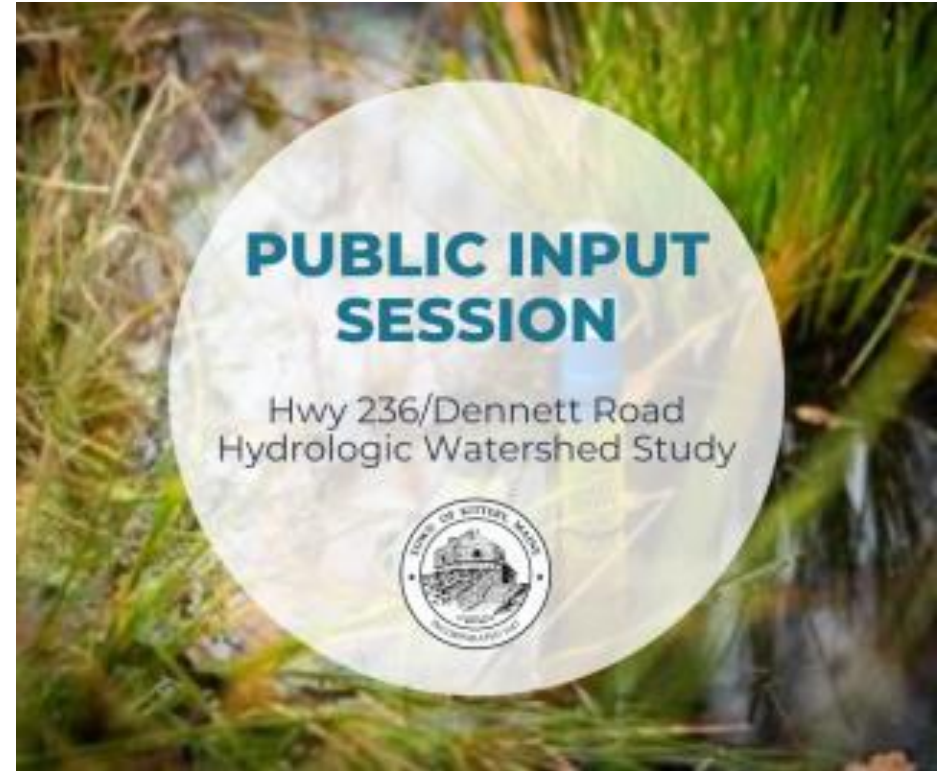




Town of Kittery Highway 236/Dennett Road Hydrologic Watershed Study

Agenda

- I. Project Team Introductions
- II. Watershed Study Overview
- III. Priority Areas
- IV. Public Participation
- V. Project Schedule



Project Team Introductions



Project Team Introductions

- Town of Kittery
- Barton & Loguidice, D.P.C.
- Streamworks, PLLC
- FB Environmental Associates
- Stake Holders

