Water Quality Along the Still River

Issue

- For years, the Still River running through Danbury, Brookfield, and New Milford has had the reputation of being extremely dirty and polluted (Fig. 1b).
- By testing water quality variables at certain locations along the river, we hoped to better understand how polluted the river actually is, as it could help with educating the Town of Brookfield on ways to improve water quality and prevent further contamination.

Objectives

- See how seasonal changes affect water quality variables along the Still River.
- Use the results from the study to educate Brookfield Parks & Rec on ways to limit pollution and degradation of the river and surrounding environment

Methods

- We tested water quality in the Still River at 3 sites near Four Corners in Brookfield, CT (Fig. 1a).
- We created an Epicocllect5 mobile data form to record our data.
- We tested a variety of factors at each location, including: total dissolved solids (TDS), conductivity, temp, ammonia, pH, nitrate, macroinvertebrates, presence of pollution, stream depth/width, and land usage around the segment of river being tested.
- We assessed the effect of season on water quality by testing in Fall 2018 and Winter 2019.

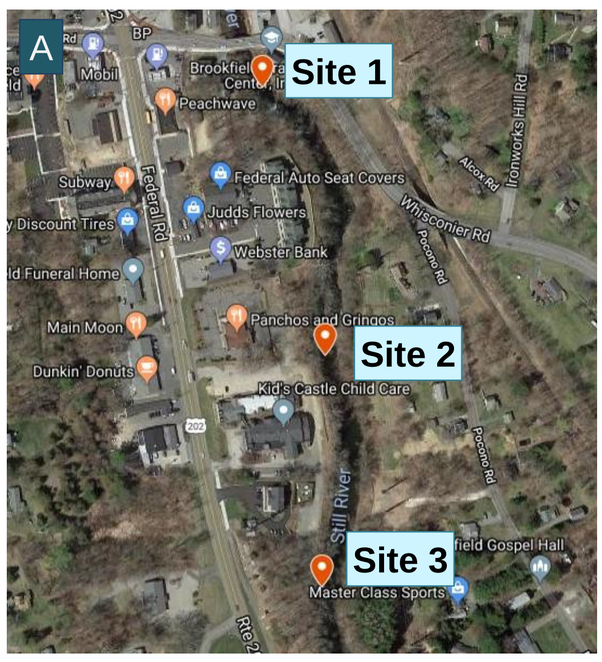


Fig. 1 (A) Map of the locations tested along the Still River in Brookfield, CT. All three locations were near development. However, each differed slightly in the amount and type of development. (B) Photo of Still River near Four Corners of Brookfield. Photo from www.newstimes.com.

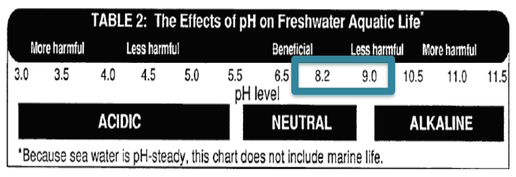
Brookfield Still River Water Quality

Physical, Land Use, and Degradation Traits of Sites

	Site 1 Brookfield Craft Center	Site 2 Behind Panchos & Gringos	Site 3 Kayak Launch
Shape	Curved	Straight	Curved
Look of Water	Clear	Clear	Clear
Land Use	Forest	Greenway & Development	Greenway & Development
Type of Trash	Metals (cans, lids, containers)	Plastics (bottles, bags, containers)	Plastics (bottles, bags, containers)
Habitat Degradation	Trash	Erosion	Erosion
Stream Width/Depth	W: 35’ D: 42’’	W: 40’ D: 42’’	W: 30’ D: 24’’
Macroinvert.	Caddisflies	Stoneflies	Freshwater calms

