

Styles Brook Biological Survey (Survey # 521033)

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Styles Brook (C-25-27-21) is an Essex County stream that has its source in the Jay Mountains in the Town of Jay. It is in the Champlain watershed and flows about seven miles, generally westward, before draining into the East Branch of the Ausable River. There is State land near its source, but the brook is otherwise mostly on private lands. Styles Brook has a handful of previous surveys, but this was the first survey since the remnants of Hurricane Irene devastated Adirondack rivers and streams in August 2011. The brook is not currently stocked, other than periodically receiving Atlantic salmon fry as part of the Lake Champlain restoration effort. The survey is also part of a larger effort to look at the distribution of wild brook trout in the Ausable system.

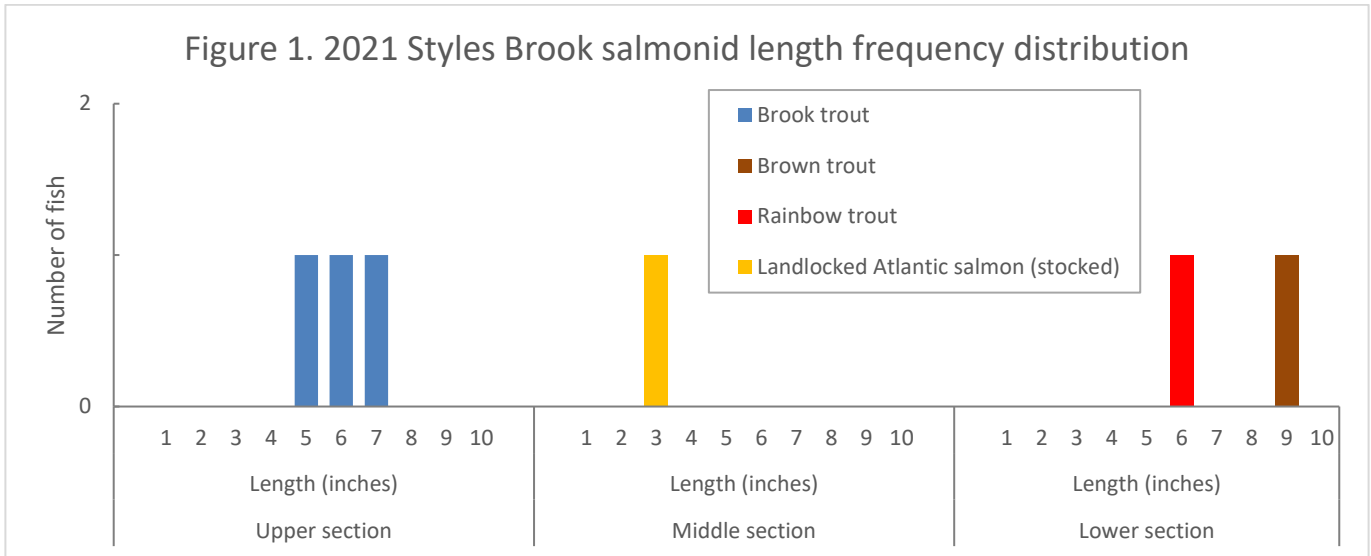
Three sites, all in the Town of Keene, were sampled using a backpack electrofishing unit in July 2021. The lower site was close to the confluence with the East Branch Ausable, the upper two sites were above a waterfall that is a natural barrier to upstream fish passage. A total of 10 fish species were collected across the three sites (Table 1).

Table 1. Numbers caught and size ranges of fish from Styles Brook in 2021.

