
# Town of Colchester
# Integrated Water Resources Management Study

**Materials drawn from previous presentations by:**
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**Funded by the United States Environmental Protection Agency**

www.colchesterwaters.net

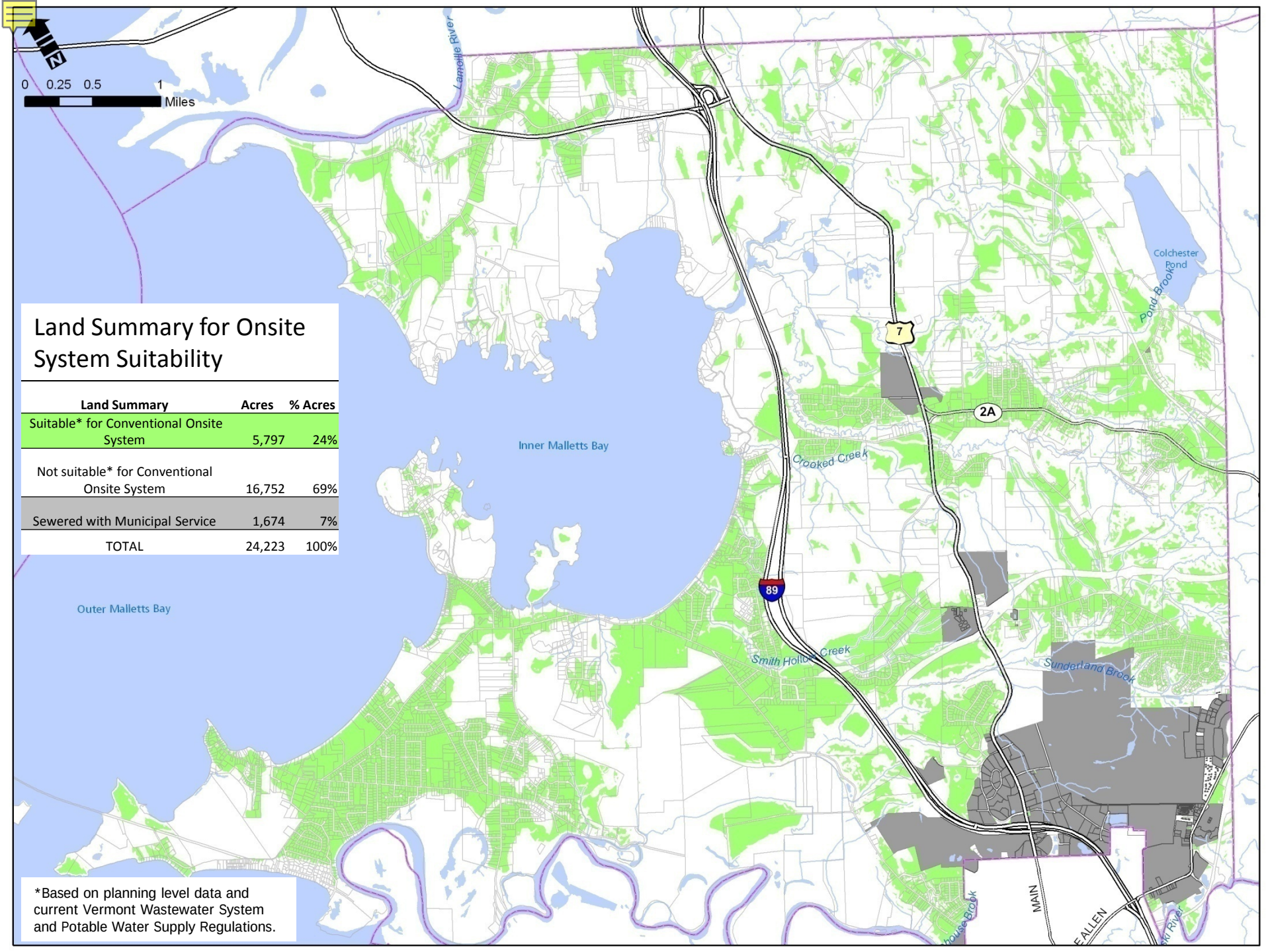
# What was done…

- Inventory/mapping of water, wastewater and stormwater at a parcel level
- Mapping of water resources (rivers, streams, wetlands, etc.) Town-wide needs assessment
- Town-wide needs assessment at
- Priority Area needs assessment
- Water quality sampling
- Water Quality Testing


