

CENTRE COUNTY CHAPTER – PA SENIOR ENVIRONMENTAL CORPS

2025 ANNUAL REPORT

STATEMENT FROM THE CCPaSEC PRESIDENT: *The year 2025 brought contrasting conditions to Centre County's streams, beginning with a wet spring and ending with abnormally dry conditions. Despite these shifts, most of the 32 streams monitored by the Centre County chapter of the Pennsylvania Senior Environmental Corps (CCPaSEC) remain in good health. CCPaSEC volunteers collected important physical, chemical, and biological data, supported entirely by grants, donations, and strong partnerships with ClearWater Conservancy, Penn State, and local agencies. While the ongoing impacts of abandoned mine drainage in Beech Creek remind us that some challenges persist, CCPaSEC's monitoring, outreach, and collaborative research continue to play a vital role in protecting local water resources. We also paused in 2025 to grieve the passing of two longtime members whose dedication to clean water and community stewardship continues to inspire us.*

These efforts will continue into 2026, and we are looking forward to the completion of the new ClearWater Conservancy Hamer Community Conservation Center in August.

William E. Smith
Stormstown, PA

Last year was one of extremes for area waterways monitored by the Centre County chapter of the PA Senior Environmental Corps, with an abnormally wet spring and surging flows giving way to a bone-dry summer and the contraction of some creeks and runs into little more than puddles. Yet despite these climate trials, most of the 32 streams monitored by CCPaSEC maintained their health through 2025, according to results of comprehensive testing and measurement conducted by the citizen scientists/first observers of this all-volunteer, nonprofit group.

Founded 23 years ago and now serving as a self-funded committee of ClearWater Conservancy, CCPaSEC operates in partnership with the Centre County Conservation

District, the Retired and Senior Volunteer Program (RSVP) of the Centre County Office of Aging, and several environmentally concerned agencies and organizations. Each month (as weather and staffing levels permit) teams of trained CCPaSEC volunteers fan out across five of the 12 major watersheds draining Centre County lands* to check on the status of streams. Visiting dozens of sites on these waterways, CCPaSEC members collect data on such physical attributes as stream width, depth, flow rate and appearance, as well as chemical properties including alkalinity, pH, specific conductance, dissolved oxygen and nutrient levels. Twice a year, in the spring and early fall, most teams conduct biosurveys of macroinvertebrate populations as a gauge of their streams' overall health. The results of CCPaSEC's efforts can be found on the organization's website, www.ccpasec.org, where years of accumulated data are available for public review and use by interested parties. (Data collected from CCPaSEC-monitored sites in the Beech Creek watershed and posted to www.ccpasec.org were referenced in a 2025 study by Penn State graduate students exploring the role of affected communities in the remediation of streams impacted by abandoned mine drainage.**)

In 2025, the 70 members of CCPaSEC – organized into 14 teams of 3-6 members each – contributed almost 1,900 hours of their time gathering data, attending meetings, interacting with the public and keeping purposeful watch on assigned streams. In the process, they logged more than 11,000 miles (unreimbursed) in their own vehicles. To accomplish their stewardship tasks, CCPaSEC members used equipment and materials purchased entirely through donations and grants. Grants last year alone totaled \$15,666, led by twin \$5,000 awards from the Susquehanna River Basin Commission and the Sierra Club. These and grants from Berkshire Hathaway Energy and the Foundation for Pennsylvania Watersheds were directed toward the acquisition of sophisticated meters measuring dissolved oxygen (a key indicator of stream's ability to sustain life) and "colorimeters" that determine (from subtle color variations in thimble-sized samples) levels of nitrates, phosphorous and sulfates in water – nutrients that in high concentrations can impair a stream's vitality. CCPaSEC ended 2025 with a positive fund balance of \$10,029.17.

Again assisting CCPaSEC in its endeavors last year was Penn State University's Laboratory for Isotopes and Metals in the Environment (LIME), which, as a public service and a generous demonstration of community outreach, has since 2019 provided free analysis of water samples collected by CCPaSEC teams monitoring streams in the Beech Creek watershed, an area long troubled by environmental impacts of such

extractive industries as coal mining and, more recently, natural-gas drilling in the Marcellus shale formations.

As a whole, the state of area streams monitored by CCPaSEC teams in 2025 was steady. And for most streams that was a good thing. Despite extreme seasonal fluctuations in water levels, water quality throughout the region weathered the temporal assaults and ended the year as favorably as it began. Some examples:

