LOISS Water Quality
- On and near-shore -

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Credit Valley Conservation Authority

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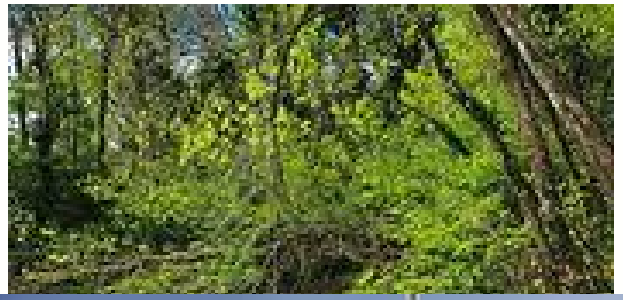
Water Quality Objective

Focus: Beneficial use Impairments (IJC specified) and Ecological Stresses (CVC)



- Eutrophication (phosphorus as a stimulator for Cladophora growth)
- Beach closures (E. coli)
- Degradation of aesthetics (total suspended solids, phosphorous, and Cladophora)

Approach

- On-shore monitoring
  - Observe trends
  - Calibrate watershed model
- On-shore modeling
  - Simulate pollutant loadings
  - Simulate pollutant concentrations to plug into the lake model
- Near-shore monitoring
  - Observe trends
  - Calibrate lake model
- Near-shore modeling
  - Simulate hydro and pollutant dynamics (the end product)