Section	Species	Number caught	Length range (inches)
Upper site (310' sampled)	Brook trout	3	5.2 - 6.9
	Eastern blacknose dace	51	1.7 - 2.9
	Creek chub	5	2.6 - 3.6
Middle site (300' sampled)	Atlantic salmon	1	2.9
	Eastern blacknose dace	18	1.0 - 2.9
	Rainbow trout	1	5.7
Lower site (305' sampled)	Brown trout	1	9.4
	Cutlips minnow	1	3.4
	Eastern blacknose dace	8	1.7 - 2.6
	Longnose dace	24	2.1 - 3.6
	White sucker	5	3.8 - 5.2
	Slimy sculpin	7	1.0 - 3.2

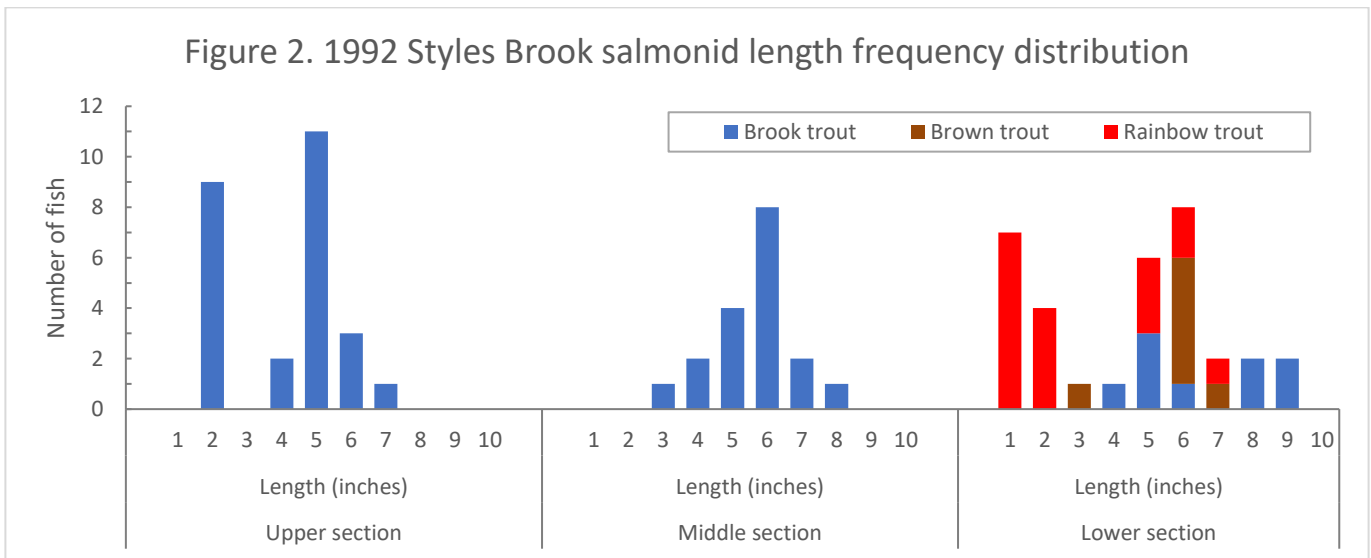
The upper section had the lowest gradient of the three sites and was the lone site with brook trout (Figure 1). It had a streambed with cobble and gravel, but also had a fair amount of silt and sand. The banks and surrounding area at this site appeared to be more stabilized compared to the lower two sites. The visual impacts of Irene continue to be evident in the lower sites with obvious scour and erosion present along the banks. Instream habitat was good with numerous boulders along with cobble and gravel, but the overhead tree canopy was sparse. There seemed to be a general lack of fish and salmonid numbers were much lower than an earlier survey in 1992. The lowest section had the highest fish species diversity, likely due to its proximity to the East Branch of the Ausable River.

Figure 1. 2021 Styles Brook salmonid length frequency distribution



Data from a backpack electrofishing survey conducted in July 1992 (Figure 2) provides a glimpse at the fishery prior to the storm damage from Irene. Survey locations and sampling lengths were similar and should allow for broad comparisons.

Figure 2. 1992 Styles Brook salmonid length frequency distribution



The fishery in Styles Brook seems to have changed dramatically since the remnants of Hurricane Irene swept through the area in 2011. The lower section is likely being repopulated more quickly since fish can move into the brook from the East Branch of the Ausable River. The upper sections will undoubtedly be recolonized by extant populations of wild brook trout in the headwaters, but this could be a lengthy process. A positive sign is the numerous saplings observed along the disturbed areas, which will increase bank stabilization and eventually provide shading. Management recommendation is to resurvey the stream periodically to monitor the recovery process.