Barton
& **Loguidice**

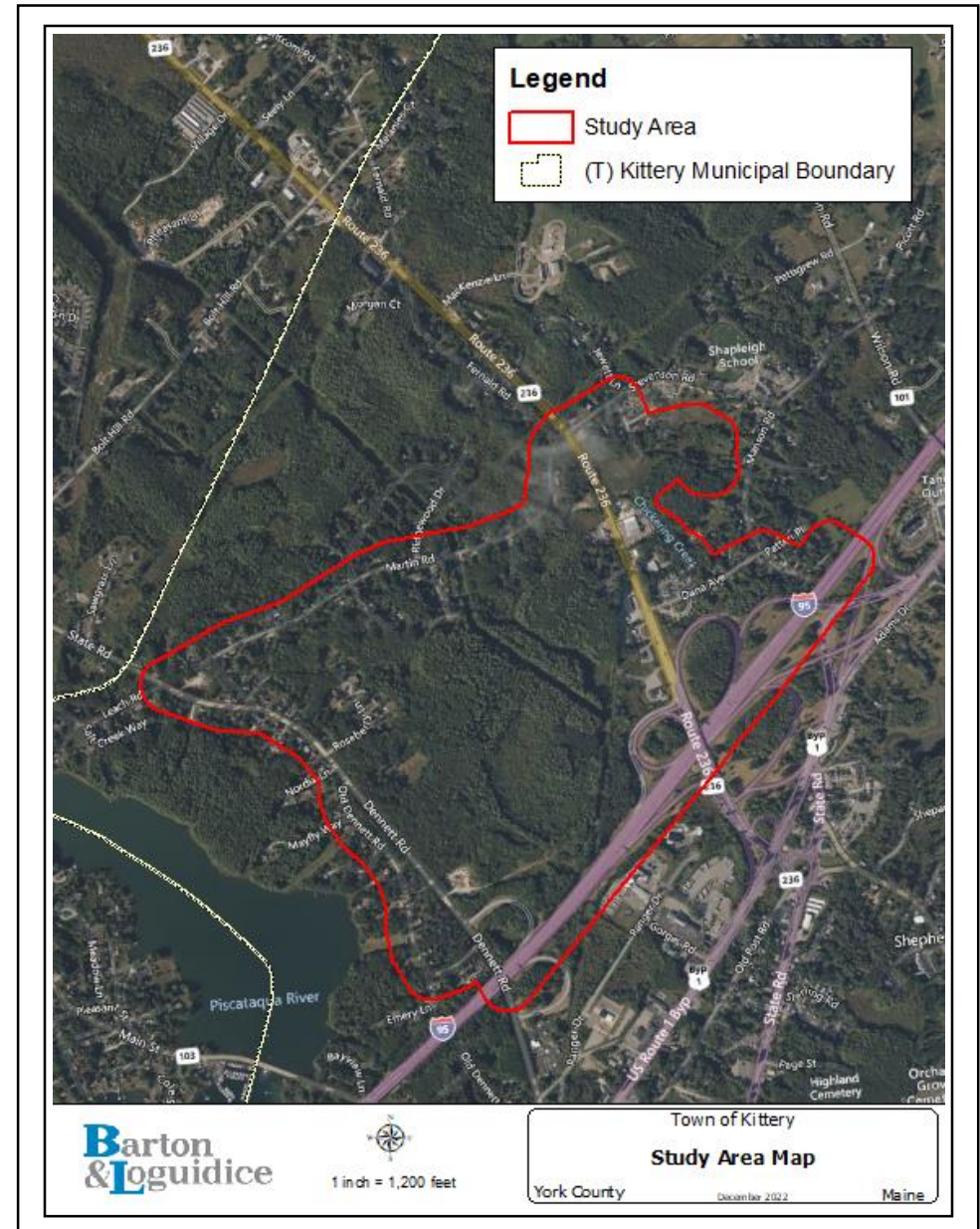
 **streamworks**



Watershed Study Overview

Watershed Study Goals

- I. Evaluate Existing Conditions / Areas of Concern
- II. Evaluate Future Hydrologic Scenarios
- III. Nutrient Pollutant Loading Analysis
- IV. Develop Mitigation Alternatives



Evaluate Existing Conditions

- **Data Collection**
 - Desktop Delineation
 - Inventory of Known Flooding Locations
 - Inventory of Resources

Evaluate Existing Conditions

- **Field Reconnaissance**
 - Catalog Stormwater Infrastructure
 - Assessment of Known Flooding Locations
 - Refine Subwatershed Delineations
 - Wetland Mapping