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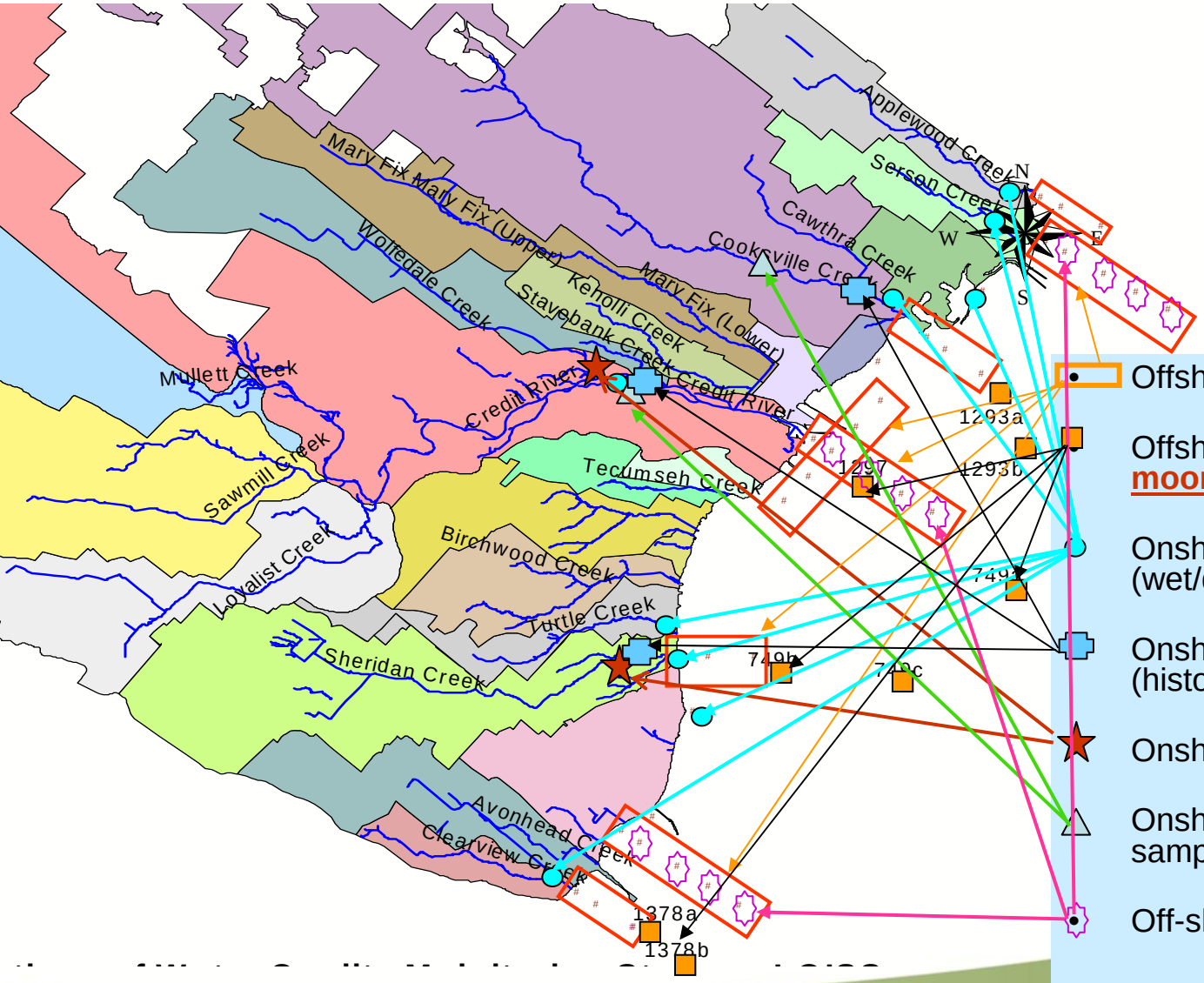
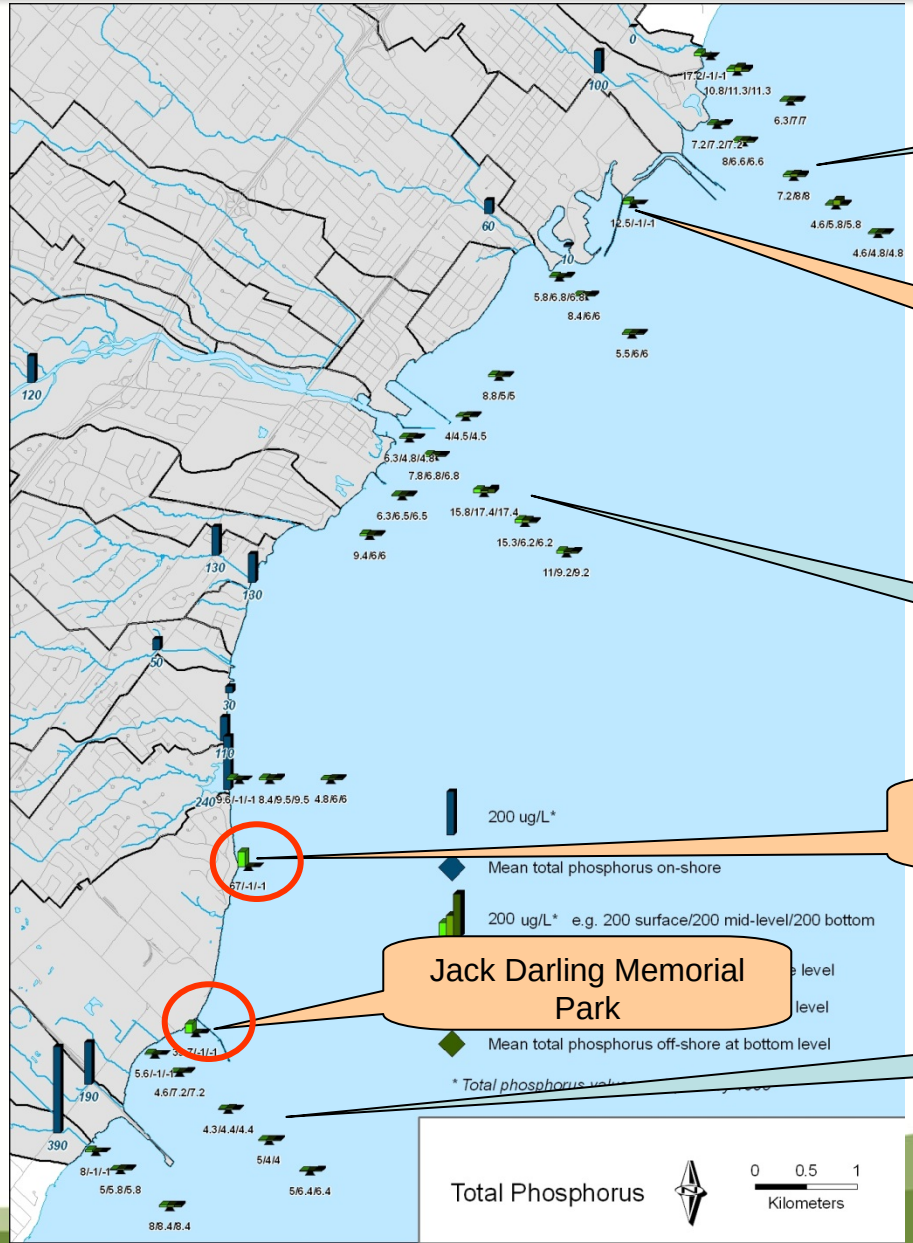
On and Near-shore Monitoring