# What we'll cover tonight

- Town-wide needs assessment
- System Longevity Analysis
- Initial Detailed On-site investigations


Base Map
24,223 Acres
6,949 Accounts
5,682 Parcels
0
0.5
1
Miles
MILTON
MAYO RD
School Number 3
Walnut Ledge
Champlain Cemetery
Chimney Corner
Mallets Creek
Mallets Bay State Park
Colchester Pond
EAST RD
COLCHESTER
ESSEX
United Church of Colchester
Pond Brook
Union Memorial School
Center Cemetery
Colchester
Our Lady of Grace Church
BAY RD
Munson Cemetery
Nourses Corner
Crooked Creek
Inner Malletts Bay
Malletts Head
2A
Malletts Head Seaplane Base
BLAKELY RD
SEVERANCE RD
KELLOGG RD
Outer Malletts Bay
Malletts Bay Cemetery
School Number 4
Malletts Bay
Colchester High School
Smith Hollow Creek
Malletts Bay Congregational Church
Unification Church
Colchester Middle School
Blakey School
Sunderland Brook
Thayer Beach
Holy Cross Church
Holy Cross Cemetery
Shipman Hill
15
Colchester Point Upper School
Fort Ethan Allen Cemetery
Champlain Landing Field
Fanny Allen Hospital
Fanny Allen Cemetery
Merrill Cemetery
Community Lutheran Church
Saint Michael College
HEINEBERG DR
MALLETTS BAY AV
MAIN
LAFOUNTAIN
SPRING
E ALLEN
ROUTE 127
Morehouse Brook
Lake Champlain