Evaluate Existing Conditions

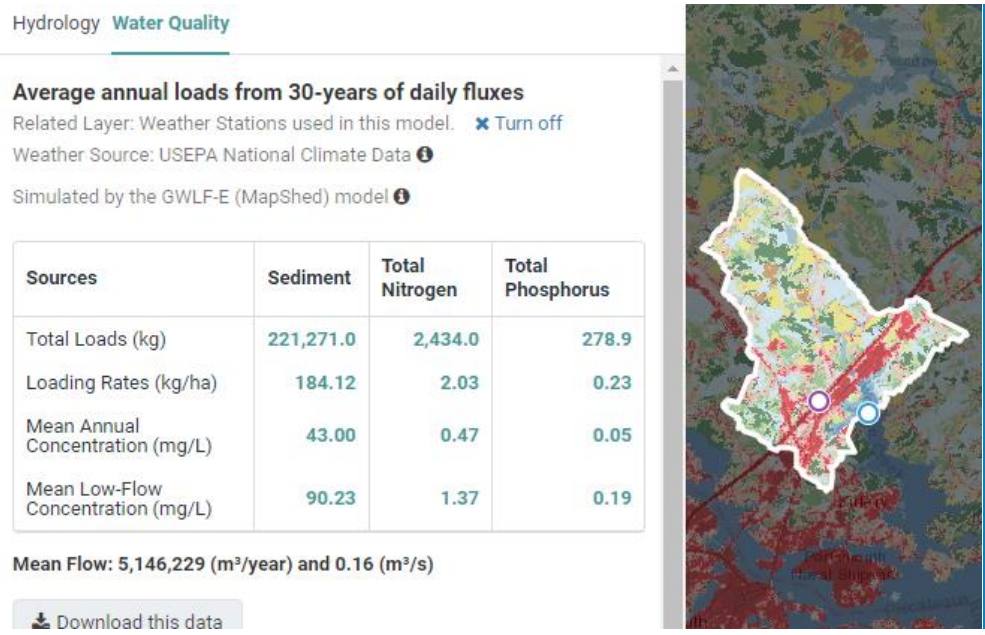
- **Hydrologic & Hydraulic Modeling**
 - Model a range of flood discharges
 - Determine existing stormflow volumes and peak discharge rates
 - Develop comprehensive detailed analysis of existing flood conditions

Evaluate Future Hydrologic Scenarios

- Modeling Evaluation of Three Build-Out Scenarios
 - No Build
 - Low Density Build-Out
 - High Density Build-Out
- Extreme Storm Event/Climate Change Scenarios

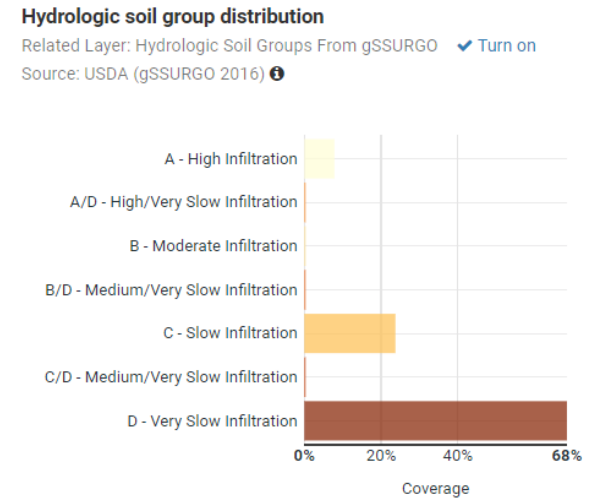
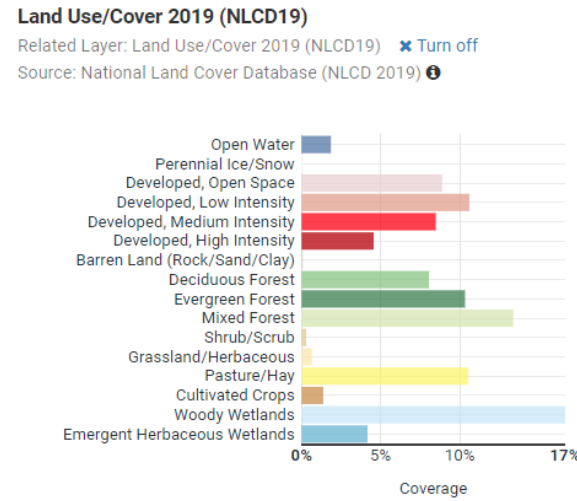


