

Swatara Creek NWQI Successes

The USDA Natural Resources Conservation Service's (NRCS) National Water Quality Initiative (NWQI) is improving water quality in five watersheds across the state. The Swatara Creek NWQI is one of two watersheds in the state focused on improving sources of drinking water. When source water, whether ground or surface water, is protected from pollution, it remains cleaner and requires less treatment to ensure that safe drinking water standards are met.

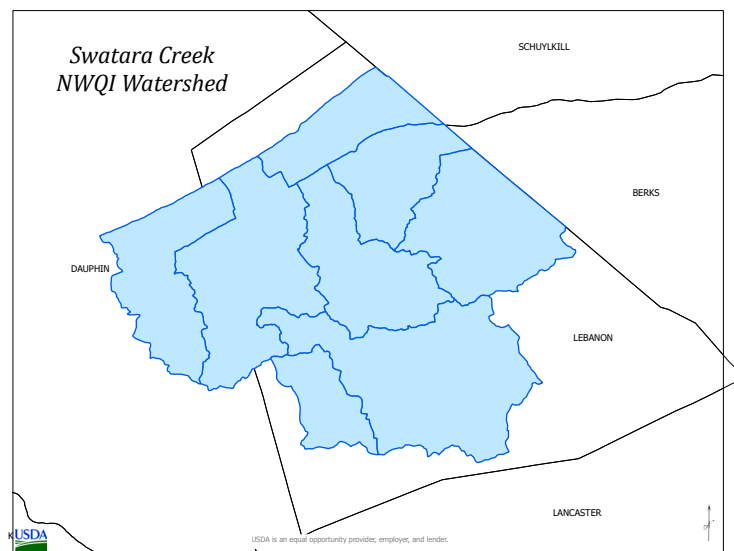
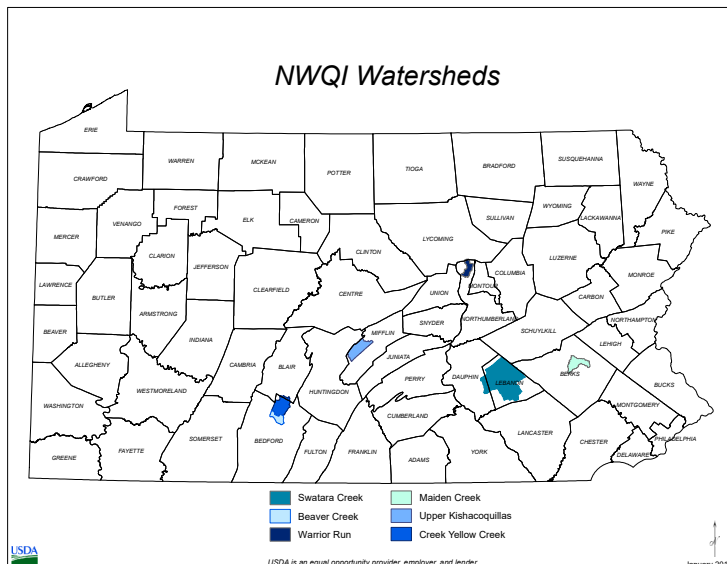
The primary water suppliers within this watershed are the Pennsylvania American Water Company (PAWC), City of Lebanon Authority (CLA), Fredericksburg Water Authority (FWA), Quentin Water Company (QWC) and West Lebanon Township (WLT). These suppliers account for 98 percent of the population on community water supplies.

NWQI funds are available through the Environmental Quality Incentives Program (EQIP) to assist landowners in installing conservation practices on the landscape that will prevent excessive amounts of nutrients and sediments from reaching the state identified ag impaired streams. NRCS has conducted NWQI outreach in the area; but due to COVID restraints over the past two years, it has been challenging. For 2021, most outreach was accomplished via in-person personal contact versus large-scale workshops. Local NRCS staff participated in three events to make the public aware of the Swatara Creek NWQI, reaching approximately 350 individuals. They included a PSU Crops Day, Fulton Bank Ag Lenders Annual Appreciation Day, and the Susquehanna River Basin Commission Regional Annual Meeting.

Despite the challenges previously mentioned, the following work was done in the watershed.