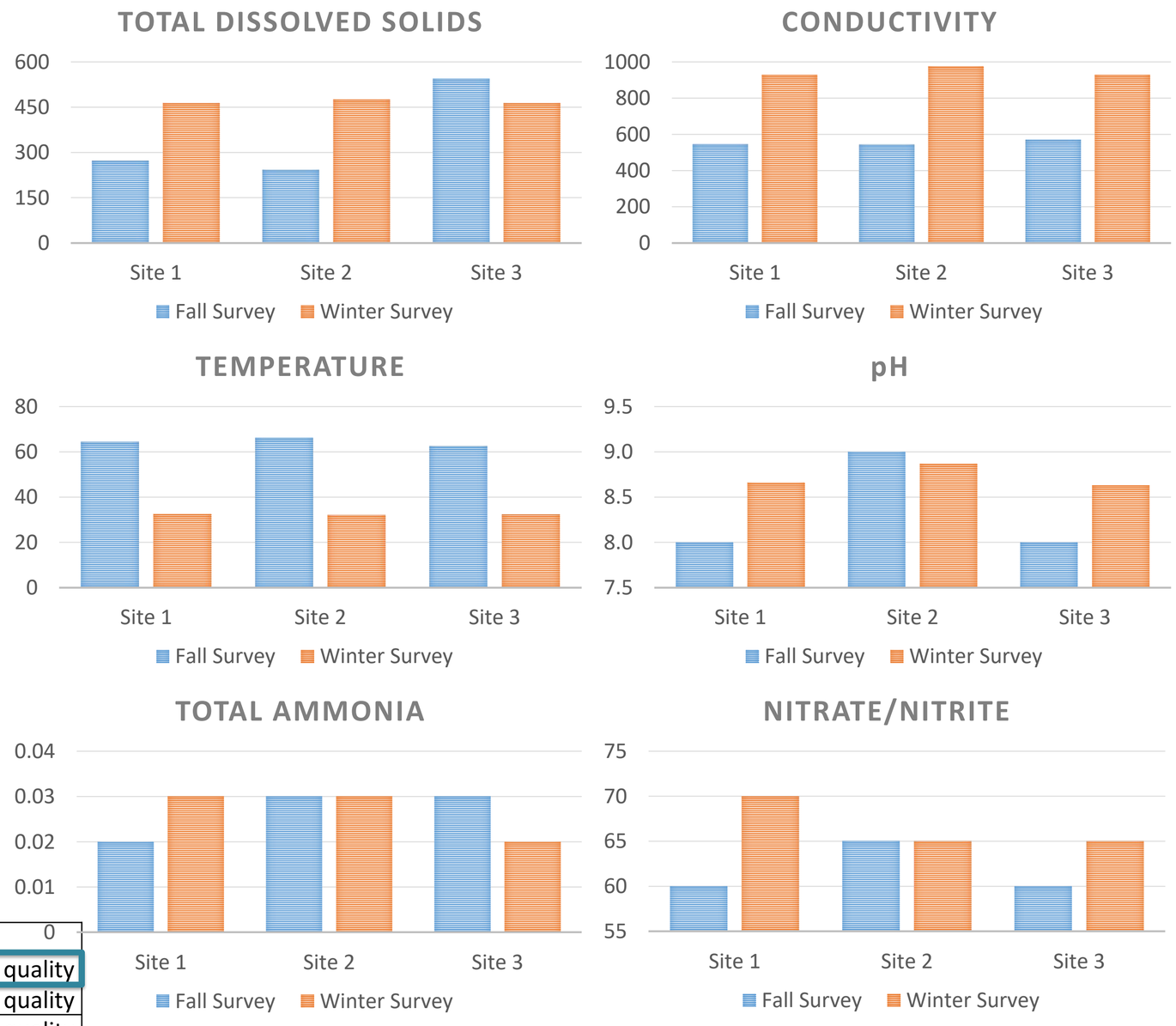
TDS (ppm)	Interpretation
0 - 50	Ideal drinking water
50-100	Carbon filters, mountain springs
100-200	Hard Water
200-300	Average tap water; marginally acceptable
300-400	High tap or mineral springs
400-500	EPA’s max contaminant level
500+	Unfit for drinking water

Conductivity (µS/cm)	Interpretation
0 - 200	Pristine
200 - 1,000	“Normal” for most major rivers
1,000 - 10,000	Saline/impacted condition



Ammonia (ppm)	Trophic Classification	Interpretation
0-0.2	Oligotrophic	Cool and clear water, good water quality
0.2-0.6	Mesotrophic	Fair water quality
0.6-1.0	Eutrophic	Cloudy water, algal blooms, poor water quality
>1.0	Hypereutrophic	Cloudy water, many algal blooms, very poor water quality

Water Quality Parameters of Sites in Fall & Winter



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