- Offshore Transects - 7
- Offshore Thermal monitoring – 8 moorings
- Onshore grab sampling stations (wet/dry) - 13
- Onshore event auto sampling (historic and Current) - 3
- Onshore PWQMN sampling – 2
- Onshore real-time water quality sampling – 2
- Off-shore Biological sampling - 12

On and Offshore Monitoring

Spatial Distribution of Total Phosphorous



G.F. Booth Transect

Promenade Park

Credit River Transect

Richard Memorial Park

Jack Darling Memorial Park

Clarkson WWTP Transect

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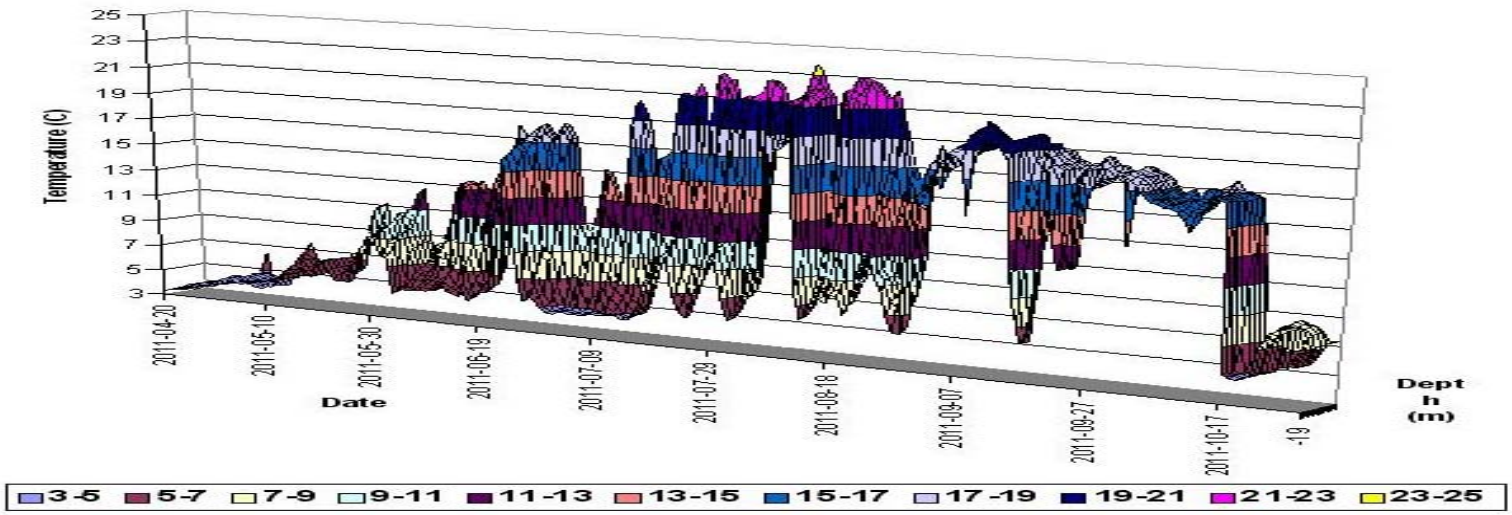
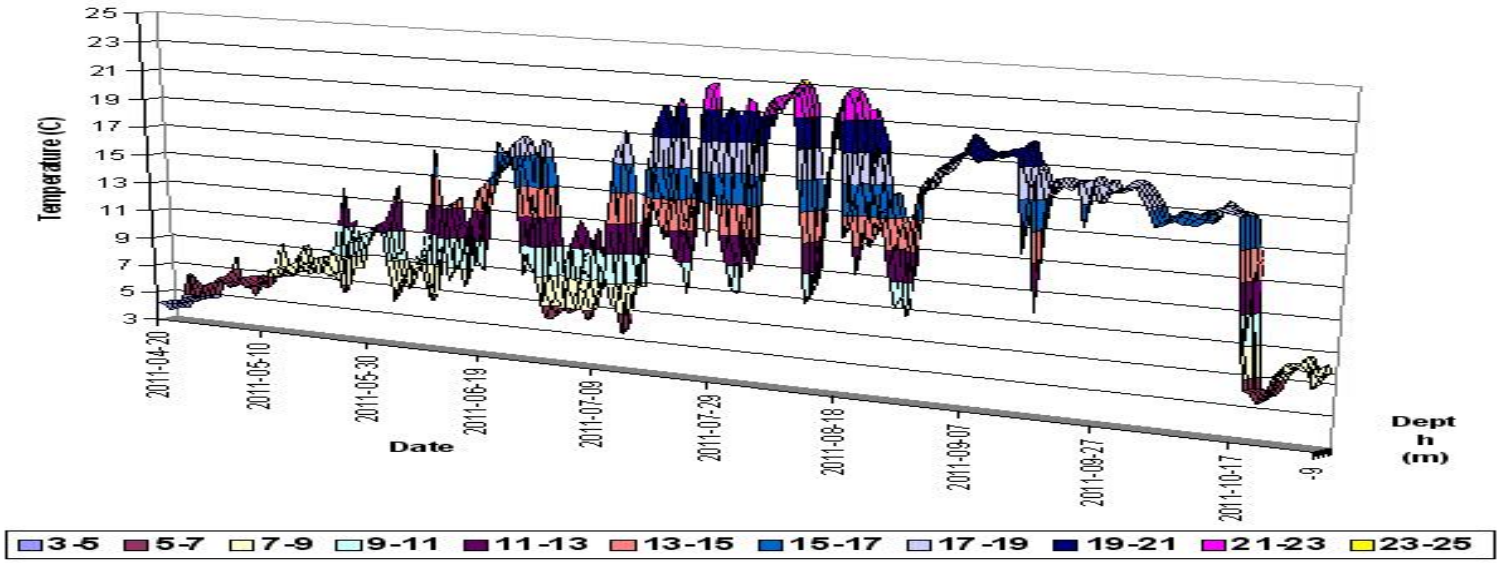
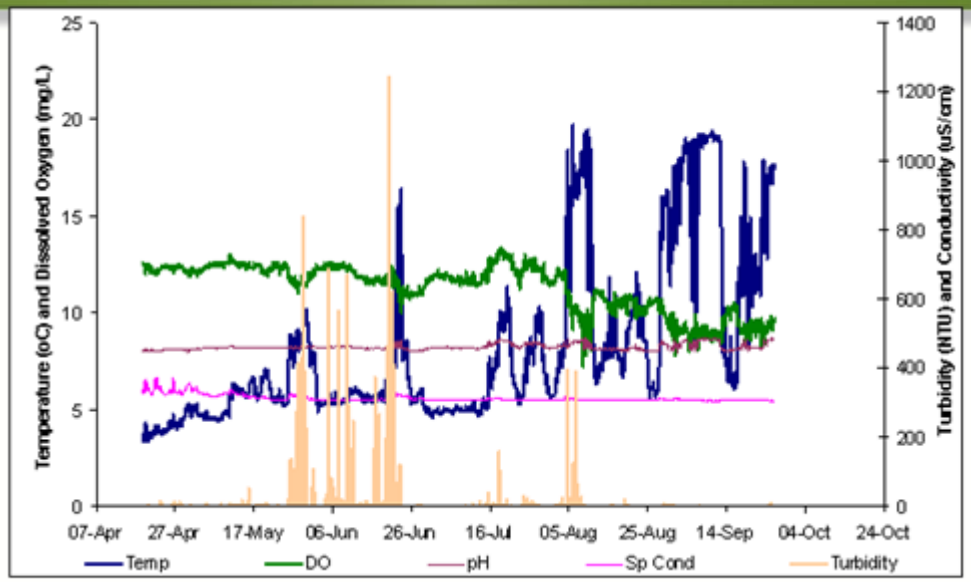
Lake Water Temperature

