

# Maiden Creek NWQI Successes

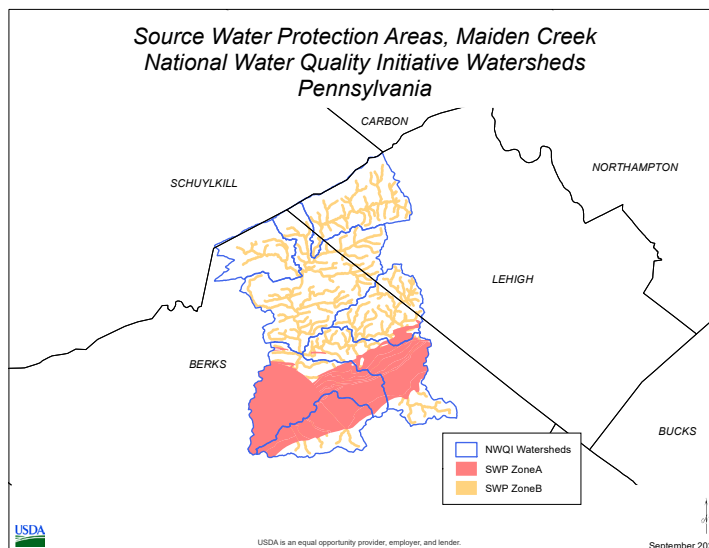
The USDA Natural Resources Conservation Service's (NRCS) National Water Quality Initiative (NWQI) is improving water quality in five watersheds across the Commonwealth. The Maiden Creek NWQI is one of two watersheds in the state focused on improving sources of drinking water. When source water, whether 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 Reading Area Water Authority (RAWA) which provides water to the approximately 100,000 residents of the City of Reading, Kutztown Borough which supplies water to the residents of Kutztown, and Kutztown University, and Fleetwood Borough. 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 and its partners have conducted NWQI outreach in the area. Despite the challenges presented by the coronavirus, a stakeholders meeting and a field day were held reaching 100 participants. NRCS completed the following work in the watershed.

OUTPUT	2009-2019 Upper Maiden & Sacony	2020-2021 Entire Maiden	TOTALS
Conservation plans written	360	51	411
Contracts signed	88	15	103
Contract dollars committed	\$5.568 M	\$1.155 M	\$6.724 M
Acres Treated	11,091	2,140	13,241

In addition to the NRCS measured outputs, water quality outcomes are being measured by partners. This year (2022) will be the third year of implementation for the Maiden Creek NWQI project. One of the measurable results as part of the Maiden Creek NWQI is to see a 10% reduction in nitrates across all the sampling points used by the Reading Area Water Authority. Aggregated



nitrate levels at the time of the watershed plan was 4.1 mg/L. Through 2021, levels remained at 4.1 mg/L and will continue to be monitored through the life of this watershed plan and after to see the longer-term impacts of the installed Best Management Practices.

Sacony Creek Practices Applied 2009 - 2018			
Practice	Amount	Unit	Resource Concern Addressed
Waste Storage Facility	20	No	Nutrient transported to surface water
Cover Crops	1,100	AC	Sheet and Rill Erosion
Diversion	880	LF	Gully Erosion
Roofs and Covers	14	No	Nutrient transported to surface water
Fence	28,115	LF	Inadequate Feed and Forage
Grassed Waterway	0.9	AC	Gully Erosion
Livestock Pipeline	10,798	LF	Inadequate Water
Prescribed Grazing	447.6	AC	Nutrient transported to surface water
Heavy Use Area Protection	32,000	SF	Nutrient transported to surface water
Trails and Walkways	8,870	LF	Inadequate Feed and Forage
Nutrient Management	5,703	AC	Nutrient transported to surface water
Underground Outlet	2,208	LF	Gully Erosion

Prior efforts in the Maiden Creek watershed through previous NWQI and RCPP initiatives had been focused on the subwatersheds in the Upper Maiden Creek and the Sacony Creek. Historical data on the Sacony Creek has been collected and analyzed at the Kutztown Borough Water Authority Treatment plant. The chart at the bottom shows significant improvements in Nitrate levels from 2000 through 2016 as nitrate levels dropped from 8.5 to under 6.0. Those reductions are fairly easily

tied to agricultural best management practices as the land in the area is primarily agricultural.

Recent nitrate levels beginning around 2018 have increased back to over 8.0 as shown in the separate chart. Possible explanations for why we have seen this increase again would be due to nearly record rainfall. With climate change being a part of the new normal, continued installation of best management practices will be needed to offset the amount and intensity of rainfall events.

