



Lake Kitchawan Wastewater Study

November 15, 2021



Agenda

- Background & Existing Conditions
- Sampling Results
- Alternatives Evaluated
- Recommended Alternative
- Next Steps

Background/Existing Conditions

- 90-acre lake
- Class B waterbody
- Located within the Croton Watershed
- Previous Studies:
 - 2008 CSLAP Report
 - 2009 Town-Wide Comprehensive Lake Management Plan
 - 2008 Lake Kitchawan Watershed Management Plan



Lake Kitchawan

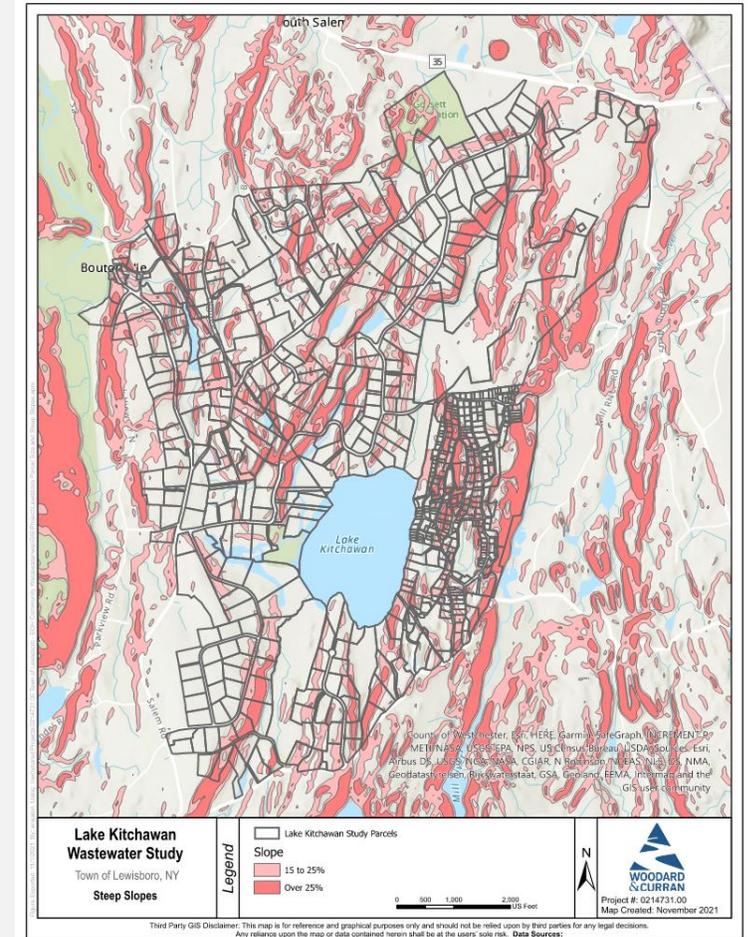
Existing Conditions

Study Area:

Parcel Count: 633

- 474 developed (75%)

