

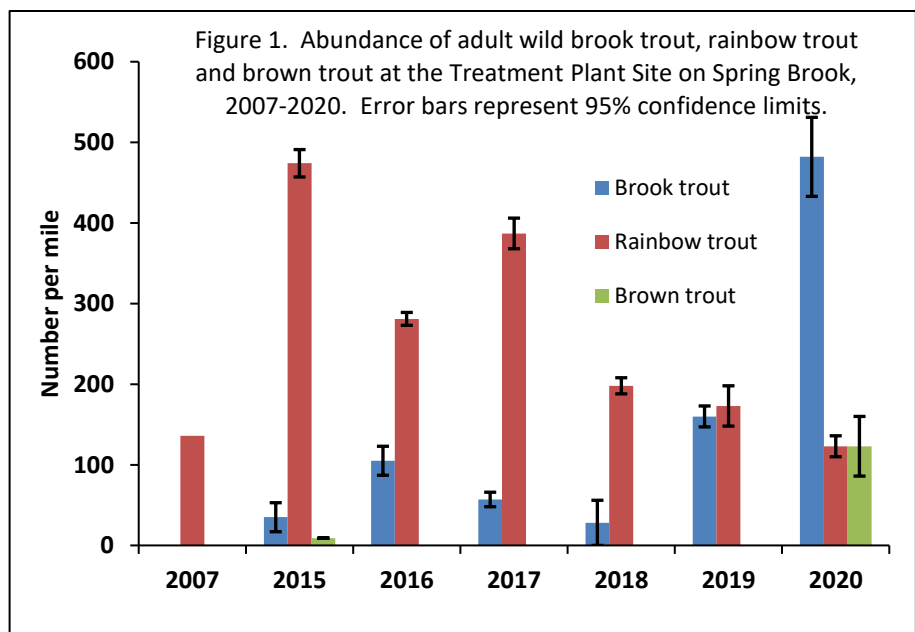
Spring Brook Trout Population Estimate

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Spring Brook, a small but fertile stream flowing through the Village of Springville in southern Erie County, provides a rather unique fishery in Region Nine. Only wild brook trout are found above an impassable barrier at South Buffalo Street; while below the barrier, wild rainbow trout and a few wild brown trout are also present. Due to the stream’s naturally high fertility, it is capable of producing larger brook trout than most of the streams where they are normally found in Region Nine. Public access to Spring Brook is limited to some village owned property and non-posted areas on private lands. On June 16, 2020, as part of region-wide trout population monitoring, Spring Brook was sampled by electrofishing at two sites; one above the Village Treatment Plant and one at Maple Ave, totaling 838 feet of stream. These sites had been sampled six to seven times between 1992 and 2019 (Figures 1 and 2). To estimate the adult trout population abundance, we utilized two electrofishing passes in 2015-2020. Prior to this we utilized single pass methodology.

