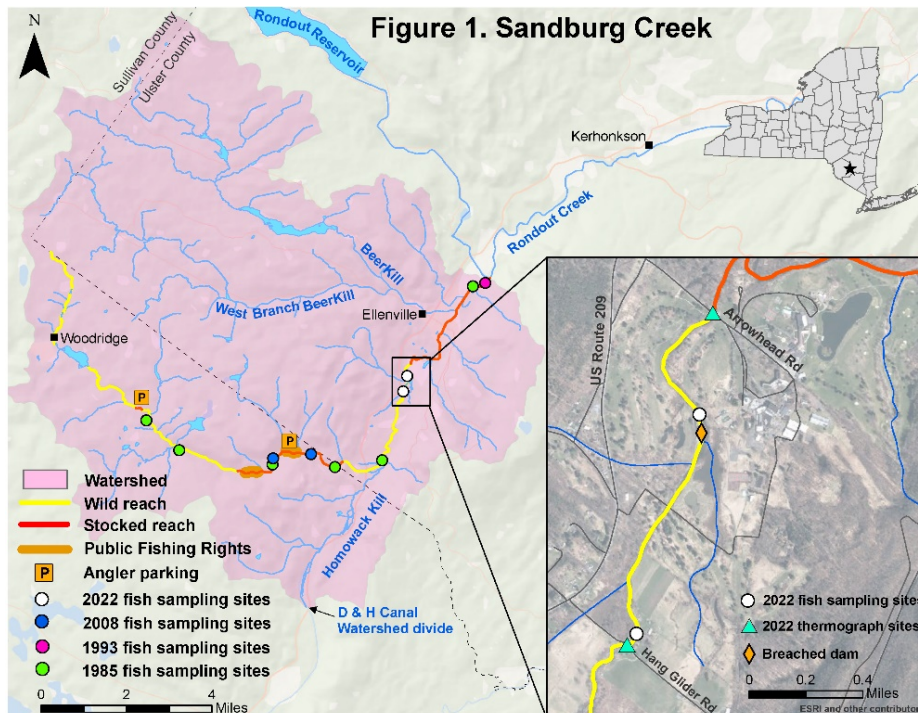


Lower Sandburg Creek Fisheries Survey (Survey #322022)

Robert D. Adams, Region 3 Fisheries

August 2022

Sandburg Creek follows a semicircular path from its headwaters in the Town of Woodridge (Sullivan County) to its confluence with Rondout Creek in Ellenville (Ulster County). The nine-mile section of creek in Sullivan County is a typical Catskill trout water with riffles, step-pools, shallow runs, undercut banks, and canopy shading throughout. All formalized fishing access is limited to this stretch of creek (see Figure 1). The remaining 10 miles of creek in Ulster County is hydrologically different from the upper section. Here, the creek is wide, with a low-gradient, and flows through a combination of forested and mixed-use urban landscape. Long, shallow runs and deeper pools predominate. Angler access in this section is limited to road crossings and informal methods.



The 2022 survey focused on the Ulster County section of creek, which is divided into two NYSDEC-managed reaches at Arrowhead Road. Historically, each of these reaches had a stocking policy of two springtime releases of hatchery brown trout. In 2020, these policies were re-evaluated using the new management standards established in the revised New York Trout Stream Management Plan (NYSDEC 2020). Survey data were very limited for both reaches with a single site sampled in the upstream reach in 1985 and two sites sampled in the lower reach, one in 1985 and one in 1993. Combined annual data for the lower reach indicated the 'Stocked' policy is still appropriate; however, the 1985 wild trout biomass estimate in the upper reach exceeded the minimum pounds per acre threshold for a 'Wild Quality' management type. Initial thoughts were to change designation on the upper reach, but after considering the age of the dataset, the paucity of public access and anecdotal changes to the stream and landscape since the previous sampling efforts, it was determined this upper Ulster County reach would be re-classified as 'Wild' until further data were collected.

In 2022, fisheries staff secured permission to sample on private property within the newly 'Wild' reach (see Figure 1 inset) to characterize the fish populations and measure summertime thermal profiles above and below a small, damaged barrier that fully breached due to high stream flows from Tropical Storms Irene and Lee in 2011. Additional sampling near the Homowack Kill (1985 location) was planned, but cancelled, as the site is now too wide, braided, and deep for efficient sampling with standard electrofishing gears.

