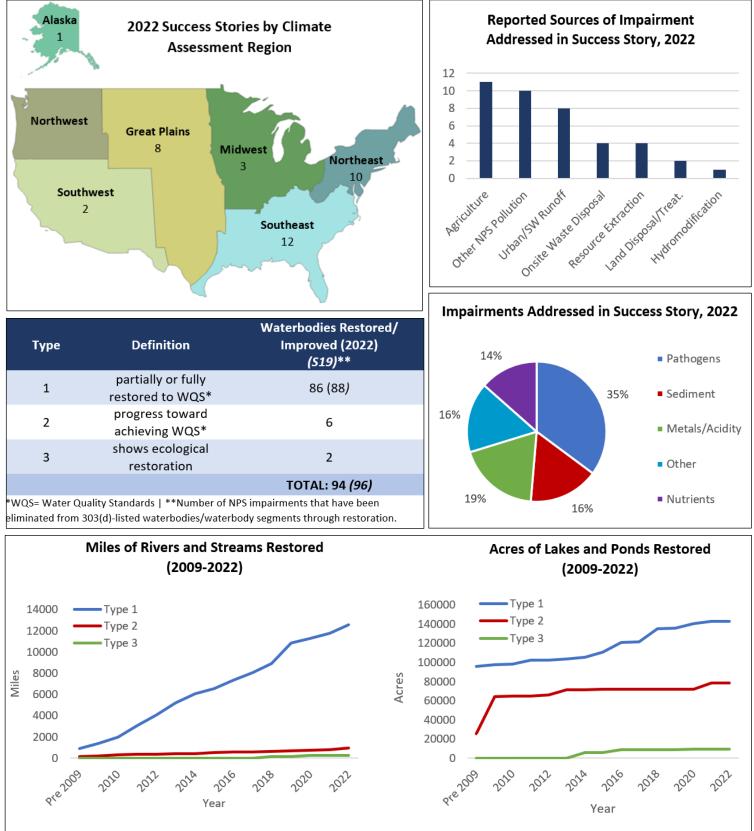
## **2022 Nonpoint Source Success Story Recap**

<u>Success stories</u> describe nonpoint source (NPS) pollution-impaired water bodies where restoration efforts have led to documented water quality improvements. Stories are submitted by states and territories and address a range of pollutant causes and types. Since 2009, success stories have documented over **1080 waterbodies restored and improved**.



Over 12,500 miles of rivers and streams restored.

Over 230,000 acres of lakes and ponds restored.

Scotts Level Branch is a small creek in Baltimore County, MD that has been negatively impacted by an increase in highdensity residential and commercial landuse. The Scotts Level Branch channel had become deeply incised and lost connection to its floodplain. The riparian zone was sparsely wooded, and much of the floodplain vegetation was composed of invasive reed-canary grass. The 2014 Middle Gwynns Falls Small Watershed Action Plan included a plan for restoration of Scotts Level Branch. Best management practice (BMP) implementation included 1,973 linear feet of stream restoration, 1.51 acres of floodplain plantings, and 3.2 acres of wetland establishment and restoration. Additionally, the Scotts Level Branch floodplain was excavated to re-establish floodplain connection and reduce erosive flows. Monitoring has shown that the project work restored wetland soils and hydrology, and that nutrient and sediment cycling were beginning to re-establish to their natural state 2 years after construction. Herpetological surveys at the site have identified multiple amphibian and reptile species, and volunteer birders documented over 100 species of birds using the newly created forest and wetland habitat.



*Typical floodplain conditions before (top, 2011) and after (bottom, 2020) restoration.* 

## Cleaning Up Cold Springs Creek (Type 1)

Historic mining activities polluted **Cold Springs Creek, New Mexico.** The Royal John Mine and Mill site contained numerous adits, cuts, and waste rock piles, and mile tailings were piled on both the banks and the channel of the creek. Water quality samples collected in 2009 detected elevated levels of lead and cadmium, resulting in Cold Springs Creek being listed as impaired on the 2012 Integrated Report. In 2019, project partners safely transported mine and mill waste to a repository, where it was buried under an earthen cap. 24,476 cubic yards of contaminated mill tailings were removed from the banks of Cold Springs Creek. Additional waste rock with elevated lead levels were removed from other areas of the site. Post-project sampling indicated that both cadmium and lead levels were below detection in 2021. As a result, cadmium was removed as a cause of water quality impairment in the 2022–2024 Integrated Report, and it appears likely that the lead impairment could be removed in a future reporting cycle.



Mine waste was buried under a vegetated earthen cap at the Cowboy Flat Repository.



<u>An NMED staff member collects samples from Cold Springs</u> <u>Creek, after reclamation.</u>

**St. Marys River, Georgia** is a coastal river that discharges into an ocean estuary. A six-mile segment was placed on Georgia's 2004 Integrated 305(b)/303(d) List of Coastal Streams due to low DO caused by urban runoff from impervious surfaces. In addition to water quality issues, the highly impervious urban coastal riverfront landscape surrounding St. Mary's River was causing nuisance flooding issues in the City of St. Marys. In response, the city installed bioretention systems and permeable interlocking pavers in two downtown areas prone to flooding. Combined post-installation hydrology and water quality was monitored over 12



<u>A full bioretention practice near City Hall (Osborne Street)</u> with monitoring wells in the foreground.

months at both sites (October 2020–September 2021). Data showed a total of 2.34 million gallons (66% of 3.55 million gallons) of runoff infiltrated. In addition, 2,419 lbs (81% of 2,989.7 lbs) of sediment, 41 lbs (77% of 53.6 lbs) of total nitrogen, and 5.73 lbs (70% of 8.16 lbs) of total phosphorus from runoff were removed. Post-installation testing of DO during July 2020–August 2021 showed the average monthly DO concentration was 0.73 mg/L higher during November 2020–January 2021 and 0.47 mg/L higher during April–June 2021.

## Aquatic Life in Big Creek Benefits from Land Conservation Practices (Type 1)



Multiple BMPs were implemented to improve water quality in the watershed, including fencing to keep livestock out of streams (top), a watering facility installed on a concrete heavy use protection area pad (bottom left), and cover crops (bottom right).

Nutrients from fertilizer, livestock, and failing septic systems are detrimental to water quality in Big **Creek, Indiana**. In 2010, three segments of Big Creek and one unnamed tributary were listed on the state Clean Water Act (CWA) section 303(d) list of impaired waters for failure to support aquatic life following a survey that indicated the fish community consisted of mostly tolerant species and few sensitive fishes. In response to a watershed plan developed for the Central Muscatatuck watershed, numerous agricultural conservation practices including cover crops, livestock management, and pasture and hayland planting, were implemented in Big Creek. Additional habitat improvements including wetland construction and vegetative planting were also implemented in the adjacent Big Oaks National Wildlife Refuge. Following project work, a 2019 sampling event showed improvement in the fish community index of biological integrity (IBI) compared to the 2006 sampling, and the four segments were removed from the 303(d) list of impaired waters in 2022.