Nutrient Pollutant Loading Analysis



- Estimate Nutrient Loading From Study Area Subwatersheds

- Evaluate existing water quality conditions
- Inform mitigation alternative ranking and selection
- Incorporate Previous Studies (Spruce Creek Watershed Management Plan)



Development of Mitigation Alternatives

- Mitigation Alternative Categories
 - Modifications to the Existing Drainage System
 - Installation of Stormwater Detention
 - Installation of Green Infrastructure Stormwater Retrofits
 - Property Protection
 - Flood Damage Protection and Planning
 - Structural Projects
 - Evaluation of Land Use Planning and Zoning
 - Water Quality Improvements
 - Natural Resource Protection / Conservation Opportunities



Development of Mitigation Alternatives

- Develop Ranking Matrix of Potential Alternatives
- Select Prioritized Alternatives



RANKING

- Stormwater Benefits (total 55 out of 100 points)
 - Flood reduction (45 points)
 - Nutrient reduction – water quality benefit (10 points)
- Constructability (total 20 out of 100 points)
 - Ownership: public or private (10 points)
 - Known constraints (5 points)
 - Permitting (5 points)
- Cost (total 20 out of 100 points)
 - Construction Cost – (10 points)
 - Maintenance Cost (5 points)
 - Fundability (5 points)
- Co-Benefits (total 5 out of 100 points)
 - Energy and air quality impacts (1 point)
 - Habitat and biodiversity (1 point)
 - Community and aesthetic benefits (1 point)
 - Human health benefits (1 point)
 - Educational opportunities/visibility (1 point)

