The Ebb and Flow of *Conewango Creek*

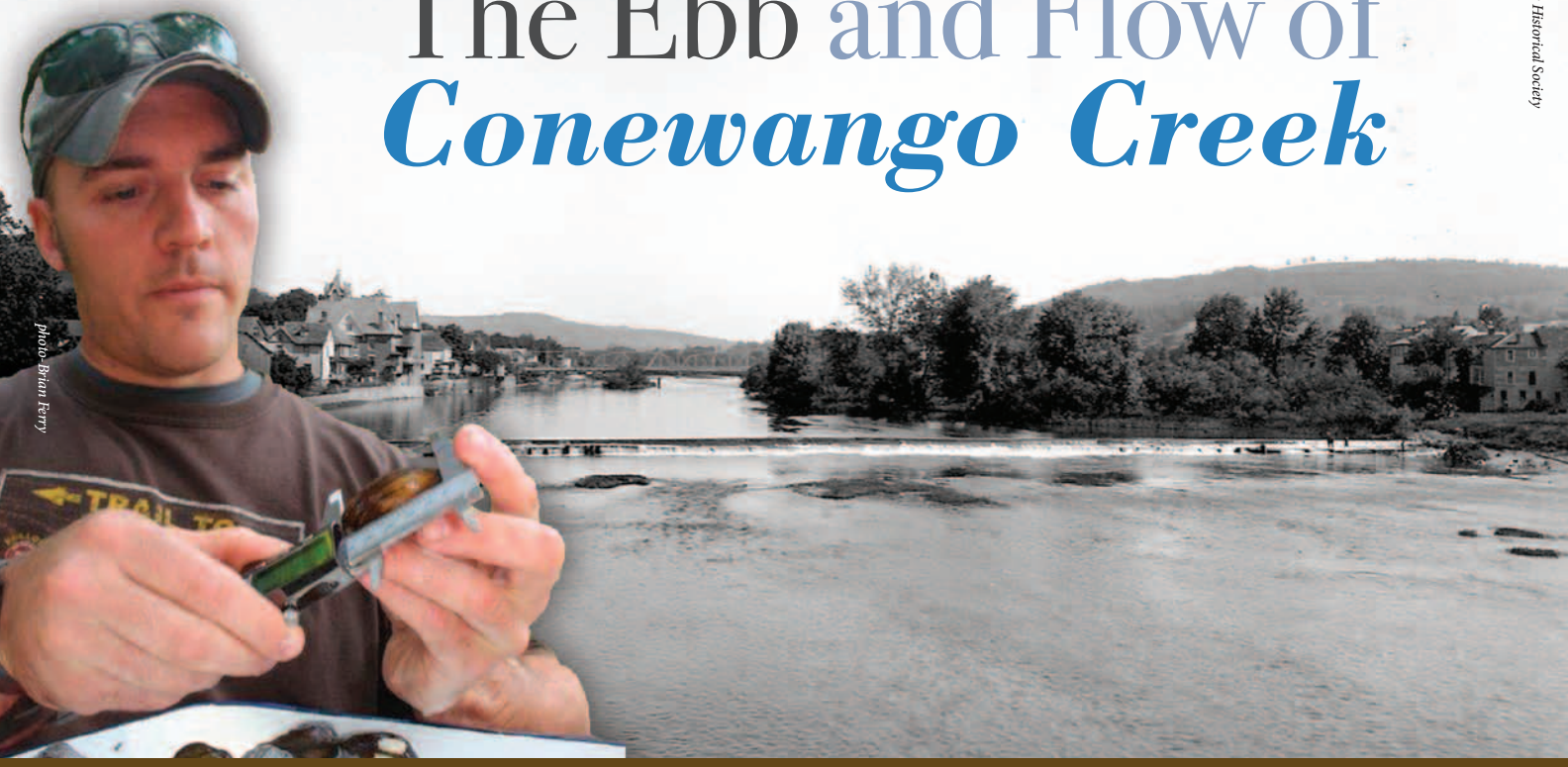

photo Brian Ferry

photo Warren County Historical Society

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Three hundred years ago, the turbid waters of Conewango Creek flowed through present-day Warren County serving as a corridor to the Great Lakes region for Native Americans and an explorer's gateway to the West. Truly the lifeblood of the Allegheny River, Conewango Creek took its name from an Iroquoian word meaning "below the riffles." During this time, a vibrant aquatic community consisting of freshwater mussels like the Northern Riffleshell and Black Sandshell as well as fish species including the Burbot, Paddlefish and Eastern Sand Darter thrived in the creek's lively currents and deep pools.

