12-10-2015

The Flow of History along Plum Run

Walter Cressler

West Chester University of Pennsylvania, wcressler@wcupa.edu

Follow this and additional works at: http://digitalcommons.wcupa.edu/gna_sp_series

Part of the Public History Commons

Recommended Citation

This Article is brought to you for free and open access by the Gordon Natural Area History & Strategic Plan at Digital Commons @ West Chester University. It has been accepted for inclusion in Gordon Natural Area History & Strategic Plan Documents by an authorized administrator of Digital Commons @ West Chester University. For more information, please contact wcressler@wcupa.edu.
The Flow of History along Plum Run
By Walt Cressler

Plum Run is but a small tributary of Brandywine Creek in Chester County, Pennsylvania, but there are those who love it. It flows for approximately three miles towards the southwest from its sources on the campus of West Chester University to its confluence with Brandywine Creek in Birmingham Township, just downstream from the Brandywine Picnic Park.
Its drainage area of over 3 ½ square miles consists of approximately 48% single family homes, 26% agriculture, 4% golf course, and 2% university property.

Lower reaches of Plum Run towards its confluence with Brandywine Creek. Image: Google Maps

The headwaters of Plum Run are buried beneath the campus of West Chester University, one of the fourteen universities in the Pennsylvania State System of Higher Education. At the time of the institution’s founding as the West Chester State Normal School in 1871, the main branch of Plum Run originated at a spring house on the property of Mrs. Ann Paschall, north of Price Street, between Church and High Streets. Plum Run supplied the water for two ice ponds near its headwaters. At the time, the southern section of the Borough of West Chester consisted mainly of large, open parcels with few buildings. The West Chester State Normal School was housed entirely in one large structure. It was the largest building ever constructed of serpentinite stone, and became known as Old Main. At its beginning, the institution was a two-year academy that provided a state-certified program of teaching norms for prospective teachers. Its neighbor immediately to the west was the Chester County Fair Grounds. Plum Run flowed freely through this landscape for many years, but in aerial photographs from 1946 Plum Run is not visible, so the underground channelizing of the stream in its upper reaches had occurred by then.
Upper Plum Run near the time of West Chester State Normal School’s founding. Image: 1873 Atlas

West Chester University evolved from its origin as a state normal school to become the four-year West Chester State Teacher’s College in 1927, and then West Chester State College in 1960 after it added a liberal arts program. Finally, it became a comprehensive regional university in 1983 as part of the newly created Pennsylvania State System of Higher Education. Meanwhile, the main campus expanded well beyond its initial occupation of a single block. By the time of its 100th anniversary in 1971, the institution had also added a south campus that included athletic fields, a complex to house the health and physical education programs, and a large parcel of woodland through which the east branch of Plum Run makes its way.

In the early 21st century, an ambitious building campaign resulted in new structures that had to contend with the old realities of the Plum Run watershed. For example, the Business and Public Affairs Center broke ground at the corner of Sharpless and South Church Streets in 2014 on the former site of McCarthy Hall, a student residence hall and campus day-care center. Both were built right next to the buried Plum Run. The construction of the new business center was delayed because the water table was higher than expected. Also, to accommodate the larger new building and at the same time to comply with a sixty-foot height limit ordinance, construction had to go much deeper into the ground. Engineering solutions included waterproofing, anchoring piers to bedrock, and using gravity to drain the water table to the pipes bearing Plum Run.
Plum Run flows through a concrete-bottomed brick-arch culvert as it passes in a southwesterly direction under Church Street. From there, the buried drainage line makes a steep gravity drop deep beneath the lawn of Goshen Hall. The stream-bearing pipe lies a full fifteen feet below the manhole cover that’s placed in the middle of the dormitory lawn.
Another block to the southwest, there are two detention basins on the north side of Lawrence Center, a building which houses the university dining hall and student services offices. One of the detention basins was excavated to alleviate stormwater runoff when the Student Recreation Center was built in 2012. Both of the detention basins have inlets that lead down to the buried Plum Run. They represent the last semi-natural open spaces on the university’s north campus and are the subject of study by students in several courses.

