Manatee River Basin Management Action Plan (BMAP) Annual Meeting

April 6, 2018

Meeting materials will be posted here: http://publicfiles.dep.state.fl.us/DEAR/BMAP/Tampa_Bay_Tributaries/manatee%20BMAP/
Meeting Agenda

• Welcome and Introductions
• BMAP Background
• Project Updates
• Water Quality
• What’s New
• Public Comments and Wrap Up
• Adopted April 2014

• The fourth year of the BMAP ended March 2018

• The waterbodies addressed by the BMAP are Class I waters and are:
  • Rattlesnake Slough
  • Cedar Creek
  • Nonsense Creek
  • Braden River above Evers Reservoir
Project Updates

- Florida Department of Agriculture and Consumer Services (FDACS)
- Manatee County
- Other Local Governments/Agencies
Water Quality

- Rattlesnake Slough
- Cedar Creek
- Nonsense Creek
- Braden River above Evers Reservoir
Fecal Indicator Bacteria Restoration Tools

Finding Sources of Bacteria

Field Observations
Source Specific Monitoring
Field Observations
Historical Data
Collaboration Corner

Low Hanging Fruit

START Impaired waters
New Sources GO BACK TO START!
2017 Intensive Source Identification (ID) Pilot Study
**Parameters**

**Escherichia coli (E. coli)** - class I (fresh water) standard

**Acetaminophen** - (pain reliever that indicates raw sewage)

**Sucralose** - (artificial sweetener that indicates raw sewage only where records do not show reuse water or onsite sewage treatment and disposal system [OSTDS] in the contributing area)

**MST human marker HF-183** - (a segment of deoxyribonucleic acid [DNA] from bacteria most commonly found in human enteric systems)

**Propidium Monoazide (PMA)** - (indicates recent discharge because it differentiates the live fraction of the Bacteroides out of the total Bacteroides detected in the sample)
Symbology

• The symbols represent our level of confidence that a sample contained raw sewage, it does not represent the volume of sewage.

• Each station dot, in the following maps, represents a single site, during a single sampling event, and considers results from the full suite of parameters.

Confidence of presence of raw sewage:

- Very High
- High
- Medium
- Low
- Very Low
- No indication

Remaining trails to follow
Confidence of Presence of Raw Sewage in a Sample

**As detected in raw sewage**

### Scores

<table>
<thead>
<tr>
<th>Confidence level</th>
<th>Very High</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
<th>Very Low</th>
<th>No Indication of Raw Sewage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scores</td>
<td>45</td>
<td>40</td>
<td>20</td>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

### Acetaminophen

- **unqualified presence**: I qualified
- **qualified presence**: T qualified

### HF-183 PMA Treated

- **greater than 15% of HF-183 Purified, no *qualifiers**: greater than 15% of HF-183 Purified, no *qualifiers
- **10-14% of HF-183 Purified, no *qualifiers**: U qualified
- **1-9% of HF-183 Purified, no *qualifiers**: U qualified

### HF-183 Purified

- **hundreds of thousands or more**: ≥750 I qualified
- **tens of thousands**: <750 T qualified
- **thousands**: U qualified

### HF-183 Crude

- **hundreds of thousands or more**: ≥750 I qualified
- **tens of thousands**: <750 T qualified
- **thousands**: U qualified

### Sucralose

- ****Presence**, not T qualified**
- **unqualified presence**: U qualified
- **qualified presence**: T qualified

### E.coli

- **hundreds of thousands**: above 410 detect and below threshold, U qualified & non-detect
- **tens of thousands**: above 130 detect and below threshold, U qualified & non-detect

### Enterococci

- **hundreds of thousands**: above 410 detect and below threshold, U qualified & non-detect
## Scoring the Suite of Results