OUTPUT	2020	2021	TOTALS
Conservation plans written	30	18	48
Contracts signed	10	10	20
Contract dollars committed	\$1,618,747	\$811,117	\$2,429,864
Acres Treated	1,849.7	1,014.5	2,864.2

In addition to the NRCS measured outputs, water quality outcomes were measured by partners. This year (2021) was the third year of implementation for the Swatara Creek NWQI project. While total precipitation and number



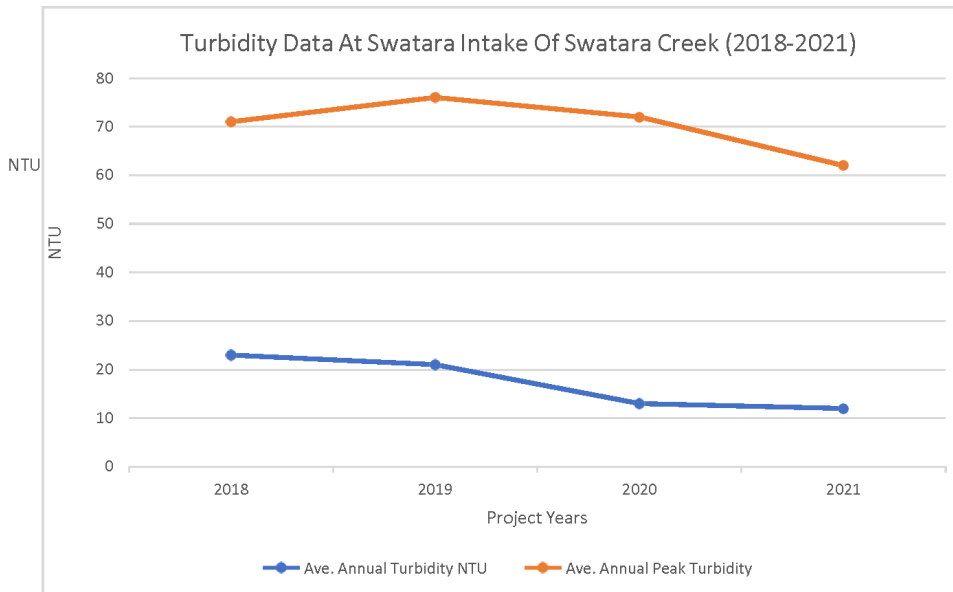
of peak storm events were both near average, there was a significant reduction in turbidity measurements during these peak storm events. Peak storm events represent the time in which conservation efforts are most easily identified as contributing factors to improvement in water quality. A 10 percent reduction of average annual peak turbidity by the third year of the project was set as a goal in the Watershed Assessment Plan for Swatara Creek (2019). The data demonstrates success in meeting this benchmark showing a 13-percent reduction since 2018. While there may be additional contributing factors to this water quality improvement, the evidence is quite clear that positive progress has been made.

SWATARA CREEK NWQI APPLIED PRACTICE HIGHLIGHTS

SWATARA CREEK NWQI PLANNED PRACTICE HIGHLIGHTS

Practice	Amount	Unit	Resource Concern Addressed
Access Road	844.0	Ft	Gully erosion
Diversion	3,116.0	Ft	Gully erosion
Fence	20,916.0	Ft	Inadequate feed and forage
Heavy Use Area Protection	25,102.0	SqFt	Excess nutrients to surface water
High Tunnel System	3,363.0	SqFt	Undesirable plant productivity and health
Nutrient Management	590.1	Ac	Nutrients transported to surface water
Subsurface Drain	5,082.0	Ft	Sheet and rill erosion
Trails and Walkways	9,892.0	Ft	Sheet and rill erosion
Underground Outlet	7,480.0	Ft	Excess nutrients to surface water
Waste Storage Facility	18.0	No	Nutrients transported to surface water

Practice	Amount	Units	Resource Concern Addressed
Cover Crop	609.0	Ac	Aggregate instability
Diversion	5,020.0	Ft	Gully erosion
Fence	16,702.0	Ft	Inadequate feed and forage
Heavy Use Area Protection	17,502.0	SqFt	Excess nutrients to surface water
Lined Waterway or Outlet	858.0	Ft	Gully erosion
Livestock Pipeline	11,160.0	Ft	Inadequate water
Nutrient Management	3,455.2	Ac	Nutrients transported to surface water
Prescribed Grazing	369.5	Ac	Inadequate feed and forage
Roofs and Covers	17.0	No	Nutrients transported to surface water
Terrace	8,475.0	Ft	Sheet and rill erosion



	Ave. Annual Turbidity	Ave. Annual Peak Turbidity
	NTU	
2018	23	71
2019	21	76
2020	13	72
2021	12	62

	# Peak Storm Events	Total Annual Precipitation	Reduction in Ave. Annual Peak Turbidity
		Inches	
2018	20	67	x
2019	17	48	7%
2020	10	38	1%
2021	14	46	-13%
Ave.	15	50	