By the 1850s, European settlers had expanded westward, the timber business was booming and human populations were growing, especially at the junctions of major waterways. One-hundred fifty years of settlement along the Conewango Creek banks had transformed the quiet stream into a working river. According to Jean Gomory of the Conewango Creek Watershed Association (CCWA), "Dams were constructed along the creek to facilitate the rafting of logs to lumber mills, and the backwater of these reservoirs were used as an energy source to power grist mills, sawmills or otherwise served as water supplies for nearby towns and villages." Unfortunately, two dams in particular had unintended consequences for the creek's native inhabitants. The concrete and timber walls of Carters Dam isolated the creek from the Allegheny River and blocked the exchange of fish and mussels between the two waterways. Hospital Dam, located 3 miles further upstream, blocked fish and mussel passage from the rest of the watershed. Ultimately, these barriers combined with water pollution from the unregulated industries of the time contributed to the disappearance of several mussel and fish species, creating ecological voids that persist today.

Free flowing creeks and rivers allow migrating fish, mussels and aquatic bugs to access the diverse habitats they need in order to grow and reproduce. The water quality of our streams and rivers has improved since the 1850s, but aging dams across Pennsylvania still impede fish and mussel movement. In 2009, the aging structure of Carters Dam, which had stood in downtown Warren since 1866, was removed. And, in 2014, the last barrier on Conewango Creek, Hospital Dam, was also demolished. These dam removals were accomplished through effective partnerships among a range of stakeholders including American Rivers, CCWA, Pennsylvania Department of Environmental Protection (PA DEP), Pennsylvania Fish & Boat Commission (PFBC) and United States Fish and Wildlife Service (USFWS). The removal of the dams not only benefitted wildlife but also recreational users such as canoers and kayakers who paddle the popular Conewango Creek Water Trail.

In anticipation of the dam removals, biologists from Western Pennsylvania Conservancy completed a creek-wide

mussel survey to assess the health of the mussel community. They found modest populations of several common species including Three-ridges, Wavy-rayed Lampmussels and Muckets. Surprisingly, a handful of Northern Riffleshell mussels, a species that had not been prevalent in the creek for some time, were also collected. The Conewango Creek watershed historically supported populations of Northern Riffleshell and Clubshell, which are protected as endangered species. Due to habitat fragmentation caused by the dams and poor water quality, both species experienced a significant decline in numbers in the watershed.

The extensive stream restoration work that was completed allowed PFBC and USFWS to develop a project aimed at restoring Conewango Creek's Northern Riffleshell and Clubshell populations. In 2014, nearly 400 endangered Northern Riffleshell and Clubshell mussels were stocked into the creek upstream of the City of Warren. These mussel pioneers will be monitored over the coming years to see how well they survive in their new homes. If all goes well, the data gathered will determine whether additional mussels can be relocated to the creek. Dave Spotts, PFBC Chief of the Division of Environmental Services, explained, "The ultimate goal of the work is to establish a self-sustaining population of these two species. If successful, these efforts would represent a step towards species recovery and may contribute to removal of these species from the endangered species list."

Tagged Northern Riffleshell ready to be reintroduced into Conewango Creek.

Conewango Creek is being honored as the 2015 Pennsylvania River of the Year by the Pennsylvania Department of Conservation and Natural Resources. The title is awarded by popular vote to waterways that citizens of Pennsylvania consider of high importance for their recreational and ecological value. This title is very fitting for Conewango Creek, as many concerned citizens have taken an active role in restoring the health of the creek by participating in events like cleanup days and supporting projects like the dam removals and mussel reintroductions. As environmental professionals, we commend these individuals for their hard work and support. These efforts represent the beginning of a new chapter in the creek's history, a chapter that emphasizes conservation, responsible use and environmental stewardship. The next time you paddle Conewango Creek and are in awe of the natural beauty that surrounds you, please take a minute to recognize the outstanding work that has been done by the people and communities who care about Conewango Creek.

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Conewango Creek during the removal of Carter's Dam in 2009.

Conewango Creek after the removal of Carter's Dam in 2014.