Thermographs were installed in May below the Hang Glider and Arrowhead Road bridges and retrieved at the end of September. Monthly statistics by site are compared in Table 1 and show a clear difference in thermal profiles between the sites. The downstream site was increasingly warmer as the season progressed, averaging over 70° F in the month of August. The difference in temperatures is likely attributed to the breached dam, which still slows enough water to create a small impoundment, more readily warmed by the sun than the creek. As temperatures below this breached dam already push the thermal summertime limits for

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Table 1. Mean monthly temperatures by site. Maximum and minimums are in parentheses.

Site	May	June	July	Aug	Sept
Hang Glider Road	62.0 (70.2-56.1)	62.8 (71.5-56.1)	68.6 (75.3-62.6)	68.5 (74.5-62.5)	62.7 (69.2-53.6)
Arrowhead Road	62.4 (70.5-56.4)	63.4 (72.1-56.5)	69.9 (78.3-63.2)	70.5 (77.1-63.6)	63.3 (70.4-53.7)
Mean difference	0.4	0.6	1.3	2	0.6

trout, repairing the dam and impounding more water could create a downstream thermal environment not suitable to support a wild trout population during the summer months.

Fish collections took place on July 11-12, 2022 at two sites within the managed reach: below Hang Glider Road and immediately below the breached dam. Stream widths averaged 40 feet per site, and site lengths were 250 and 400 feet, respectively. Each sampling site was blocked with seines and two passes were made using a stream electrofisher with three wands and 3-4 scappers. To best characterize the fish communities between the sites, all species were collected on the first runs; however, only trout species were collected on the second runs to complete the sampling for population estimation.

As shown in Table 2, the 2022 species assemblages differed by site. The site upstream of the impoundment had a more typical stream fish community for the region, dominated by cyprinids, white suckers and darters. The site below the breached dam had a mixture of lentic and lotic fish species, a likely result of fish moving downstream from the impoundment. The presence of bluespotted sunfish and shield darters, species predominantly found in the Delaware River drainage, provides further evidence that fish move between the Delaware River drainage and Hudson River drainage via the Delaware & Hudson Canal.

The yearling and older wild brown trout catch rates and estimated biomasses did not meet the 'Wild Quality' standards in the new plan. However, the presence of young-of-year trout at both sites indicates stream conditions are sufficient to support wild reproduction and survival within the reach. Taking both this wild production and the paucity of public fishing access in the reach into account, it is recommended that the 'Wild' designation should remain in place as long as these conditions remain unchanged.

Finally, the dam breach has likely restored seasonal access of fish species to thermal refugia and spawning habitats throughout the reach. It is recommended that these sites be sampled again in five years to evaluate if wild trout production and stream conditions continue to improve as a result of this improved connectivity. Any repairs to the structure would likely re-isolate these fish populations and degrade stream conditions below the dam and would also necessitate further study.

Literature Cited

NYSDEC. (2020). *New York State Trout Stream Management Plan*. Albany: New York State Department of Environmental Conservation.

Table 2. Numbers and percentages of species caught by site

Family	Common Name	Upstream		Downstream	
		n (%)	n (%)	n (%)	n (%)
Anguillidae	American Eel	1 (0.4%)	3 (1.1%)		
Catostomidae	White Sucker	38 (16.7%)	88 (33.2%)		
	Bluegill	-	-	2 (0.8%)	
Centrarchidae	Bluespotted Sunfish	-	-	4 (1.5%)	
	Green Sunfish	1 (0.4%)	13 (4.9%)		
	Largemouth Bass	-	-	2 (0.8%)	
	Pumpkinseed	-	-	16 (6.0%)	
	Rock Bass	-	-	1 (0.4%)	
Cyprinidae	Common Shiner	25 (11.0%)	1 (0.4%)		
	Creek Chub	22 (9.6%)	8 (3.0%)		
	Cutlip Minnow	-	-	16 (6.0%)	
	Eastern Blacknose Dace	32 (14.0%)	-		
	Emerald Shiner	-	-	6 (2.3%)	
Esocidae	Longnose Dace	56 (24.6%)	21 (7.9%)		
	Redfin Pickerel	-	-	1 (0.4%)	
Ictaluridae	Brown Bullhead	-	-	1 (0.4%)	
Percidae	Shield Darter	4 (1.8%)	6 (2.3%)		
	Tessellated Darter	32 (14.0%)	46 (17.4%)		
Salmonidae	Brown Trout - wild adult	2 (0.9%)	9 (3.4%)		
	Brown Trout - young of year	15 (6.6%)	19 (7.2%)		
	Brown Trout - stocked	-	-	2 (0.8%)	