Finally, Plum Run emerges from its subterranean journey after it passes under New Street just south of the corner with Nields Street, at the site of the New Street Parking Structure. Plum Run finally is exposed to daylight here, once it has left the campus of West Chester University.
Plum Run as it emerges into the daylight at New and Nields Streets, next to New Street Parking Structure (right), 2015.
Photos: Walt Cressler

Plum Run then passes through the neighborhood in the southwestern corner of West Chester. As it does so, it briefly runs parallel to South Brandywine Street, and passes under a portion of College Avenue that forms a cul-de-sac with South Everhart Avenue. Plum Run exits the borough shortly after it passes under College Avenue and then wends its way through West Goshen Township for about a hundred yards.

Plum Run at South Brandywine Avenue (left) and College Avenue along buried gas line (right)
Photos: Walt Cressler, 2012

When Plum Run then comes out from under PA Route 52, Lenape Road, it enters East Bradford Township. Lenape Road threads its way through the floodplain of the stream as Plum Run meanders towards the southwest, passing under the road several times. Its first swing back under PA Route 52 occurs at Shropshire Drive, where Plum Run contributes to a wetland landscape at the entrance to the Plum Tree neighborhood.
Plum Run at entrance to Plum Tree neighborhood, East Bradford Township, 2012.
Photos: Walt Cressler

Just downstream, Plum Run skirts the eastern edge of a large pond. On the opposite side of Lenape Road from there is Baldwin’s Book Barn. This favorite Chester County establishment has been located here since 1946 and sells used and rare books as well as other collectibles. William and Lilla Baldwin began their business in Wilmington in 1934. When they moved to the present location, the family took up residence in the refurbished milk house and the bookshop was set up in the five-story stone barn, built in 1822.

Photos: Walt Cressler

Baldwin’s Book Barn looks out over the valley through which Plum Run makes a sweep back to the west side of PA Route 52 and meanders through a large open meadow next to the appropriately named Meadowview neighborhood of East Bradford Township. However, a stream flowing through such a meadow without trees to reinforce its banks can subject the surrounding landscape to excessive erosion. In 2014, the Brandywine Valley Association planted trees along this reach of Plum Run, so the view of the meadow is expected to change considerably in subsequent years.
Plum Run meandering through Meadowview in 2012, just prior to extensive tree planting along its banks to prevent further erosion

Photo: Walt Cressler

After meandering through Meadowview, Plum Run then bends back towards the east and passes once again beneath Lenape Road, PA Route 52, just below its intersection with Tigue Road. At this location, the main course of Plum Run is joined by its east branch.

Confluence of its east branch (left) with Plum Run (right), 2012
(Photo makes the east branch appear much larger: Walt Cressler)
The east branch of Plum Run has its origin at the edge of West Chester University’s campus in a detention basin next to the Matlack Parking Structure within West Goshen Township. The entire parking lot next to the School of Music and Performing Arts Center is permeable to stormwater and drains to this detention basin.

The water flows through a pipe towards the southwest and passes under South High Street. Just a few hundred feet to the south on South High Street are a stone marker and a Pennsylvania Historical and Museum Commission sign commemorating the Great Minquas Path.

Great Minquas Path, marker and sign, 2012. West Chester University’s School of Music and Performing Arts Center can be barely seen in the distance in left photo. Photos: Walt Cressler
The Great Minquas Path connected the home territory of the Susquehannocks in the lower Susquehanna River valley with their English, Swedish, and Dutch fur trading partners between there and the lower Schuylkill. The Susquehannocks were an Iroquoian-related people who first established contact with Europeans when they met John Smith of the Virginia colony in 1608. For most of the 17th century their fur-trading network flourished, until they got embroiled in the struggle for its control after the Dutch conquered the Swedish colony in 1655. As a result, Susquehannock numbers and influence diminished dramatically. Through their fur trading network they had imposed themselves upon the territory of Algonquin peoples such as the local Lenape, who referred to them by the unflattering name of Minquas.

The east branch of Plum Run first comes into the light of day on the west side of South High Street behind the West Chester Seventh-day Adventist Church. Its multicultural congregation was established in 1936, and believes the Bible to be the inspired Word of God, keeps Saturday as the Sabbath day, and awaits the imminent return of Jesus.

The east branch of Plum Run behind the West Chester Seventh-day Adventist Church, 2012
Photo: Walt Cressler
The east branch of Plum Run continues behind West Chester University’s Sykes Student Union.

