

# Water Quality Stewardship Program

restoration work and stream monitoring

2014

Charlotte

# Town Farm Bay at Charlotte

Restoration work at a 50 acre lakeside wetland area of town and state significance.



## E. Frogbit Invasives Mgmt at Town Farm Bay

- **Team-** Town, PBM, LCA, State, TNC, US FWS, Alexa Lewis landowner
- 40 volunteers provided 300 picking hrs
- 2 tons of plants removed to a PBM compost site
- End of season % cover was 5-10% = excellent
- Water conditions - enriched nutrient levels from south lake flows and upstream ag practices
- Shoreland conditions – undisturbed = excellent
- Town cost- \$1850 (1100 stipends, 750 supplies/ equip.)
- Probono services-~\$6500 (volunteers, PBM, LCA)

# Example of the wetland infested with frogbit mats in 2013

Reduced fish habitat conditions/boating access/biodiversity



# Flowering stage of E. Frogbit



Springtime when TFB reed, rush, buttonbush, wild rice and lily pad communities have not yet emerged.



40 volunteers remove floating plants from June - August



# Unloading 2 tons of material onto the Point Bay Marina scow



The restoration area includes 6 different natural  
community types!

Below is Kimball Brook's lakeside floodplain forest.



# Water Quality Monitoring

## LaPlatte, McCabe's, Thorp, Kimball Watersheds

### Objectives:

Identify baseline conditions of local streams

Identify hot spots and reference locations within each stream system

Inform Lake and In-stream clean up plans, regulations and projects

### Sampling Plan Design:

11 sampling stations - 6 McCabe's, 3 LaPlatte, 1 Thorp, 1 Kimball

9 parameters: E.coli, Chloride, Total Suspended Solids, Turbidity, Total Phosphorus, Dissolved Phosphorus, Nitrogen (TN, NOX) and flow.

# Water Quality Findings 2014

Hot spots continue to be:

- Hinesburg STP to Charlotte Town line - erosion: nutrients/sediment.
- Mouth to Hinesburg STP and Mud Hollow Brook- E.coli
- Lime Kiln Rd to Rte 7 – Rte 7, 3 culverts, ag runoff: nutrients/sediments
- Shelburne Town, Harbor Road and School Street Neighborhood- stormwater: nutrients/sediments
- Thorp and Kimball Brooks need more baseline data.

# 2014 WQ Expenses

- 760 volunteer hours (sampling, lab work, data mgmt) were recorded and valued at ~ \$11,000.
- State lab fees and the bulk of our tech support were provided pro bono.
- Town cost - \$1280 (in Conservation Commission budget)
  - \$630 for stipends (volunteer oversight, QA and lab work, data management, interpretation and reporting).
  - \$650 for supplies and equipment (filters, staff gage calibrations).

# Water Quality Stewardship Program

## 2015 Recommendations

- Charlotte FY 15/16 - \$3130
  - Continue frogbit program w town support at \$1850
  - Begin removal of yellow iris if funding permits.
  - Continue water quality program w town support at \$1280