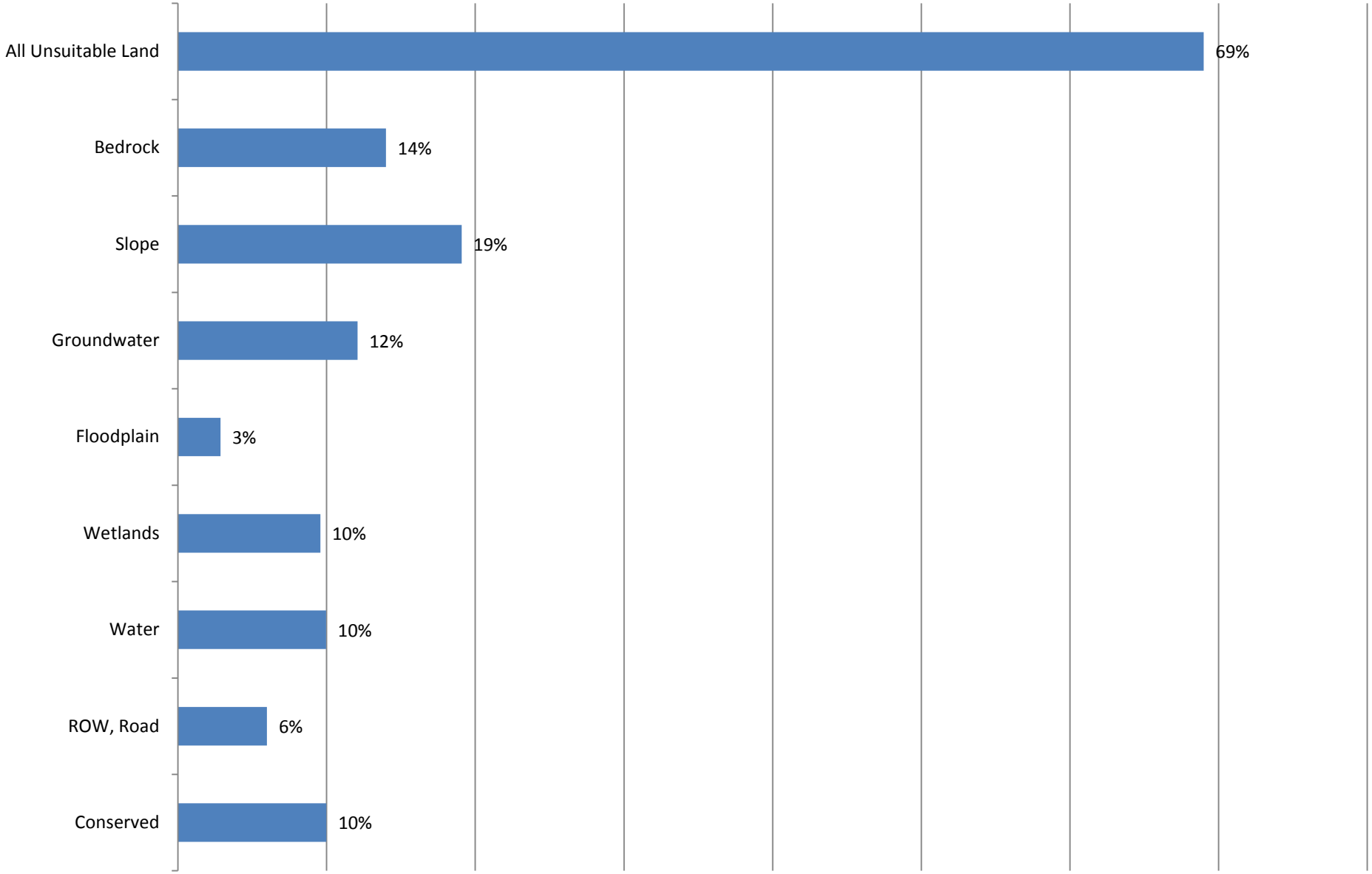



# Land Summary for Onsite System Suitability

| Land Summary | Acres | % Acres |
|---|---|---|
| Suitable* for Conventional Onsite System | 5,797 | 24% |
| Not suitable* for Conventional Onsite System | 16,752 | 69% |
| Sewered with Municipal Service | 1,674 | 7% |
| TOTAL | 24,223 | 100% |

*Based on planning level data and current Vermont Wastewater System and Potable Water Supply Regulations.