<table>
<thead>
<tr>
<th>Confidence of presence of Raw Sewage</th>
<th>Full Suite, 1 Sample, Site Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 80</td>
<td>Very High</td>
</tr>
<tr>
<td>40 to 79</td>
<td>High</td>
</tr>
<tr>
<td>20 to 39</td>
<td>Medium</td>
</tr>
<tr>
<td>1 to 19</td>
<td>Low</td>
</tr>
<tr>
<td>Round</td>
<td>Site Score: Indication of raw human sewage</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Round 1</td>
<td>low A</td>
</tr>
<tr>
<td></td>
<td>very low A_DUP</td>
</tr>
<tr>
<td></td>
<td>non-detect Field Blank</td>
</tr>
<tr>
<td>Round 2-C</td>
<td>low B</td>
</tr>
<tr>
<td></td>
<td>very low A2</td>
</tr>
<tr>
<td></td>
<td>low C</td>
</tr>
<tr>
<td></td>
<td>low C2</td>
</tr>
<tr>
<td>July Wet Season Sampling Event</td>
<td>high D</td>
</tr>
<tr>
<td></td>
<td>low C</td>
</tr>
<tr>
<td></td>
<td>low C2</td>
</tr>
<tr>
<td>August Persistence Check Sampling Event</td>
<td>low D</td>
</tr>
<tr>
<td></td>
<td>low C</td>
</tr>
<tr>
<td></td>
<td>low C2</td>
</tr>
<tr>
<td></td>
<td>non-detect WALDENLAKE</td>
</tr>
</tbody>
</table>

**Spartan Branch Pilot 2017 Lab Results**
Pilot 2017 Waterbodies

- **Jacksonville vicinity:**
  - Butcher Pen Creek
  - Miller Creek
  - Hopkins Creek

- **Pensacola vicinity:**
  - Jackson Creek

- **Plant City vicinity:**
  - Spartman Branch

- **Miami:**
  - Wagner Creek/Seybold Canal
Spartman Branch WBID

- Flows north west to Pemberton Creek, Baker Creek, then into Lake Thonotosassa
- Rural Hillsborough County
- Plant City
- Sampling Event 1
  March 21

Confidence of presence of raw sewage:

- Very High
- High
- Medium
- Low
- Very Low
- No indication
Spartman Branch

- Sampling Event 2 April 10
- The south west tributary was dry
- Shortly after, the creek went dry
Spartman Branch

- Sampling Event 3
  July 18
- This event was after the creek began flowing again

Confidence of presence of raw sewage:

- Purple: Very High
- Red: High
- Orange: Medium
- Yellow: Low
- Light Green: Very Low
- Dark Green: No indication
Spartman Branch

- Sampling Event 4
  August 16
- The last sampling event was to confirm hot spots before the conclusion of the pilot study

The symbols represent our level of confidence that a sample contained raw sewage. It does not represent the volume of sewage.

Confidence of presence of raw sewage:

- Very High
- High
- Medium
- Low
- Very Low
- No indication

Remaining trails to follow.
Spartman Branch

All 4 pilot study sampling events
Example of a hot spot in an area serviced by OSTDS

Questions

WBID Line
Building on the 2017 Source ID Pilot Study
Source Specific Data for Manatee Basin Waters
What’s New?
Fecal Indicator Bacteria (FIB) Impaired WBID Prioritization Tool
## Prioritization Categories & Statewide Data Sources

<table>
<thead>
<tr>
<th>1 Water Quality Data</th>
<th>2 Risk Of Contact</th>
<th>3 DEP Designations</th>
<th>4 Potential Contaminate Sources</th>
<th>5 Stakeholder Commitment of Resources</th>
<th>6 Considerations External of Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Exceedance</td>
<td>WBID Class (3M – Type: Beach)</td>
<td>Outstanding Florida Waters</td>
<td>Sanitary Sewer Overflows</td>
<td>Basin Management Action Plans</td>
<td>Urgency Assessment (in development)</td>
</tr>
<tr>
<td>Waters Not Attaining Standards</td>
<td>Florida State Park Points of Interest ex.</td>
<td>Outstanding Florida Springs</td>
<td>OSTDS Repair Permits</td>
<td>4e Plans (Stakeholder lead restoration plans pre-impairment)</td>
<td>Intensity of Source Specific Hits &amp; Waterbody Use</td>
</tr>
<tr>
<td>Magnitude of Exceedances (not yet included)</td>
<td>Swimming</td>
<td>Paddling Trails</td>
<td>Anchorages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source Specific Indicators (not yet included)</td>
<td>Canoeing</td>
<td>Boat Ramps</td>
<td>Florida Appraiser (Age of original infrastructure)</td>
<td>Property Appraiser</td>
<td>Stakeholder Commitment to Invest Resources (not a statewide layer)</td>
</tr>
<tr>
<td></td>
<td>Kayaking</td>
<td>Outstanding Florida Springs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boat Ramps</td>
<td>WBID Class ex.</td>
<td>Land Use / Land Cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drinking</td>
<td>Livestock</td>
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<td></td>
<td></td>
<td>Shell Fish</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Recreation</td>
<td></td>
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</tbody>
</table>
New DEP Website

We have redesigned our website to make sure it's functional, visually appealing and easy to use. We hope to better serve you by providing quick and easy access to the information and services you need.