High percentage of steep slopes



Project Area Step Slopes

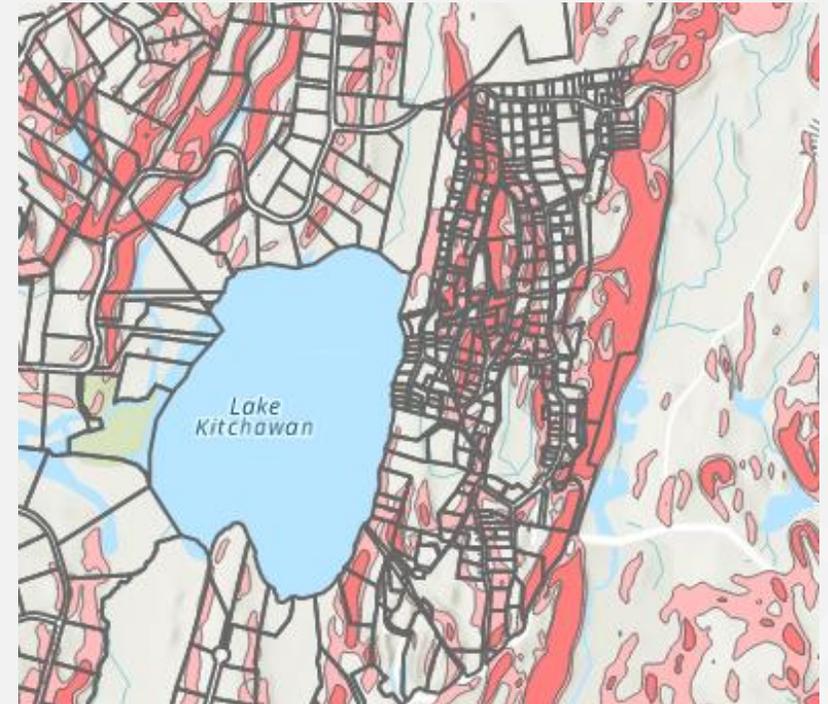
Existing Conditions

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Project Area Steep Slopes

Existing Conditions

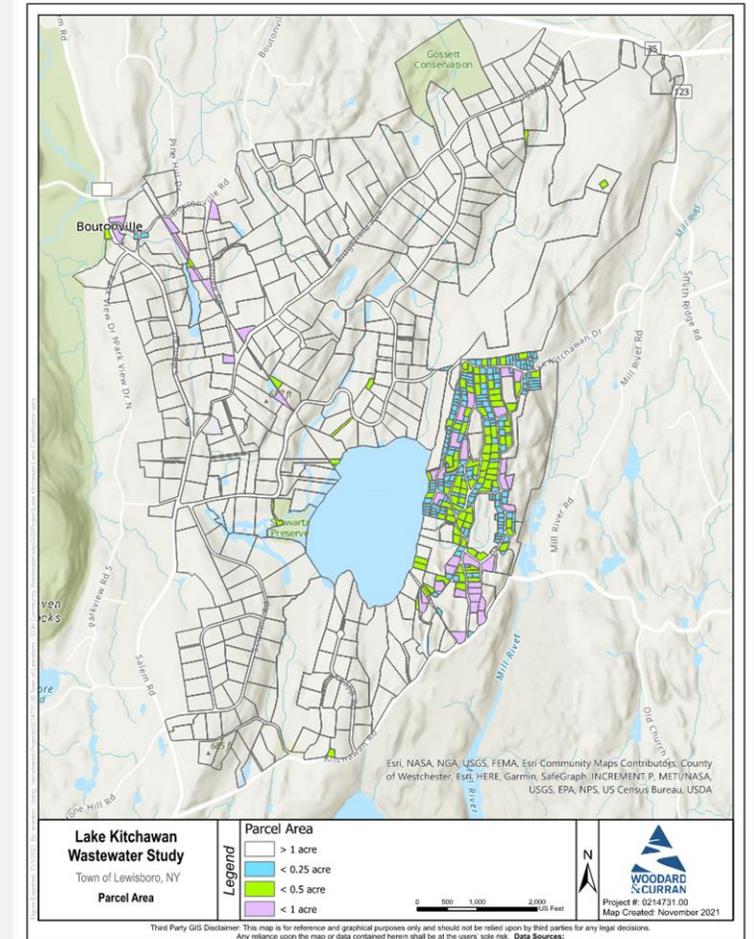
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Average Developed Parcel Size: 1.94 acres

LKAL/KCC Average Developed Parcel Size: 0.34 acres



Small Property Sizes

Existing Conditions

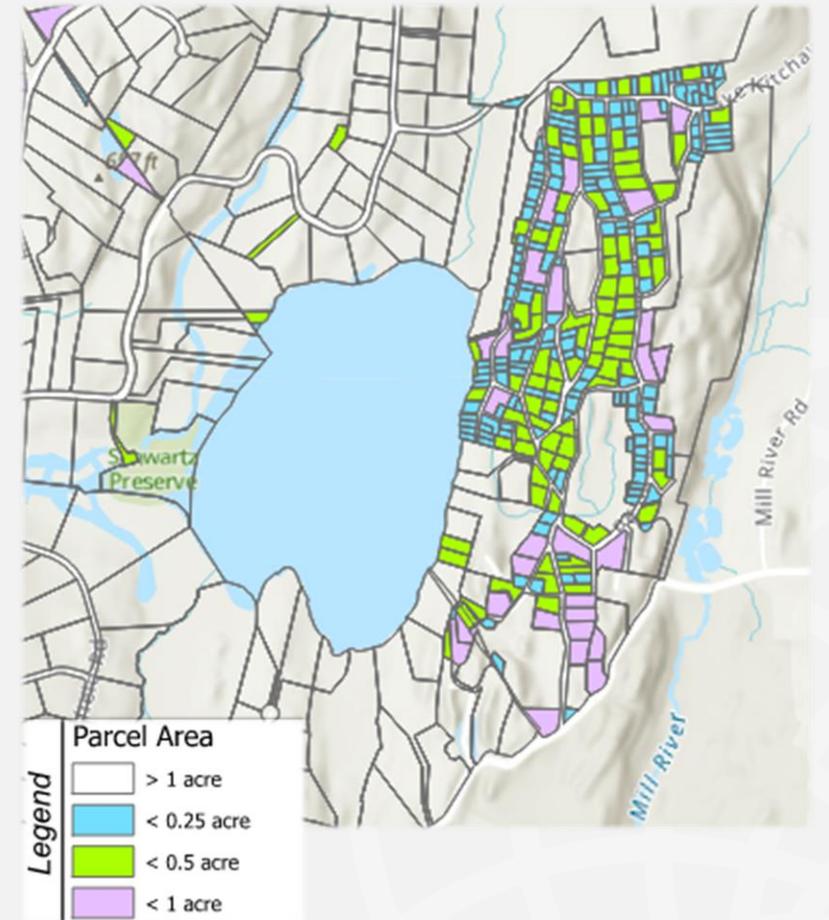
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Small Property Sizes