# Environmental Limitations for Onsite System Suitability



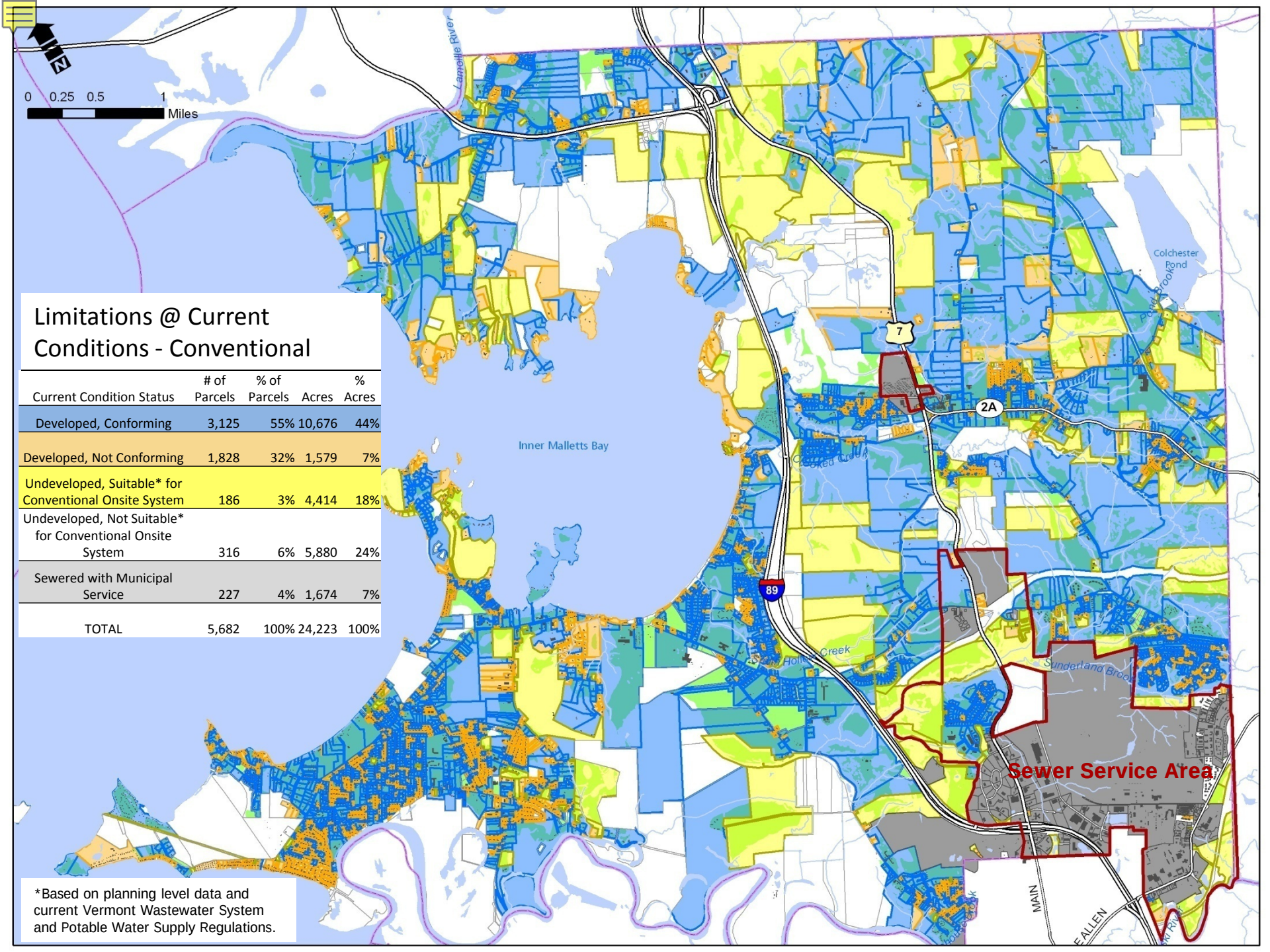

*Based on planning level data and current Vermont Wastewater System and Potable Water Supply Regulations.

# Development-Based Limitations

These limitations are **in addition** to the Environmental Limitations

- Property lines with a 25 ft buffer
- Zone 1 wellhead protection areas
- Private drilled well plus 100 ft buffer
- Private shallow well/spring plus a 150 ft buffer
- Main or municipal water lines plus a 50 ft buffer
- Foundation, footing or curtain drains with 35 ft buffer
- Stormwater infiltration features with 35 ft buffer

*These limitations are set in the VT Environmental Protection Rules (EPRs)




## Limitations @ Current Conditions - Conventional

| Current Condition Status | # of Parcels | % of Parcels | Acres | % Acres |
|---|---|---|---|---|
| Developed, Conforming | 3,125 | 55% | 10,676 | 44% |
| Developed, Not Conforming | 1,828 | 32% | 1,579 | 7% |
| Undeveloped, Suitable* for Conventional Onsite System | 186 | 3% | 4,414 | 18% |
| Undeveloped, Not Suitable* for Conventional Onsite System | 316 | 6% | 5,880 | 24% |
| Sewered with Municipal Service | 227 | 4% | 1,674 | 7% |
| TOTAL | 5,682 | 100% | 24,223 | 100% |

*Based on planning level data and current Vermont Wastewater System and Potable Water Supply Regulations.

# Environmental Implications?

**~1,800 currently developed parcels** (30%) are **non-conforming** based on this analysis

It is likely that a number of these properties have **sub-standard and inadequately performing systems,** that may be impacting the environment.

# Management Implications?

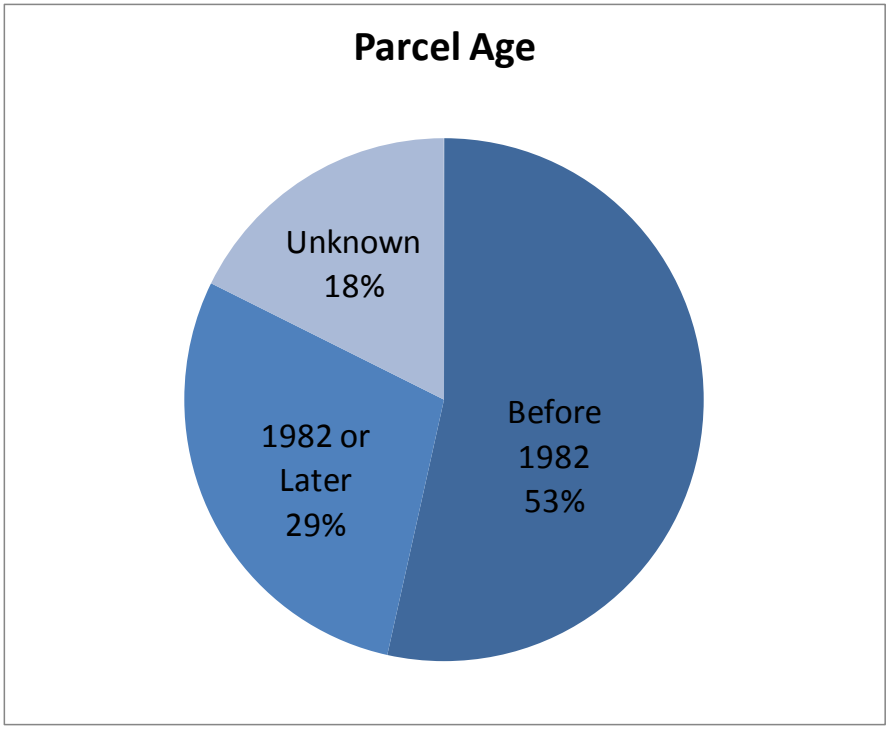
- These 1,800 “non-conforming” parcels require a “best fix” or “Advanced” treatment system with restrictions on change in use and increases in wastewater flows.
- “Best fix” and “Advanced” systems can be more costly to maintain and require more rigorous monitoring.