Priorities

①

②

③



Areas of Interest

Preliminary Areas of Interest



Preliminary Areas of Interest



Martin Rd / Hwy-236



Fish and Game Pond



Martin Rd / Hwy-236

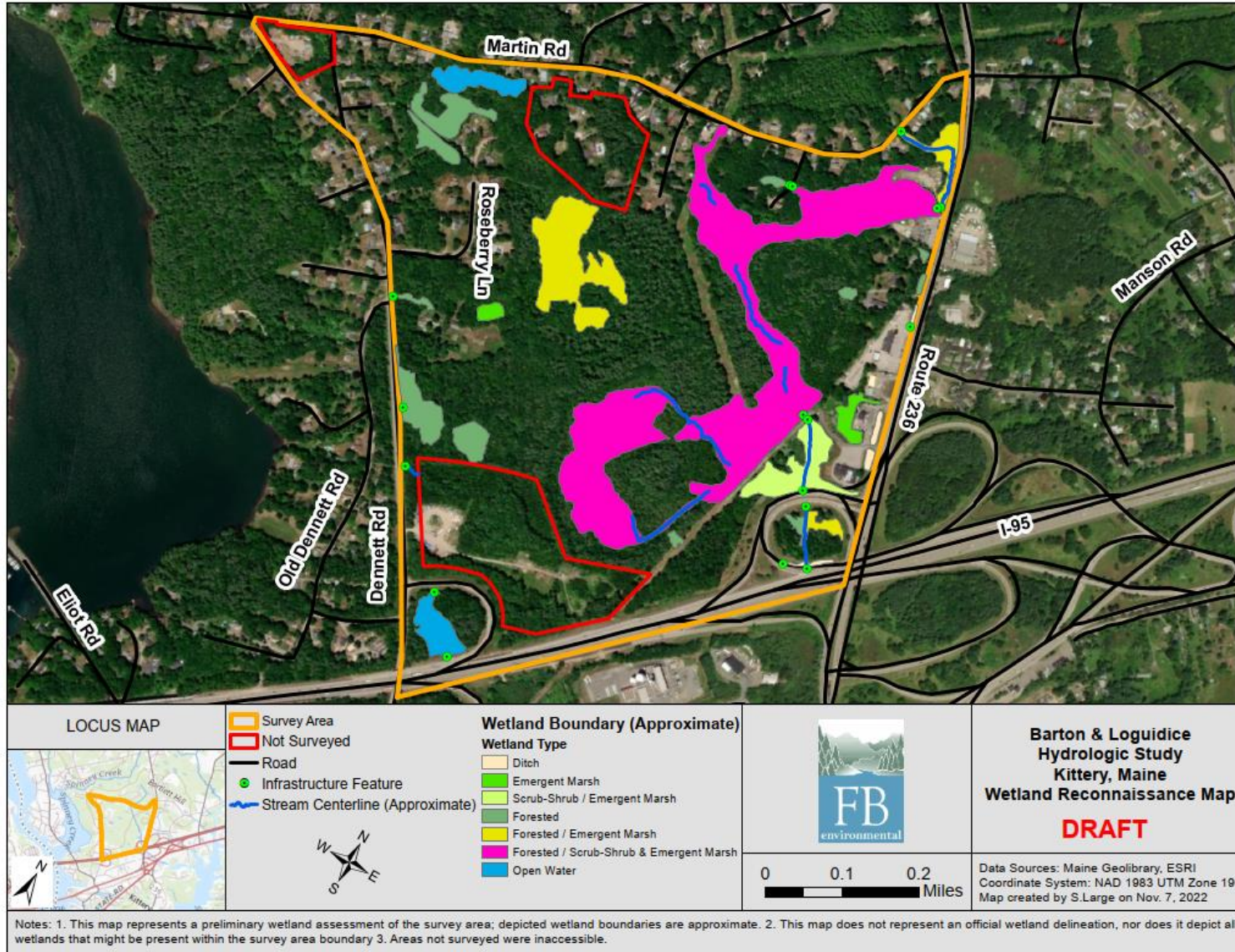


Spruce Creek Wetlands



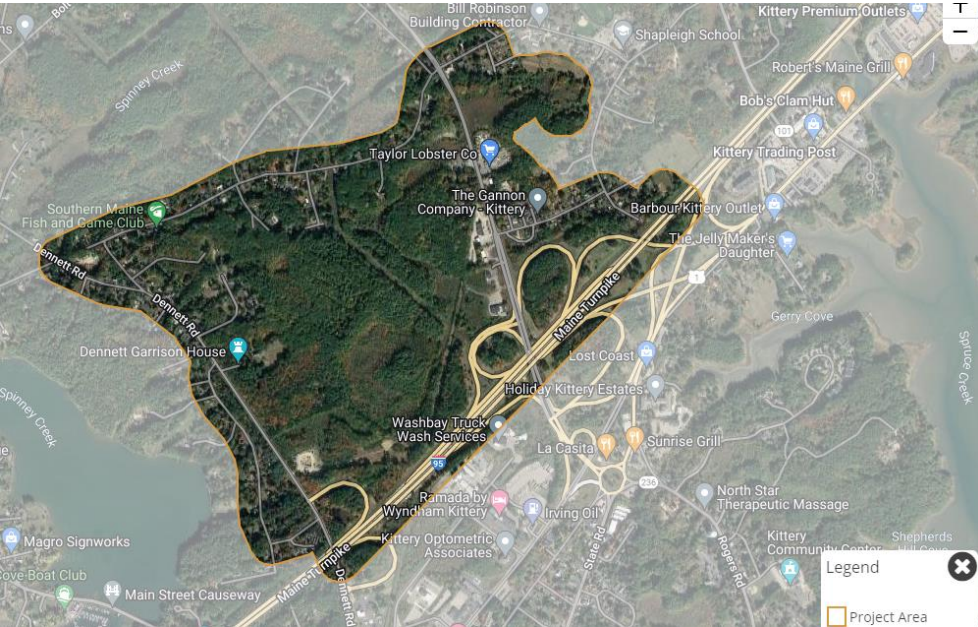
Central Study Area

Preliminary Wetland Inventory



Public Participation

Public Participation Resources



- Interactive Mapper - Identify problem areas or potential opportunities for watershed improvement
- Community Survey – Identify stakeholder priorities and perceptions of the watershed



