

Update of Hampton Roads Bacteria Source Tracking Study

Hampton Roads Planning District Commission

May 19, 2010

By
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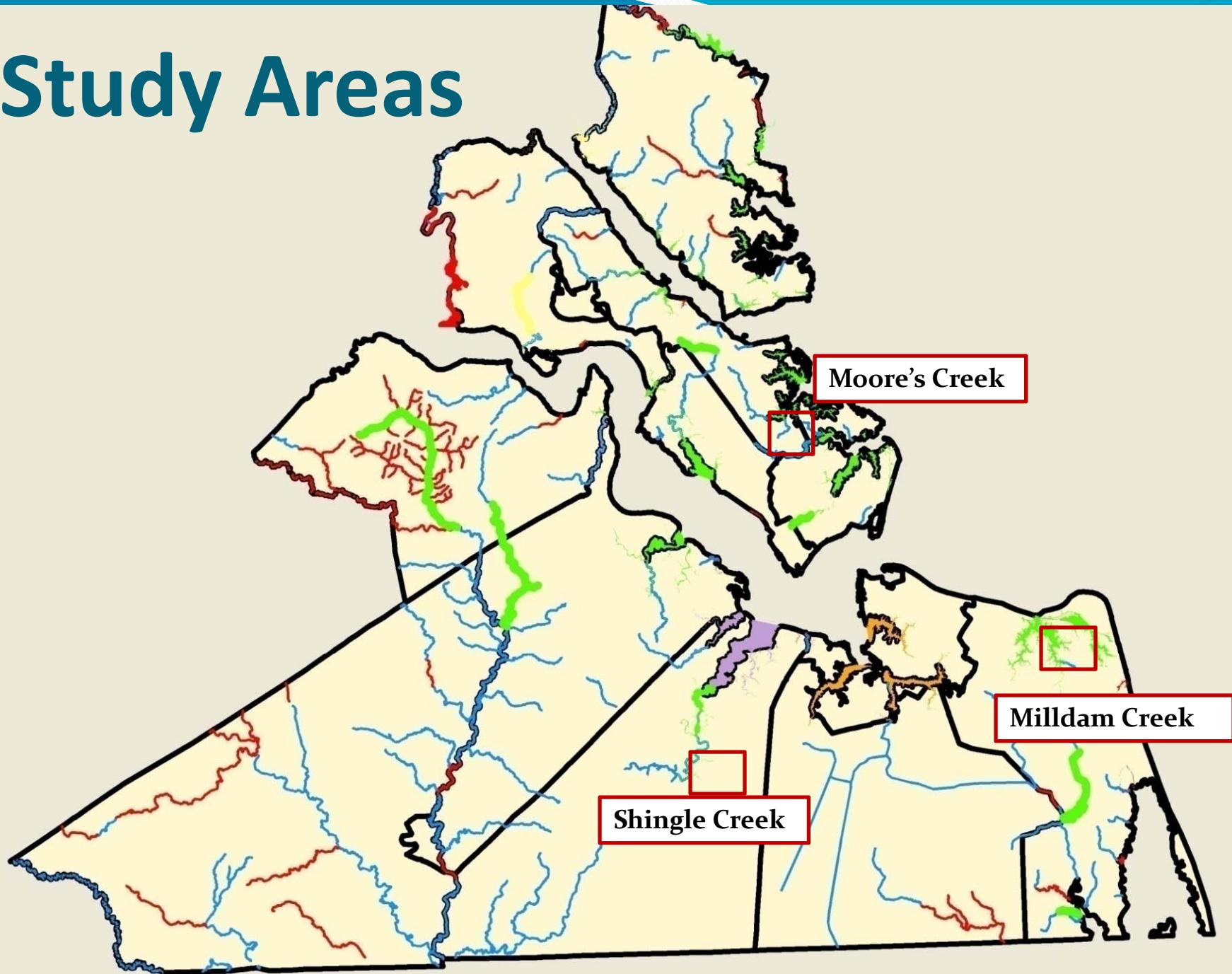
Drivers for Study

- Impaired waters throughout Region
- Outdated source tracking methodologies in TMDL Studies
- Shotgun style implementation plans
- Need tools to link stormwater requirements and TMDL limits
- Evaluate / Validate SSO efforts and guide future sewer rehab efforts.