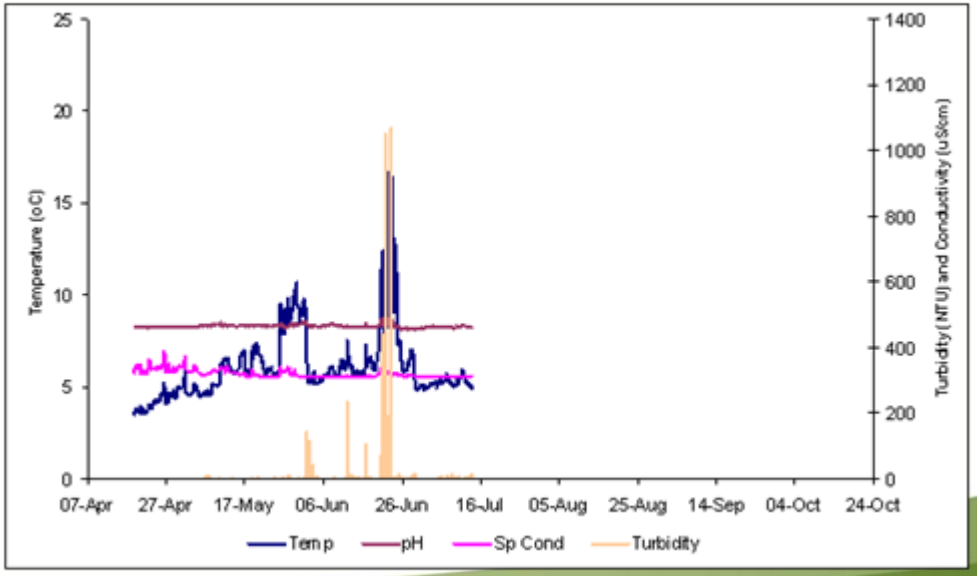
Water Temperature – 19m and 9m Moorings





Water Quality Probes @ 20m Depth





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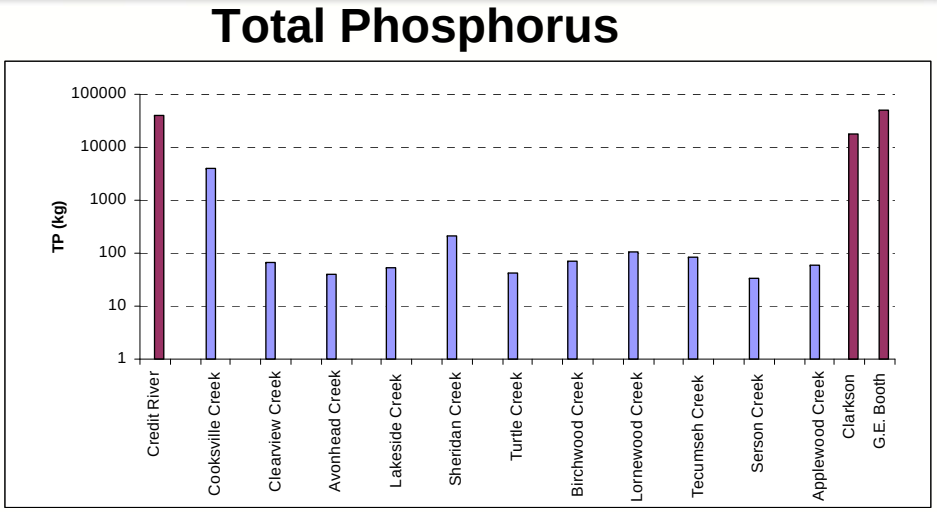
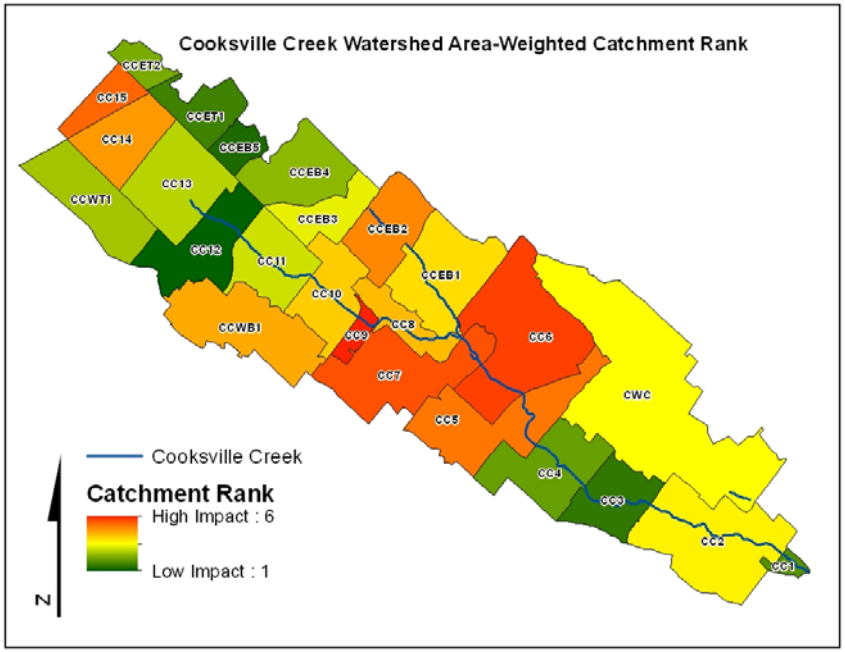
Watershed Modeling