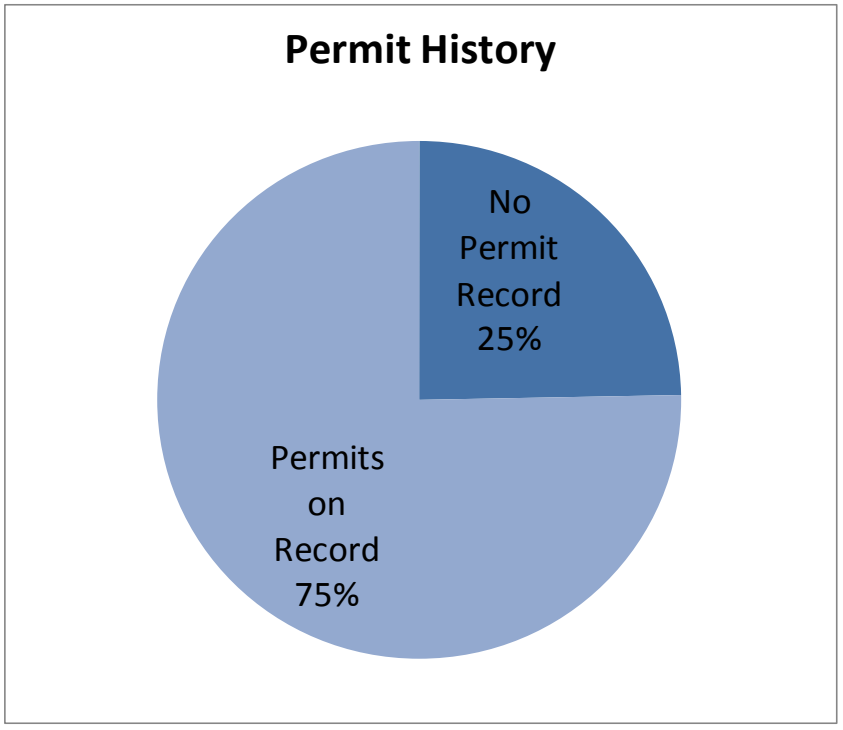
# System Longevity Analysis

**Objectives and Methods**

1. Screen parcels with significant permitting history to **identify possible spatial trends** and select a subset for detailed assessment.
2. Complete permit review and detailed data entry.
3. **Assess onsite wastewater component and system longevity** within the detailed dataset.
4. Assess (if possible) whether environmental conditions, regulations or practices in force at the time the system was installed, influence longevity.

# Parcel Age & Permit History




Parcel age was divided at 1982 when scientifically based wastewater rules were adopted.


# What are the Implications?

More than 70% of the Town's parcels were developed prior to the adoption of scientifically based wastewater rules.