Storm drain to east branch of Plum Run (left); Geo-exchange well being drilled (right), 2012.
Both photos taken behind Sykes Student Union Photos: Walt Cressler

In 2008, West Chester University began to implement an ambitious plan for converting the heating and cooling of campus to a geo-exchange system. Hundreds of geo-thermal wells have been drilled in the parking lots behind Sykes Student Union and elsewhere on campus. In 2015, the project had advanced to the point where the large campus boiler plant could be de-commissioned, fueled for many years by anthracite coal from counties just a little farther north in Pennsylvania.

De-commissioned boiler plant, West Chester University
(Another view of manhole to main stem of Plum Run, in foreground), 2015
Photo: Walt Cressler
The east branch of Plum Run then flows through the Roslyn neighborhood of West Goshen Township. The neighborhood traces its origin to the 1940s, when developer Walter Drayman responded to a sign advertising “40 Acres of Opportunity: $4000.” At Spruce Street the stream flows past the Roslyn Swim Club. The club was established in 1956 on land donated by Walter Drayman to the Roslyn Neighborhood Civic Association, who in turn raised the money to finance its construction. In 1972, further bonds were sold to enlarge the pool to create 25-meter lanes and to build a new bathhouse, a pavilion, and make other improvements. The club is the home of the Roslyn Stingrays, a competitive swim team.

The east branch of Plum Run at the Roslyn Swim Club, 2012

Photos: Walt Cressler

THE ROBERT B. GORDON NATURAL AREA FOR ENVIRONMENTAL STUDIES

Just downstream of the Roslyn Swim Club, the east branch of Plum Run enters West Chester University’s South Campus. This is the location of the university’s athletic fields, the Russell Sturzebecker Health Science Center, and the Robert B. Gordon Natural Area for Environmental Studies. The east branch of Plum Run provides a watery boundary between the athletic fields and the Gordon Natural Area for about a half mile before the stream enters the natural area altogether. The Robert B. Gordon Natural Area of Environmental Studies is woodland of approximately 100 acres owned by the university. It is a valuable research and service-learning resource for students and faculty as well as an environmental asset for the entire community. It is situated along a nearly half-mile long, 100-foot high ridge of predominately Baltimore Gneiss bedrock oriented in a northeast-to-southwesterly direction. Baltimore Gneiss is an approximately billion year old metamorphic rock formation that contributes to the ancient basement rock at the core of what is now the North American continent, but was at that time part of the supercontinent Rodinia. Other rocks in the Gordon Natural Area include diabase that solidified from magma around 700 million years ago that filled rifts in that ancient crust as Rodinia was splitting. Other rifts widened completely to become the ancient Iapetus Ocean, the predecessor of the Atlantic.