Objectives

- Watershed contribution in comparison to Waste Water Treatment Plants Contributions
- Identifying critical source areas/sub-watersheds
- Generate pollutant and flow time-series for Lake Modeling

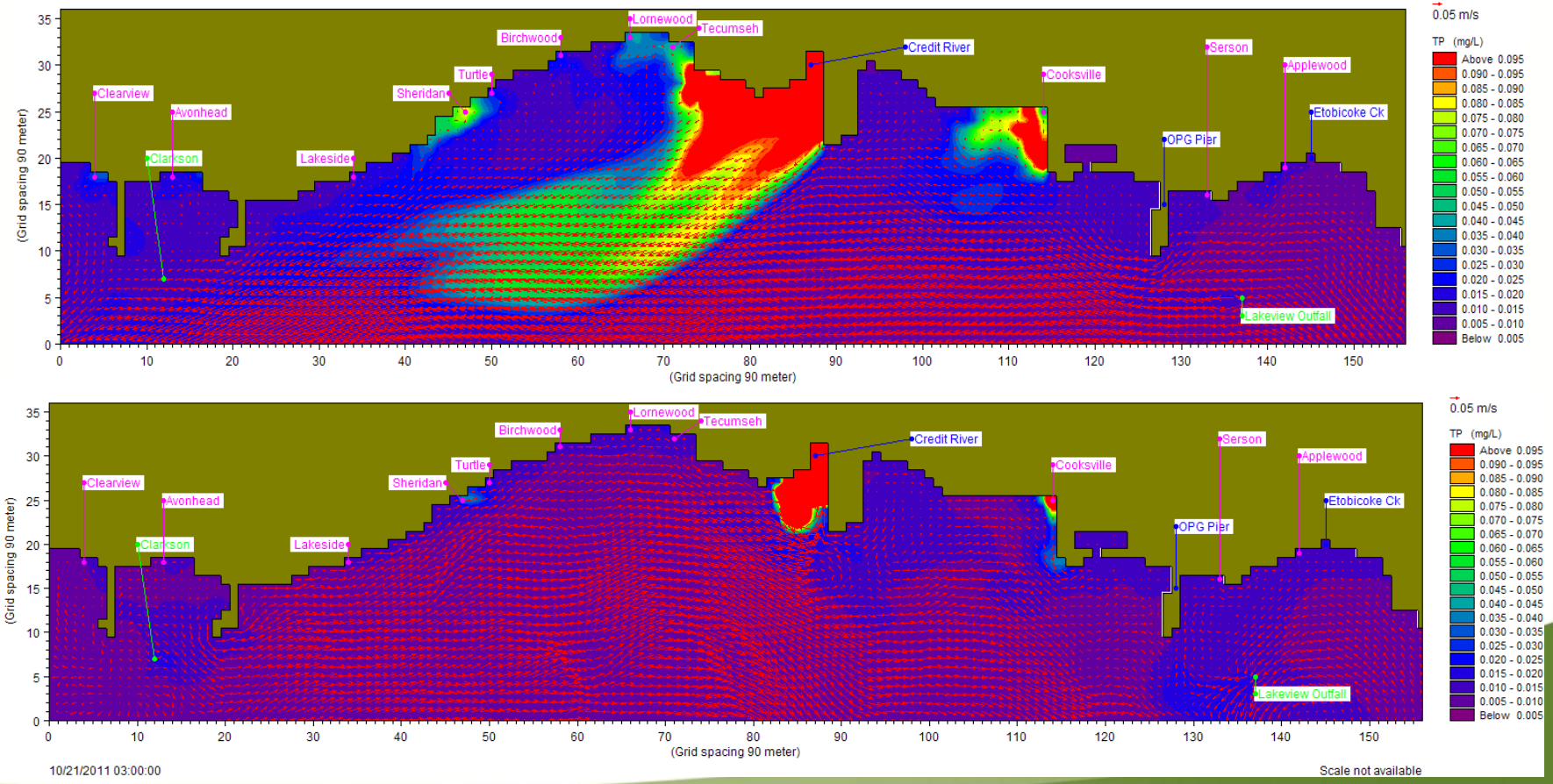




Lake Modeling

Objective

To understand Lake dynamics



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