Learn More

https://floridadep.gov/
Redesigned BMAP Webpage

Florida Department of Environmental Protection

About DEP  How Do I  Divisions  Air  Lands  Parks & Rec  Waste  Water

A Z Index  Forms  News  Events  Contact Us

SEARCH...

Basin Management Action Plans (BMAPs)

Home  Divisions  Division of Environmental Assessment and Restoration  Water Quality Restoration Program  Basin Management Action Plans (BMAPs)

What is a Basin Management Action Plan (BMAP)?

It is the “blueprint” for restoring impaired waters by reducing pollutant loadings to meet the allowable loadings established in a Total Maximum Daily Load (TMDL). It represents a comprehensive set of strategies - permit limits on wastewater facilities, urban and agricultural best management practices, conservation programs, financial assistance and revenue generating activities, etc. - designed to implement the pollutant reductions established by the TMDL. These broad-based plans are developed with local stakeholders - they rely on local input and local commitment - and they are adopted by Secretarial Order to be enforceable.

View an online map including BMAPs adopted and in progress.

BMAP Meeting Calendar: Upcoming Meeting Information and Agendas

New Statewide Progress Reporting for Water Quality Restoration Projects

By July 2018, DEP will have adopted more than a dozen new and revised BMAPs for areas including all Outstanding Florida Springs. When completed, the state’s BMAPs will have placed almost 14 million watershed acres under active basin management—a total area including more than 6.5 million Floridians. Beginning July 1, 2018, a single statewide report will replace the annual progress reports for all BMAPs. An annual statewide report of progress towards implementing water quality projects will greatly assist implementers and

https://floridadep.gov/dear/water-quality-restoration/content/basin-management-action-plans-bmaps
BMAP Webpage Components

- BMAP Meeting Calendar
- BMAP Documents
- BMAP Story Maps
- Water Quality Assessments, TMDLs, and BMAPs Interactive Map
BMAP Documents and Story Maps
Water Quality Assessments, TMDLs, and BMAPs Interactive Map


- Displays the WBIDs that are not attaining standards, TMDLs, and BMAPs adopted and in progress
• **WIN is live!**
  [http://prodenv.dep.state.fl.us/DearWin/public/welcomeGeneralPublic?calledBy=GENERALPUBLIC](http://prodenv.dep.state.fl.us/DearWin/public/welcomeGeneralPublic?calledBy=GENERALPUBLIC)

• **December 2017**, Florida STORET was closed to additions of new data and to corrections of existing data

• DEP will accept migrations of data from Florida STORET to WIN any time after WIN comes on-line

• Florida STORET will remain available for data extractions after December 2017 through STORET public access (SPA) site
  • SPA: [http://prodenv.dep.state.fl.us/DearSpa/public/welcome](http://prodenv.dep.state.fl.us/DearSpa/public/welcome)
WIN Contacts

• Information on WIN (e.g., standards, frequently asked questions, example data templates) is provided at: https://floridadep.gov/dear/watershed-services/content/winstoret

  • Denise Miller, Environmental Administrator, 850-245-8516, denise.miller@dep.state.fl.us

  • Julie Zimmerman, Business Lead, 850-245-8508, julie.m.zimmerman@dep.state.fl.us

  • Lisa Schwenning, Regional STORET/WIN Coordinator, 850-245-8509, lisa.schwenning@dep.state.fl.us
BMAP Annual Reporting

• New statewide progress report

• New requirement under Florida Statutes (F.S.) to provide an annual update to the Governor and Legislature (see Section 403.0675, F.S.)