The land along the east branch of Plum Run in what is now the Gordon Natural Area was settled by the Quaker farmer George Entriken in the 1730s. He was a member of the Birmingham Friends Meeting. The Entriken family farmed the land for at least five generations. George’s great-great-grandson Lewellyn Entriken (1836-1910) was a farmer and a pork butcher who sold scrapple from a stall at the West Chester Market.
Starting in 1964, the woodland was a subject of studies by Dr. William Overlease, who was professor of biology and ecology from 1963 until 1986. He and his students conducted detailed analyses of the forest composition in order to infer its past and future successional development. The upper portions of the northwesterly facing slope were dominated by Black Oak, a species more tolerant of dry ridges, while the lower slope was dominated by Tulip Poplars and Red Oak. The south slope was dominated by Tulip Poplars, with a considerable amount of hickory of various species and many American Beech saplings. The understory throughout consisted predominately of Flowering Dogwood and Maple-leaf Viburnum, with a lot of Spicebush, particularly where small swampy areas were formed by seepage from bedrock fractures. Dr. Overlease and his students used many subtle details in order to read the landscape. In addition to plant sizes, numbers, and distribution, they also observed former fence lines, traces of old wagon roads, and old home sites. Using these clues, they inferred separate histories for various plots in what appeared at first to be continuous woodland. For example, on the northwesterly facing ridge, a fence line separated a stand of large Black Oaks interspersed with young Tulip Trees from another stand of large Black Oaks mixed with equally mature American Beech. In Dr. Overlease’s interpretation, the Black Oak/American Beech stand had been left to mature as a climax forest, while the Black Oaks of the other stand were the few remaining trees of the older forest that had Tulip Trees grow up in the logged areas in between them. An additional feature of the woodland that Dr. Overlease recorded with implications for its future was the presence of non-native Norway Maples. It is now realized that without proper forest management, these could become the predominant trees of the forest in the future.
As the stream passes under Stadium Road it enters the southwestern corner of the Gordon Natural Area where it flows through the forest succession study plots established in 1967 by Dr. Overlease. The study plots were established on an abandoned cornfield at the southwest corner of Tigue Road and New Street. He and his students monitored the vegetation changes there for 39 years. For the first three years the abandoned cornfield was dominated by annuals such as Foxtail Grass and Common Ragweed. For the following seventeen years, the plots were dominated by perennials, namely goldenrods, asters, and Canada Thistle. By the twenty-first year, woody plants began to provide the majority of the cover. These included Japanese Honeysuckle, and entangled masses of honeysuckle mixed in with Oriental Bittersweet, Multiflora Rose, and Blackberry. Black Locust became the predominant tree, covering nearly half the study site by the end of the 39-year study. Other tree species that established themselves included Black Walnut, White Ash, Box Elder, Red Maple, Black Cherry, Crab Apple, and Flowering Dogwood. The study was continued into the second decade of the 21st century by Gerry Hertel and Kendra McMillin, who served as the stewardship managers of the natural area from 2006 until 2015.
From the time when Dr. Overlease first arrived at West Chester from Indiana in 1963, he pushed for the preservation of this valuable woodland on South Campus. He was initially rebuffed by the Board of Trustees and was told that the woods were to be cleared and the slopes terraced for practice fields. Fortunately, this proposal was turned down by the funding agencies in the state capital as impractical, and the woods were granted a reprieve. By the time the study plots were well established in the late 1960s, West Chester State College was experiencing a period of rapid physical growth. The administration once again began to make plans to develop the fields and woods owned by the institution. At the same time, students on campuses nationwide were experiencing a political awakening. These included two undergraduate biology students named David Fluri and Bradley Gottfried, who petitioned the Board of Trustees of West Chester State College. They had read in the student newspaper that the south campus woodland was going to be developed to build dormitories. They were concerned that the dreams of creating a biological field station would come to an end, a request that Dr. William Overlease had made in 1968. Initial meetings to express their concerns to Dr. Paul Rossey, college president, were unsuccessful. Meanwhile, a change in general outlook was inspired by the first Earth Day in 1970. Among others, Mrs. Webster, a biology instructor, said that she would help. Her husband was an architect. The two students scraped together the $100 fee to pay him to come up with alternate plans for the dormitories that would lessen the impact on the woods. Meanwhile, the college newspaper interviewed Fluri, and many students and faculty took up the cause. Following their next meeting with the president and the Board of Trustees, during which they presented a petition and the alternate plans, the students and their supporters succeeded in having 68 acres of woodland on South Campus preserved in 1971. The preserved woodland was formally dedicated as the Robert B. Gordon Natural Area in November 1973, named after a respected professor of biology who taught at the institution from 1938 until 1964. Robert B. Gordon was a specialist on the natural vegetation of the northeastern United States.
East branch of Plum Run in the Gordon Natural Area, 2012

Photo: Walt Cressler

East Branch of Plum Run

The East Branch of Plum Run begins life as a network of storm-water pipes that "daylight" just south of the University before passing through a residential development. Stream bank erosion is a significant problem in fast-flowing urban streams, and forests such as the Gordon Natural Area (GNA) play a large preventative role by slowing the flow, promoting infiltration and shading the water to keep temperatures cool, oxygen levels high and invertebrate communities healthy and diverse. In the GNA, Plum Run’s water chemistry, invertebrate community and fish begin to improve, largely owing to the vegetation of the stream banks. The stream still remains "impaired" for aquatic life, however, as it flows southward to the Brandywine Creek. You are now standing in the Plum Run Watershed.