Purpose of the Bacteria Study

1. Develop a Protocol for source identification in the Region.
2. Identify the methodologies necessary to differentiate human sources of bacteria from non human

Study Areas

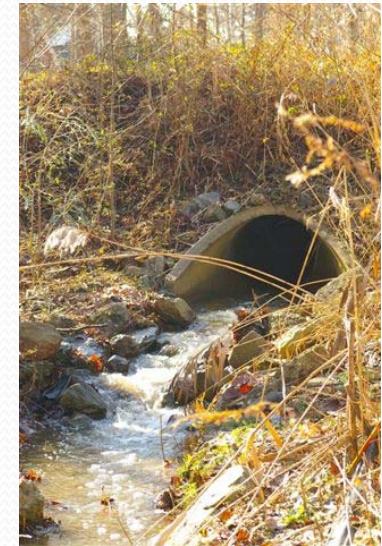
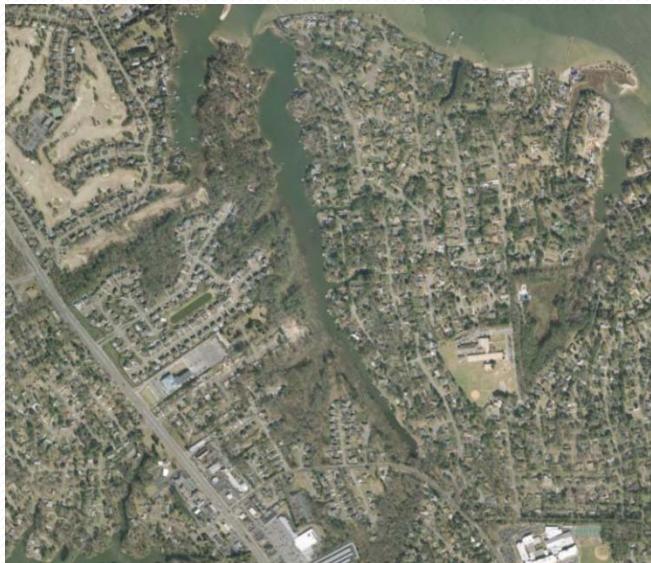


Hampton Roads Study Approach

- Step 1: Watershed Survey
- Step 2: Targeted sampling for fecal indicator bacteria – “hot spot” identification.
- Step 3: Application of Molecular Methods: multiple methods will be utilized to minimize error.
- Step 4: Further Molecular Analysis