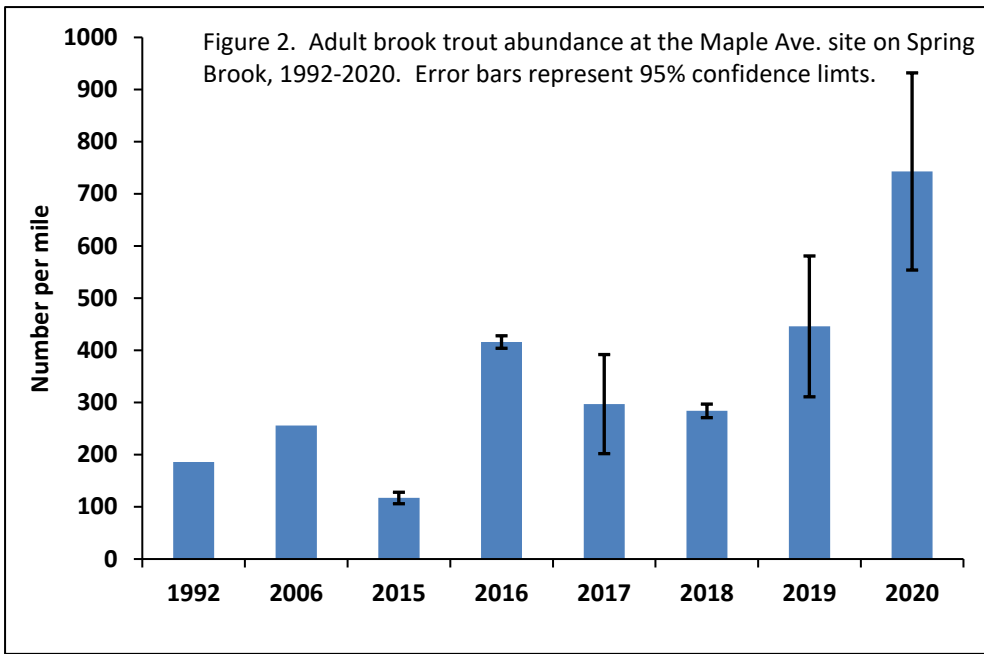
In 2020, at our Treatment Plant site, we captured 10 yearling and older (adult) rainbow trout along with 38 adult brook trout and 10 adult brown trout. Adult rainbow trout ranged in length from 5.4 to 13.4 inches, with an average length of 9.5 inches. The average length of wild brook trout was 6.5 inches and they ranged from 4.7 to 9.4 inches. Adult brown trout ranged from 5.5 to 11.0 inches and averaged 7.5 inches. The abundance of adult rainbow trout, brook trout and brown trout at this



site were 123 fish/mile (± 13), 482 fish/mile (± 49) and 123 fish/mile (± 37), respectively (Figure 1). At the Maple Ave site, we captured 47 adult wild brook trout ranging from 4.1 to 9.8 inches, producing an abundance estimate of 743 fish/mile (± 189) (Figure 2). The average length of brook trout at this site was 6.2 inches. No young-of-year trout were captured at either site and it is believed that most brook trout reproduction occurs in a very limited area of the main stream and one tributary above Middle Road. It is unknown where reproduction of rainbow trout and brown trout is occurring as much of the stream below Springville, downstream to the mouth, is heavily embedded with dense clay deposits. Some potential spawning gravel does exist in and just below



our Treatment Plant sampling site, resulting from streambank stabilization work that has been done in that section.



Adult rainbow trout abundance at the Treatment Plant site showed a significant declining trend from 2015 to 2020, while adult brook trout showed a significant increasing trend (Figure 1). Adult brook trout abundance at this site in 2020 was by far the highest we have measured. Wild brown trout had only been captured at the Treatment Plant site once - a single

fish in 2015. In 2020, nine of the ten brown trout captured were yearling-sized fish, with the other likely a two or three-year-old. Thus, it appears brown trout are maintaining a small, but viable population below the barrier in Spring Brook. Adult brook trout abundance at the Maple Ave site showed a significant long-term increase from 1992 to 2020, with 2020 also being the highest abundance of any survey year (Figure 2). At both sites, the vast majority of adult brook trout were yearlings, thus it appears that reproduction in 2019 was well above average and led to the large increase in adult trout abundance at both sites. Unlike past years, no larger brook trout were captured in 2020 sampling. Overall, it appears that the brook trout population in Spring Brook has increased in 2020 and while the available habitat and fertility of Spring Brook should be expected to support a high density of fast-growing wild brook trout, a number of factors may be limiting them from reaching their potential upstream of the impassable barrier. Water temperature monitoring by DEC in 2015 indicated most sections of the stream experience water temperatures which are very marginal for the growth and survival of brook trout in the summer. In addition, poor land use practices throughout the watershed, including urban development and substantial water withdrawals may be limiting reproduction for brook trout. Based on this year's sampling, it appears Spring Brook will continue to provide a fishery for wild brook trout above the impassable barrier, while the area downstream will provide some fishing for anglers wishing to pursue wild rainbow, brown and brook trout. Minor changes to angling regulations are expected for this stream, beginning in 2021, based on the 2020 state-wide Inland Trout Stream Management Plan.