East branch of Plum Run sign, Gordon Natural Area, 2013

Photo: Gerry Hertel
Despite its preservation from development, the degradation of the woodland went unimpeded during the subsequent decades. Only minimal upkeep was maintained by the Grounds Department. The main causes of degradation have been over-browsing by White-tailed Deer, the encroachment of non-native invasive plants and destruction of the leaf litter by non-native earthworms, the effects of stormwater runoff, and the wear-and-tear of rampant dirt bike use. In 2002, a group of faculty, staff, and students comprising the Environmental Council of West Chester University developed a mission statement and a list of rules for the use of the Gordon Natural Area. The main goals were to promote education, encourage research, and protect biodiversity. Volunteers assisted in its maintenance. By 2006, a science-based management plan was developed, and Gerry Hertel, a retired U.S. Forest Service biologist, was hired as a part-time stewardship manager. The Gordon Natural Area received its first operating funds from the university administration. A student stewardship manager position was also created and ably filled by Kendra McMillin. Restoration efforts were begun in earnest. In 2012, the Gordon Natural Area Strategic Plan was submitted to the West Chester University administration. That year, the Assistant Deputy of Forest Health of the USDA Forest Service visited and helped further develop best practices for the scientific management of the Gordon Natural Area. During the Gordon Natural Area’s 40th anniversary in 2013, University President Greg Weisenstein added 11 additional acres as a corridor between its two previously disjointed sections. Also in that year, the Gordon Natural Area was designated a Wild Plant Sanctuary by the PA Department of Conservation and Natural Resources. They noted that among the rare species growing within the natural area are Autumn Bluegrass and Nodding Trillium.
The research tradition in the Robert B. Gordon Natural Area for Environmental Studies expanded considerably during the early years of the 21st century in parallel with improved stewardship of the woodland. In addition to continuing William Overlease’s plant succession project, Gerry Hertel studied the effects of deer, non-native plants, and non-native earthworms on the Gordon Natural Area forest ecosystem. He facilitated the implementation of the biological control of Mile-a-Minute weed using weevils, and the physical removal of Garlic Mustard, Amur Honeysuckle, and bamboo using many human volunteers. In association with state agencies, he had traps installed to detect the inevitable invasion of Emerald Ash Borers and Asian Longhorned Beetles. He supervised a vegetation survey, a tree-fall study, and a forest restoration project. Kendra McMillin was integral to the implementation of all of these efforts.

Greg Turner of the Biology Department worked with his students to study changes in the forest understory composition, the distribution of White Oaks, White Ash, and Shagbark Hickories, and the nature of the mycorrhizal associations in the natural area. The latter are the vital interconnections between tree roots and soil fungi that provide mineral nutrients to the trees.
and photosynthesized food products from the trees to the fungi. Jessica Schedlbauer, also of the Biology Department, brought her terrestrial ecosystem ecology classes to the natural area to study soil respiration and the cycling of carbon, water, and nutrients in the system. Harry Tiebout studied the presence of terrestrial salamanders using his specially designed sampling boards. Red-backed Salamanders are the most abundant vertebrate in the deciduous forest ecosystem there, and are an important part of its energy and nutrient cycles. Freshwater ecologist Win Fairchild and his students evaluated sites along the east branch of Plum Run using macroinvertebrates, fish, and chemistry as the basis of their analysis. They found that only one small tributary of the east branch of Plum Run flowing through the natural area was unimpaired, based on the remaining presence of sensitive organisms such as mayfly and caddis fly nymphs. Win Fairchild and a colleague also did a study that included the fish population of Plum Run during which they examined the fish response to winter. The most common fish in Plum Run are three members of the minnow family, namely, Creek Chubs, Blacknose Dace, and Rosyside Dace. They are most abundant in the upper reaches of Plum Run, such as the east branch. They are joined in the warmer months by migratory White Suckers, which then mostly leave Plum Run in winter. White Suckers are most abundant in the wider, deeper water of Plum Run’s lower reaches in the summer. That is also when and where the predatory fish of the sunfish family concentrate, such as Bluegill and Pumpkinseeds. They don’t venture upstream as far as the east branch where the minnows take refuge. Creek Chubs and Blacknose Dace are scarcer in the areas where they are subject to predation, and the Rosyside Dace don’t appear to venture downstream at all. That is, unless the bigger fish had been finding them before they could be detected by the scientists.

