	Cormorant Branch
2282	Wills Branch
<b>2227</b>	<b><i>Sherman Creek</i></b>
2240	Greenfield Creek
2265B	Pottsburg Creek
2203	Trout River
2203A	Trout River

# Questions?

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