Maine Healthy Beaches Program: Working Together to Improve Coastal Water Quality (2010 State of the Bay Presentation)

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Maine Healthy Beaches Program:
Working Together to Improve Coastal Water Quality

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Maine Healthy Beaches Program

Program Elements:

- 28 towns/state parks, 60 beach management areas
- Monitoring, Assessment and Notification
- Special Studies & Sanitary Surveys
- Partners - local, state and federal level
Winslow Park, Freeport, ME

Number of Exceedances per Year

WP-1

2008 2009 2010

0 0 2

(monitoring 2x per month)

K. Lindberg
Potential Bacteria Sources:
✓ Stormwater runoff
✓ Boats/moorings
✓ Bathers
✓ Wildlife
✓ Pet waste
Willard Beach, South Portland, ME

Number of Exceedances per Year

(monitoring 2x per week)
Potential Bacteria Sources:

- Storm drain outfalls
- Impervious surfaces/runoff
- Boats/moorings
- Bathers
- Wildlife
- Pet waste

Willard Beach, South Portland, ME

S. Mosley
Willard Beach, South Portland, ME
East End Beach, Portland, ME

Number of Exceedances per Year

(monitoring 3x per week)

S. Mosley
Potential Bacteria Sources:

- Combined sewer overflows
- Storm drains
- Impervious surfaces/runoff
- STP outfall
- Marinas/moorings
- Presumpscot River mouth
- Bathers
- Wildlife
- Pet waste
Beyond the Shoreline: areas identified as needing special studies/sanitary surveys

- Biddeford
- Camden
- Kennebunk
- Kennebunkport
- Lincolnville
- MDI
- Ogunquit
- OOB/Saco
- Popham
- Portland
- Rockport
- Scarborough
- South Portland
- York
Watershed Health = Beach Health

Fecal Contamination = Guts of warm-blooded animals
Sanitary Survey

Explore ALL Bacterial Pathways

- Malfunctioning septic systems
- Leaky sewers/cross connections
- Stormwater runoff
- Domestic and wild animals
- OBD’s, POTW outfalls
- Boats dumping sewage
- Beach activities/characteristics

Take a look...
- Ogunquit River = primary source of contamination
- Rainfall > 1 in. within 5 days of monitoring increases bacteria levels
- Night time ebb tide = entrainment outside surf zone
- Day time flood + wind + waves can bring bacteria back to beach
Pinpointing Sources

Site-01

Site-02
  - Site-02-A
  - Site-02-B

Site-03
  - Site-03-A
  - Site-03-B

Diagram showing the locations of different sites.
<table>
<thead>
<tr>
<th></th>
<th>High Bacteria</th>
<th>Low Bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Optical Brightener</strong></td>
<td>Black water (e.g. human sources-malfunctioning septic system, sanitary sewer cross connection)</td>
<td>Grey or Gray water (e.g. laundry, wash water)</td>
</tr>
<tr>
<td><strong>Low Optical Brightener</strong></td>
<td>Human or non-human sources</td>
<td>Potentially low or no fecal contamination</td>
</tr>
</tbody>
</table>

*Potential sources based on bacteria and optical brightener levels*
Within 75’ of a Stream

Within 250’ of an Impervious Surface

Within 250’ of coast/river/tidal zone

Slope > 20%

Within 250’ of waterbody/wetland

Monitoring data

Watershed Risk Analysis
Septic System Risk Analysis

Maine Healthy Beaches
Ogunquit River Watershed Special Study
Leavitt Stream Watershed Risk Analysis
Septic System Properties

Data Source: MHB, MEGIS, GIS Mapping & Analysis
Coordinate System: NAD83, UTM, Zone 19N
Created By: Sarah Mosley, August 2010
Surveying Properties

Lincolnville Beach, Maine (K. Lindberg)
Promoting Best Practices

What you can do as a CITIZEN:

■ Maintain and routinely pump out your septic system.

■ Report any illicit or questionable discharges to your local CEO/LPI.

■ Properly dispose of pet waste and/or livestock manure.

■ Maintain appropriate vegetative buffers along waterways.
Municipal Guide To Clean Water:
Conducting Sanitary Surveys to
Improve Coastal Water Quality

Maine Healthy Beaches Program
March 2010
Questions?