Sampling Results

- Catch Basins:
 - All 3 exceeded had elevated fecal coliform and E. coli levels
- Lake Samples:

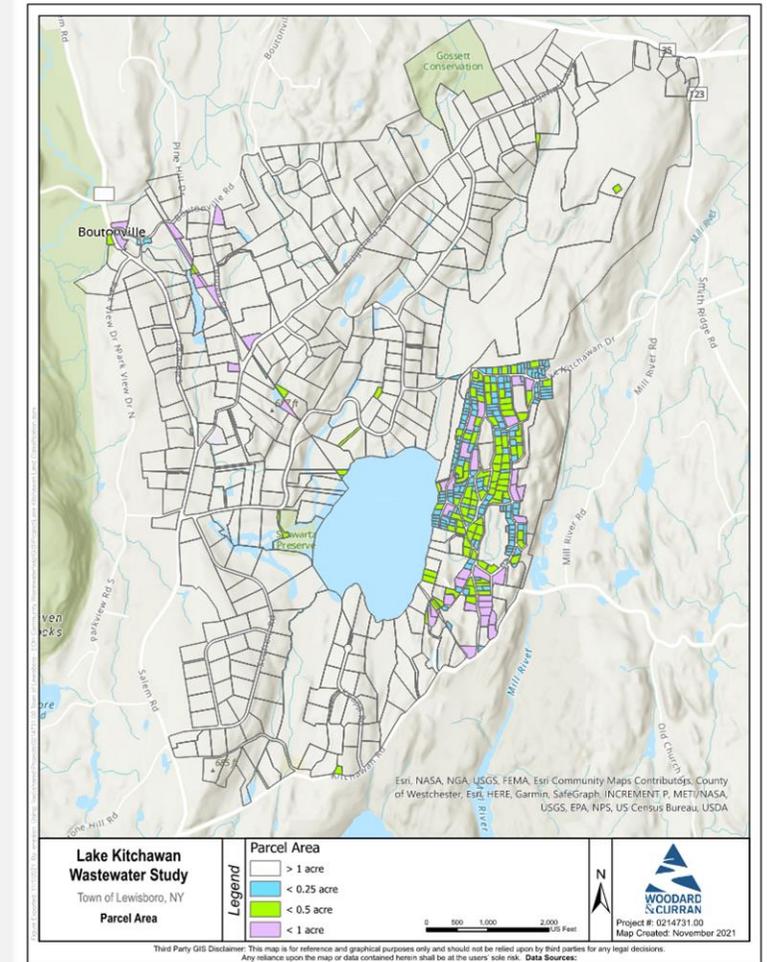
Hazard Level:		Phosphorus (mg/L)	Fecal Coliform (MPN/100 mL)
		Eutrophic conditions when > 0.020 mg/L	Health hazard by NYSDOH above 1,000 col/100 mL
Outfall at Private Beach	Average	0.123	4,232
	Max	0.260	16,000
Outfall on Shore Trail	Average	0.097	5,560
	Max	0.240	16,000
Stream on Shore Trail	Average	0.129	5,320
	Max	0.280	9,200
Stream on Pound Ridge Side	Average	0.187	230
	Max	0.290	230