- On Wallace Run, a tributary of Bald Eagle Creek that rises as a Wilderness Trout Stream in State Game Lands No. 103 and flows easterly through dense forest then southerly through mixed agricultural/residential areas, CCPaSEC Team #12's monitoring efforts at its two sampling locations found chemical measures consistently within normal ranges. Meanwhile, nettings of macroinvertebrate aquatic life – larvae, nymphs, bugs, worms, crayfish, leeches and the like – conducted in April and September revealed good conditions at the team's downstream site.
- On Bald Eagle Creek itself, Team #3 struggled with the highs and lows of water levels to perform "macros" surveys at its two sites, but was rewarded with good results nonetheless. Members found pH readings (a measure of water's acidity or alkalinity) consistently in a neutral range of 7.0-7.5. The team reported findings at its sites in Unionville and Port Matilda reflected "a clean, healthy stream" with bank erosion checked by manmade stabilization features.
- Team #7, which monitors Buffalo Run, a Class A Wild Trout Stream that ambles 12 miles through Patton and Benner townships before merging with Spring Creek in the borough of Bellefonte, noted "somewhat" higher pH and alkalinity levels at its two sites during low-flow periods late in the year. Still, results of macroinvertebrate surveys performed in May and September 2025 continued to place Buffalo Run among the healthiest of CCPaSEC-monitored streams.
- Consistency was the hallmark of 2025 sampling at two other Spring Creek tributaries monitored by CCPaSEC's Team #1. Although a few readings of nitrates were higher than historical ranges at both Galbraith Gap Run (near Boalsburg) and Slab Cabin Run (above Pine Grove Mills), they were well below the U.S. Environmental Protection Agency's drinking-water threshold of 10 mg/l for this nutrient. (While a naturally occurring product of healthy oxidation in freshwater, nitrates can be a concern at excessive levels sourced to agricultural runoff or other human activity.) Moreover, the team determined these high nitrate readings were the result of testing error, not contamination. Other measured

factors on these streams were consistent with previous years' findings of healthy waters and surroundings.

Unfortunately, a return to consistency in 2025 proved an undesirable outcome for one stream in CCPaSEC's inventory. The main stem of Beech Creek, which forms the boundary between Centre and Clinton counties for several miles of its lower reaches, has long suffered from contamination by abandoned mine drainage (AMD), with resultant depredation of aquatic life and discoloration of its water and streambed by acidic and dissolved-metal pollutants. Among CCPaSEC's 22 monitored sites on 19 streams in the Marcellus-threatened areas of the Beech Creek watershed, the one on Beech Creek proper earned unwanted distinction as an outlier in 2025. There, at the community of Monument, pH of water samples taken since 2010 has averaged 4.86 – a strongly acidic level for surface waters that's untenable for most fish species and much macroinvertebrate life, according to the EPA. After several readings in the 5s and even 6s in the previous handful of years – and a Team #13 report from 2024 that anglers were catching trout in Beech Creek at the mouth of unimpaired Monument Run – sampling visits to the site in February, July and October of last year recorded pH values of 5.29, 4.30 and 4.75, respectively. Measures made in 2025 at the Beech Creek-Monument site of other water-quality indicators – including specific conductance and total dissolved solids – were also disappointing, although dissolved-oxygen levels remained acceptable.

In other 2025 activities, members of the Centre County chapter of the PA Senior Environmental Corps participated in an annual cleanup effort connected with the April observance of Earth Day, collecting 40 bags of trash from Benner Township roads adjoining Buffalo Run and its tributaries. In June, members – joined by representatives from ClearWater Conservancy and the Spring Creek Chapter of Trout Unlimited – provided a display of macroinvertebrates at Family Fishing Day at Tussey Mountain. CCPaSEC teamed with ClearWater and other community and environmental organizations in August to celebrate groundbreaking for The Hamer Community Conservation Center, new home for CCPaSEC's parent organization. The fall found CCPaSEC members participating in September training sessions for the PA Master Naturalist program, and representing the organization at ClearWater's annual meeting in October.

Answering a call from the Keystone Water Resources Center, CCPaSEC membership last May joined staff of the Spring Creek Watershed Association and AmeriCorps to

launch a multi-year macroinvertebrate study of Walnut Spring Run, a tributary of Thompson Run and the focus of an effort by the U.S. Fish and Wildlife Service and the borough of State College to mitigate downstream impacts of stormwater drainage from the borough's Walnut Spring Park, which occupies a small, but intensely developed urban watershed. Initial findings from the macros study indicate poor water quality, with researchers noting many black fly larvae and the presence of invasive New Zealand mud snails.

On a somber note to 2025, CCPaSEC last year lost two longtime members in the persons of Daniel DeLotto and Carolyn Hatley, whose sudden passings in June and August, respectively, were noted with sadness. DeLotto was for many years the leader of a CCPaSEC team that monitored Marcellus-threatened streams in the Beech Creek watershed. An engineer and former high school math teacher, he also oversaw the purchase and maintenance of the group's testing equipment. A retired health care administrator and relentless conservationist, Hatley was at the time of her death vice president of the Centre County chapter of PaSEC. She also headed the team that monitored Slab Cabin Run and Galbraith Gap Run, small mountain streams separated by miles whose waters nonetheless play a large role in shaping the character of Spring Creek. Both DeLotto and Hatley were ardent members of ClearWater Conservancy, and dedicated to the mission that ClearWater shares with CCPaSEC: helping to maintain public awareness of the importance of clean water. Financial donations made in their memory are supporting the work of the linked organizations. And the Reception Area in ClearWater's new community conservation center, slated for an August 2026 opening on a hillside overlooking Spring Creek, will be dedicated to Hatley and her husband, Elwood.

*For a map of what Centre County defines as its 12 "Major Watersheds," refer to (<https://gisdata-centrecountygov.opendata.arcgis.com/datasets/CentreCountyGov::major-watersheds/explore?location=40.947120%2C-78.135227%2C9.68>)

**See "Research Sheds Light On Beech Creek's Struggle With Abandoned Mine Drainage" (<https://www.psu.edu/news/research/story/research-sheds-light-beech-creeks-struggle-abandoned-mine-drainage>)