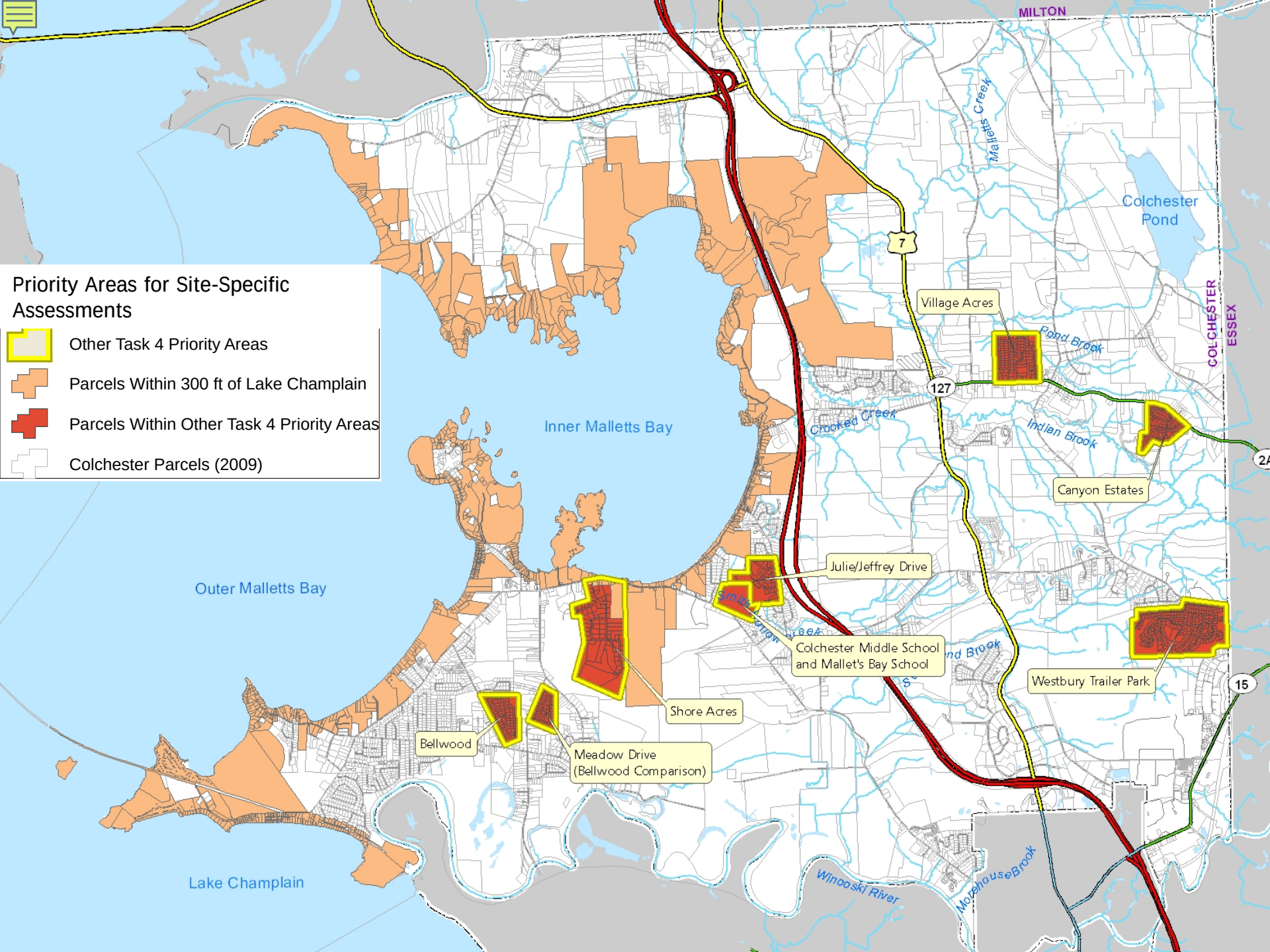
IMPLICATIONS:

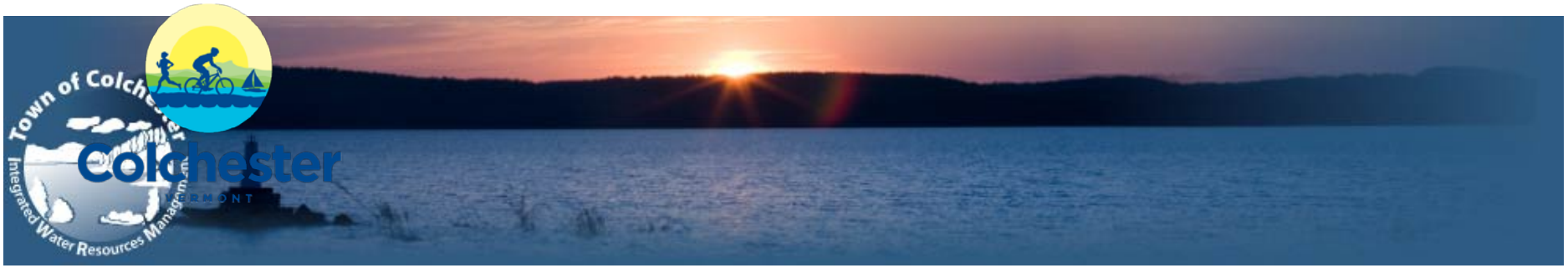
- There could be many more systems needing to be replaced in the future.
- Corrections will involve more reliable systems.