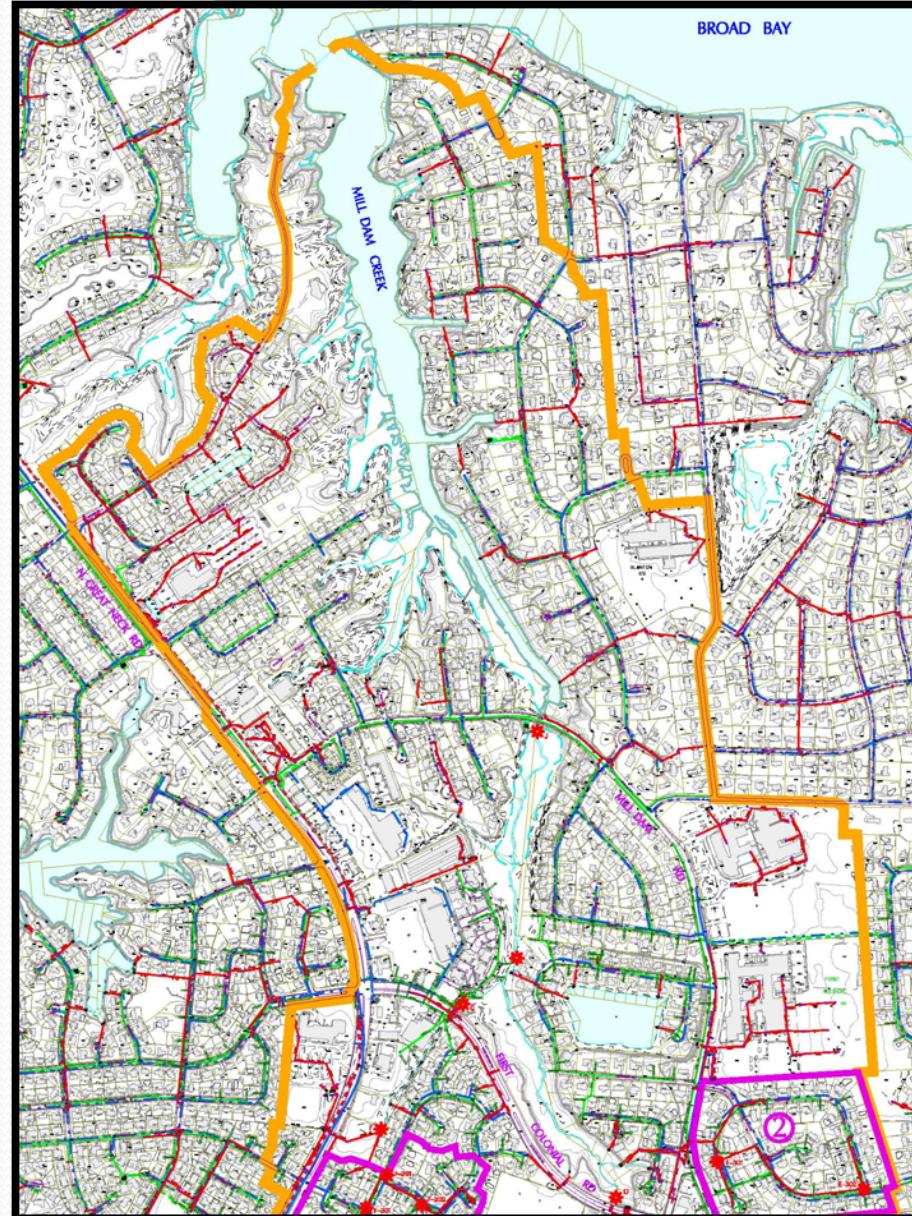
Case Study Overview

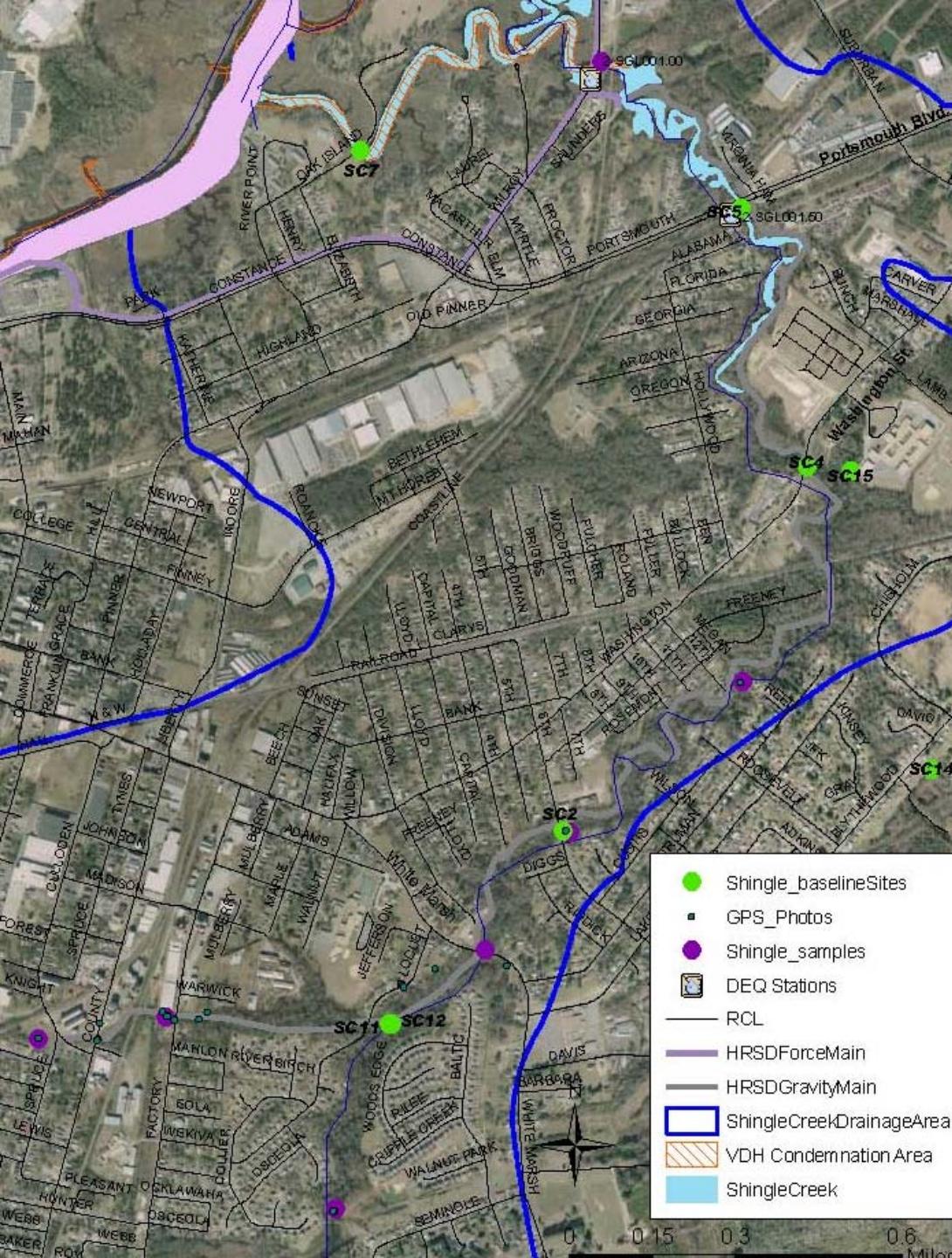
	Mill Dam Creek	Shingle Creek	Moores Creek
Land Use	Mixed Urban	Single family/Light Industrial	Low density residential
Sewer/Septic	Sewered	Mixed	Mixed
Agriculture Present	No	No	Yes
Tidal Influence	Yes	Minimal	Yes