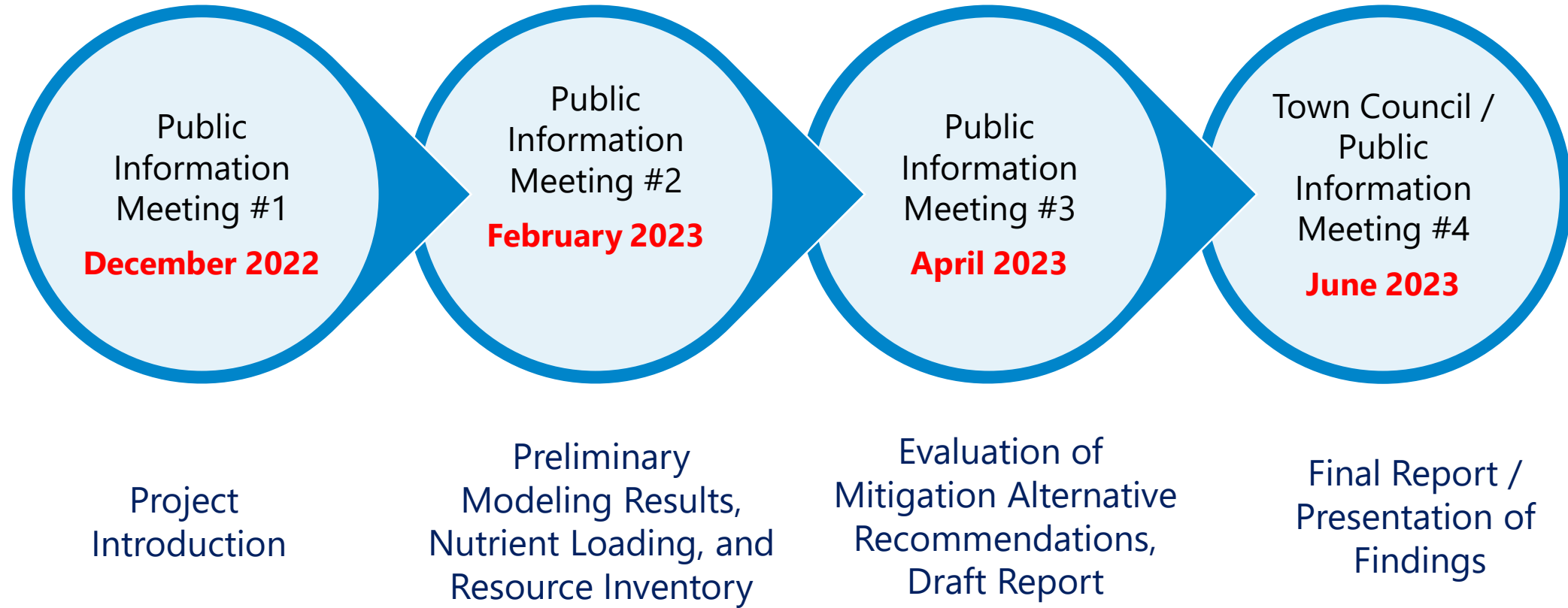
- [Town of Kittery Website](#)
- [Interactive Mapper](#)
- [Community Survey](#)



www.kitteryme.gov/watershedinputsession

Project Schedule & Next Steps

Project Schedule



Contact Information

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Project Information
(Survey and Interactive Mapper)

Project Information



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Questions & Open Discussion?



Project Information

(Survey and Interactive Mapper)

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