# Detailed On-Site Investigations

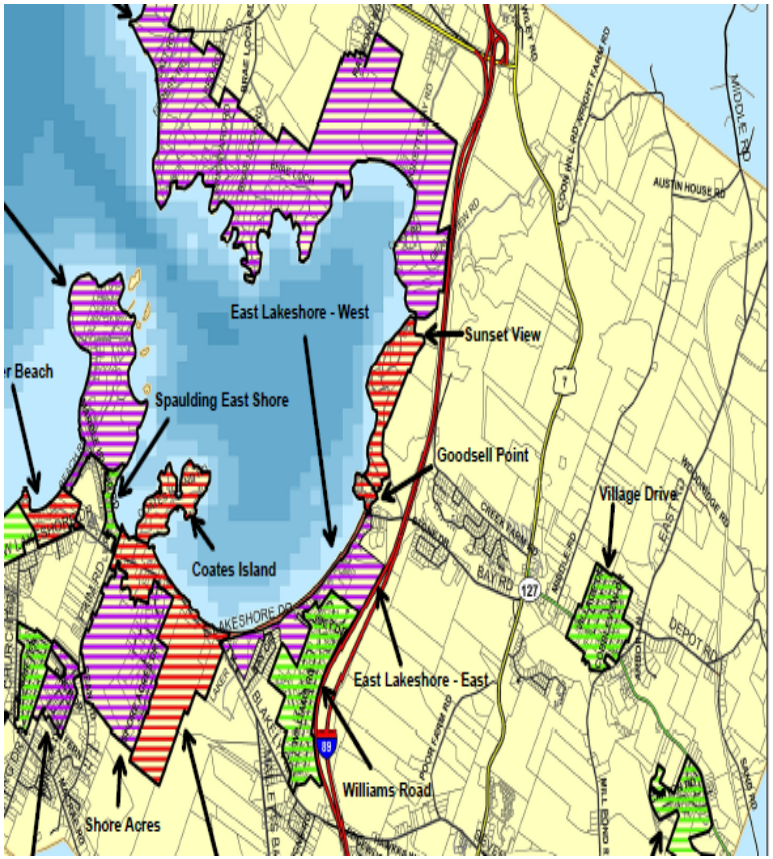
A more detailed field assessment of properties within “Priority Needs Areas”

- Properties within 300’ of the lakefront
- Other properties and clusters of properties where the environmental conditions assessment indicate a potential problem.


Priority Areas for Site-Specific Assessments
Other Task 4 Priority Areas
Parcels Within 300 ft of Lake Champlain
Parcels Within Other Task 4 Priority Areas
Colchester Parcels (2009)
MILTON
Malletts Creek
Colchester Pond
COLCHESTER
ESSEX
7
Village Acres
Pond Brook
127
Crooked Creek
Indian Brook
Canyon Estates
Inner Malletts Bay
Outer Malletts Bay
Julie/Jeffrey Drive
Colchester Middle School and Mallet's Bay School
Westbury Trailer Park
15
Shore Acres
Bellwood
Meadow Drive (Bellwood Comparison)
Lake Champlain
Winooski River
Morehouse Brook




- The majority of the parcels within inner Malletts Bay have significant area and environmental constraints and cannot support properly functioning septic systems.
  - Replacement areas
  - Distance to surface waters
  - Soil suitability
  - Depth to groundwater
  - Depth to bedrock




| Priority Needs Ranking | Area | Recommendations |
|---|---|---|
| High | Goodsell Point | Cluster system or central sewer |
| | Sunset View Road | Manage with O&M permits |
| | Mills Point | Manage with O&M permits |
| | East Lakeshore Drive– West | Central Sewers |
| | Porters Point | Manage with O&M permits |
| | West Lakeshore Drive | Central sewers |
| | Coates Island | Manage with O&M permits |
| | Thayer Beach | Manage with O&M permits |
| Medium | North Mallets Bay / Niquette Bay | Inspect systems every 5 years |
| | Beach Road / Marble Island | Inspect systems every 5 years |
| | Meadow Drive | Inspect systems every 5 years |
| | East Lakeshore Drive – East | Connect to central sewer if extended to East Lakeshore Drive |
| | Colchester Point – West | Inspect systems every 5 years |
| | Colchester Point – East | Inspect systems every 5 years |
| | Broad Lake Shore | Inspect systems every 5 years |
| | Shore Acres | Inspect systems every 5 years |