Mill Dam Creek – Virginia Beach

- “Hot Spots” Identified
- Molecular analysis for human markers
- Targeting headwaters and wet weather events

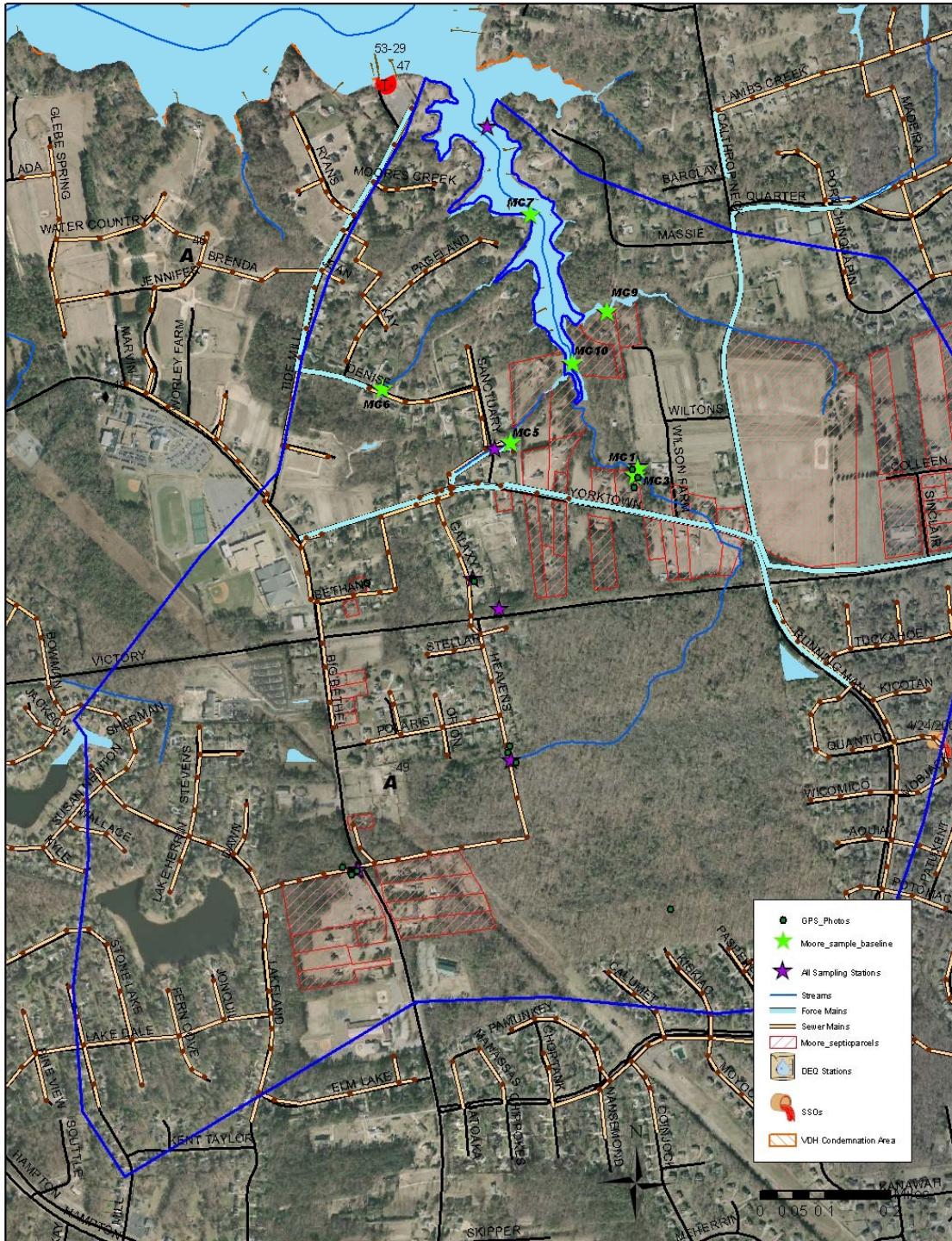




Shingle Creek-Suffolk

- Baseline sampling locations selected
- City staff collecting indicator bacteria samples
- Targeting wet weather events
- Identify hot spots for molecular analysis

Moores Creek – York County



- Baseline sampling locations selected
- County staff collecting indicator bacteria samples
- Targeting wet weather events
- Identify hot spots for molecular analysis

Schedule

- Spring 2010 – Complete Fecal Indicator Bacteria Screening
- Summer 2010– Targeted Sampling
- Fall – Winter 2010 – Molecular Analysis
- Spring 2011 – Follow up monitoring
- Summer 2011 – Final Report