• First report is due to the Governor and the Legislature by July 1, 2018

• DEP will submit subsequent reports by July 1st of each year
• Annual BMAP meetings
  • Manatee River BMAP meetings may be held in late spring
  • Review significant source identification accomplishments
  • Highlight restoration projects and management strategies
  • Water quality information

• Reporting period
  • Project collection will be initiated November of each year
  • Report will contain projects completed the previous year (January through December) for all BMAPs statewide
BMAP Annual Reporting

• DEP will request project updates from April 2016 to December 31, 2018 via email with instructions
• Will be included in the published 2019 statewide progress report
• Focus will be given to source identification and elimination efforts
• Content about projects pertinent to achieve BMAPs and Minimum Flows and Levels (MFLs)
  • Water quality projects
  • Water quantity projects
  • Proposed priority ranking for implementation
  • Load reductions (nutrient BMAPs)
DEP Contacts

- Tom Frick, Director, Division of Environmental Assessment and Restoration, Thomas.Frick@dep.state.fl.us
- Kevin Coyne, Program Administrator, Water Quality Restoration Program Kevin.Coyne@dep.state.fl.us
- Anita Nash, Basin Coordinator, Watershed Planning and Coordination Section, Anita.Nash@dep.state.fl.us
Public Comments and Wrap Up

• Meeting materials are posted to:
  • http://publicfiles.dep.state.fl.us/DEAR/BMAP/Tampa_Bay_Tributaries/manatee%20BMAP/

• For questions contact Anita Nash:
  • Anita.Nash@dep.state.fl.us
  • 850-245-8545
The End
Source ID Pilot Study 2017
Progress Summary

- Followed 2 trails upstream to the farthest extent of city owned conveyances.
- Followed 1 source trail for 4 rounds of monitoring.
- 2 hot tributaries identified during first round of monitoring.
- All 4 sites hot on first sampling event. Site B was hottest.
- No Hits during Round 1.
- All low hits on rounds 1 and 2. Creek dried up; delayed progress.
- Signal traced into 6 potentially separate hot spots.
- Flow stopped; hits in remaining pools at road crossings. 2 hot spots identified.
- Delays related to retirement of city staff and incomplete GIS inventory of stormwater conveyances incomplete. 4 hot spots identified.
- Sampled after rain returned, identified 2 hot spots serviced by OSTDS.
- 1 source eliminated after 2nd sampling event.
- 7 more hot spots identified.
- 1 source identified & eliminated
- 21 hot spots remain
# Pilot 2017 Summary Stats

## Source ID 2017 Pilot Study

<table>
<thead>
<tr>
<th>WBIDs</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field events when sampling occurred</td>
<td>25</td>
</tr>
</tbody>
</table>

### Environmental Successes

| Source Trails Identified | 21 |
| Source identified and eliminated | 1 |

### Levels of likelihood of presence of raw sewage / # of kits

| Very High | 39 |
| High | 59 |
| Medium | 5 |
| Low | 22 |
| Very Low | 13 |
| Non-detects, includes blanks. | 21 |

### WBID / Sewage trails per WBID (hot spots remaining)

| Wagner | 6 |
| Spartman | 2 |
| Miller | 4 |
| Hopkins | 7 |
| Butcher Pen | 0 |
| Jackson Creek | 2 |
| Total | 21 |

### Engaged Diverse Groups (BMAP Staff)

| County Governments | 3 |
| City Governments | 7 |
| DOT Districts | 2 |
| Sanitary Sewer utilities | 3 |
| DEP ROCs (Field offices) | 4 |
| DEP Tallahassee (Chem., Micro-Bio., GIS, BMAP, MS4) | 5 |
| Diverse Groups | 24 |

### Map needs (GIS Staff)

| Proposed stations maps | >25 |
| Actual Sample Stations maps | >25 |
| Referenced Map Projections | >50 |

### Summary of source ID lab results (Lab Staff)

| E.coli results | 76 |
| Enterococci results | 83 |
| PMA | 63 |
| HF183 Crude | 159 |
| HF-183 purified | 63 |
| Acetaminophen | 159 |
| Sucralose | 159 |

| Total lab analyses used by pilot | 762 |

### Kits filled (ROC Staff)

| Duplicates | 12 |
| Field Blanks | 14 |
| Samples | 133 |
| Total kits analyzed including field QA/QC | 159 |