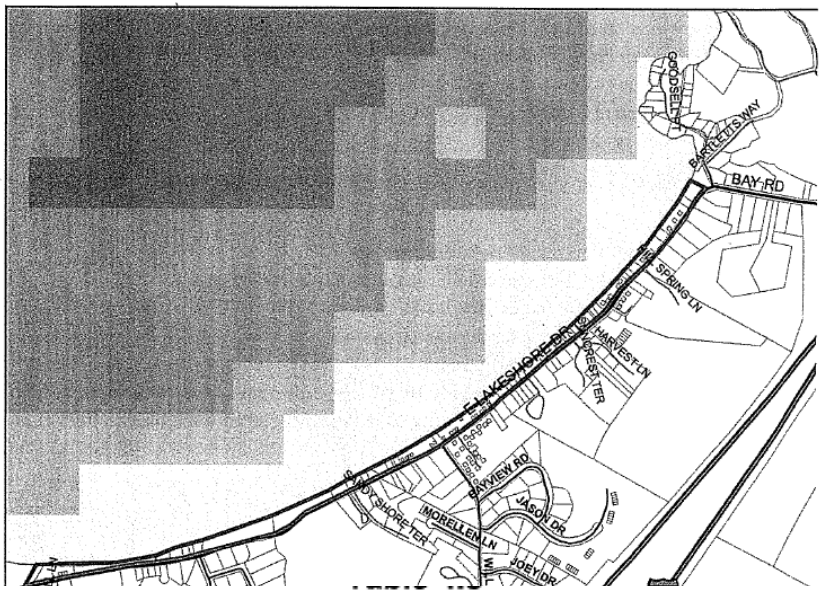



#### 4.1.2 Goodsell Point/Sunset View Road


**Table 4.2**
**Assessment Summary – Goodsell Point and Sunset View Road**

| Criteria | Classification | Rating Value |
|---|---|---|
| Area Limitation | Severe | 4 |
| Distance to Surface Water | Moderate-Severe | 3 |
| Soils | Severe | 4 |
| Groundwater | Moderate-Severe | 3 |
| Bedrock | Severe | 4 |

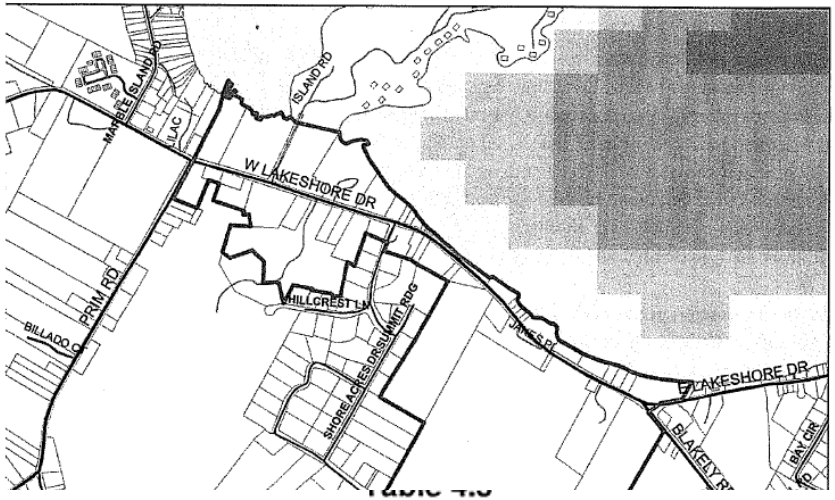
The environmental needs assessment rating for this area is **"high"** with a weighted score of 23.5 points.


**Assessment Summary – East Lakeshore Drive (lake side)**

| Criteria | Classification | Rating Value |
|---|---|---|
| Area | Severe | 4 |
| Distance to Surface Water | Severe | 4 |
| Soils | Low | 0 |
| Groundwater | Moderate-Severe | 3 |
| Bedrock | Low-Moderate | 1 |

The environmental needs assessment rating for this area is **"high"** with a weighted score of 16.5 points.


**Assessment Summary – West Lakeshore Drive**

| Criteria | Classification | Rating Value |
|---|---|---|
| Area | Severe | 4 |
| Distance to Surface Water | Severe | 4 |
| Soils | Low-Moderate | 1 |
| Groundwater | Moderate-Severe | 3 |
| Bedrock | Low | 0 |

The environmental needs assessment rating for this area is **"high"** with a weighted score of 16 points.


MALLETTS BAY INITIATIVE

# FINDING WASTEWATER SOLUTIONS

**Walk & Talk**
*Upper Bayside Park*
*Bayside Activity Center*
*4:00PM*

**MAY 20**

**Public Forum**
*Colchester High School*
*Cafeteria, Laker Lane*
*7:00PM*

*Sponsored by the Colchester Planning Commission*