2021 Average Concentrations

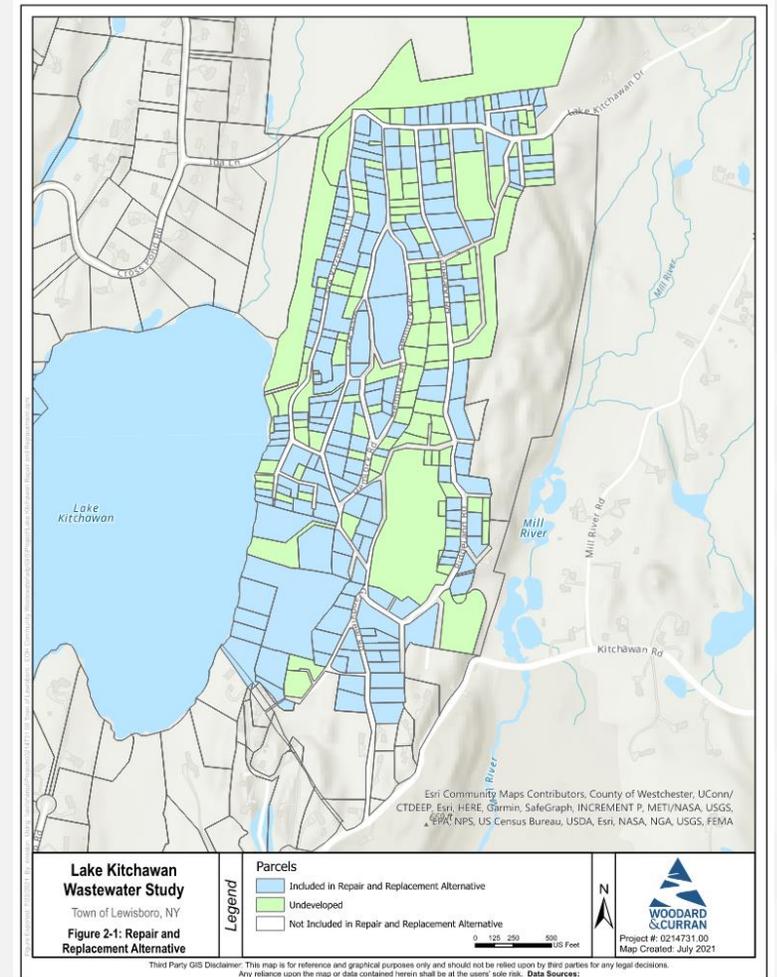
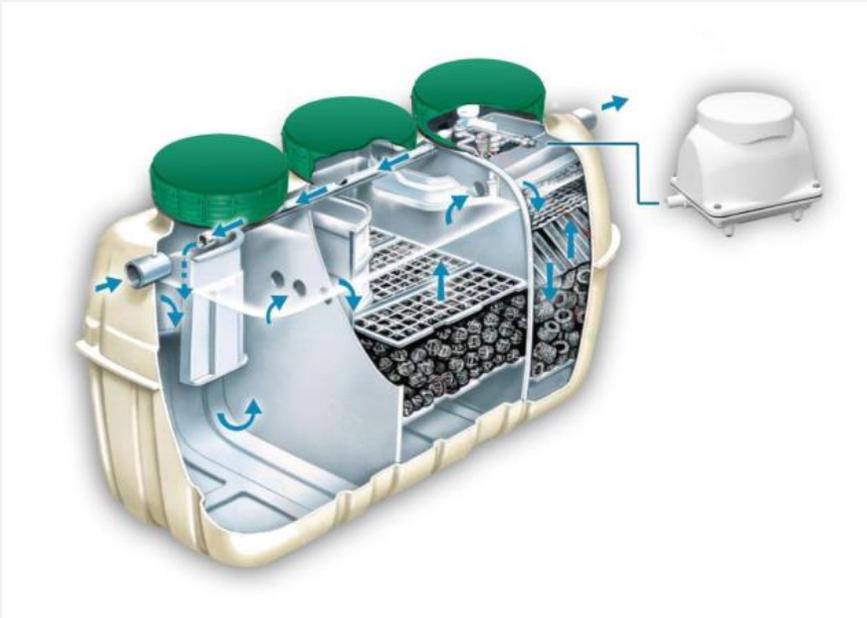
Alternatives Evaluated

- No Action
- Repair and Replacement
 - Advanced onsite systems (187 parcels)
- Centralized Treatment
 - Collection system and local treatment plant
- Decentralized Treatment – Entire Area
 - 6 clusters across the entire service area
- Decentralized Treatment – Critical Area
 - 4 clusters targeted on critical area



Recommended Alternative

- Repair and Replacement
 - FujiClean Model CE5/CRX
 - 187 Properties
 - Estimated Cost: \$3.9M



Repair and Replacement Alternative

Next Steps

- Finalize report, incorporating review comments from NYCDEP
 - Evaluate grant and financing opportunities
 - Apply for state grants and loans to assist in advancing implementation of the recommended project alternative
- 



Questions?