Three common denizens of Plum Run’s upper reaches, all members of the minnow family (Cyprinidae)
Left to right: Creek Chub (*Semotilus atromaculatus*), Blacknose Dace (*Rhinichthys atratulus*), Rosyside Dace (*Clinostomus funduloides*)
Photos: Wikimedia Commons, Brian Gratwicke

An abundant summer visitor to Plum Run, a member of the sucker family (Catostomidae)
White Sucker (*Catostomus commersonii*)
Photo: Wikipedia Commons, Brian Gratwicke
Dangerous predatory fish that typically lurk in the lower reaches of Plum Run, sunfish family members and associates (Centrarchidae)

Left: Bluegill (*Lepomis macrochirus*) Right: Pumpkinseed (*Lepomis gibbosus*)
Photos: Wikimedia Commons, Louisville Zoo (left) and Aquarium du Val-de-Loire (right)

Other fish species that are not uncommon in the lower reaches of Plum Run are further members of the sunfish family such as Redbreast Sunfish (*Lepomis auritus*), Green Sunfish (*Lepomis cyanellus*), Rock Bass (*Ambloplites rupestris*), and Largemouth Bass (*Micropterus salmoides*). There are also other minnows there, such as Fall Fish (*Semotilus corporalis*), Cutlips Minnows (*Exoglossum maxillina*), and Common Shiners (*Luxilus cornutus*). They are joined by Creek Chubsuckers (*Erimyzon oblongus*) and Yellow Bullheads (*Ameirus natalis*). Occasional visitors from Brandywine Creek to Plum Run are Smallmouth Bass (*Micropterus dolomieui*), Redfin Pickerels (*Esox americanus*), and Banded Killifish (*Fundulus diaphanus*). Tesselated Darters (*Etheostoma olmstedi*) inhabit the entire stream, but these small bottom-dwelling members of the perch family particularly favor the upper reaches. An occasional released Goldfish (*Carassius auratus*) has been found to survive in Plum Run, but perhaps the strangest and most exotic ichthyological occurrence was the discovery of a distressed African Lungfish (*Protopterus sp.*) that was found in a pool of the east branch of Plum Run at the west entrance to the Gordon Natural Area in 2012.

Lungfish cruelly abandoned to its fate in Plum Run, far from its native habitat
Photo: Gerry Hertel, 2012

In related area of research, Chuck Shorten, an environmental health specialist from the university’s Department of Health, did water quality monitoring along the east branch of Plum Run using many chemical and physical parameters.
Joy Fritschle of the Geography and Planning Department brought her field methods class to the Gordon Natural Area to study carbon storage in the trees using permanent plots that had been established for that purpose.

LeeAnn Srogi of the Geology and Astronomy Department and her students studied the geologic and tectonic history of the Gordon Natural Area, and mapped the distribution of its bedrock formations. They include the aforementioned Baltimore Gneiss and Iapetan diabase, as well as small exposures of serpentinite, which are altered portions of the Earth’s mantle that were thrust onto the continent when the Iapetus Ocean began to close, beginning about 430 million years ago. Hal Bosbyshell installed a seismometer in the natural area to detect the small earthquakes that the region still experiences along its old faults, even though active tectonism ended long ago. The Gordon Natural Area is a good place for a seismometer, since it is far away from data interference caused by the rumbling of trucks. Another member of the Geology and Astronomy Department, the hydrologist and soil scientist Martin Helmke, studied stream velocity and discharge with his students, and investigated the Gordon Natural Area’s soil composition. They found arsenic contamination in the eastern portion of the natural area, in a spot known as the “Old Orchard.” Apparently, heavy use of arsenic-based pesticide took place there during the 1930s and 1940s.

Archaeologist Heather Wholey of the Anthropology and Sociology Department brought her students to the Gordon Natural Area to practice field methods. They screened soil from tree planting pits that were already being made as part of an ongoing forest restoration project. On the north side of Stadium Road near High Street they found undiagnostic porcelain and redware, glass bottles, and creamware that could be dated from between 1750 and 1775 based on when that style was known to be produced. Along the east branch of Plum Run south of Tigue Road west of New Street, they found more porcelain and redware, a post hole, transfer-print pearlware that can be dated between 1787 and 1840, hand-painted pearlware from between 1790 and 1815, and prehistoric lithic flakes that indicate activity by the inhabitants of the area prior to the Lenape.

In addition, the Gordon Natural Area has attracted professors and students of the humanities as well. Kate Stewart of the Art and Design Department has brought her students there to paint plein air landscapes, and William Lalicker of the English Department brought his environmental writing class there for literary inspiration.

More details about the Robert B. Gordon Natural Area of Environmental Studies can be found at its online public showcase on Digital Commons @ West Chester University: http://digitalcommons.wcupa.edu/gna/

After leaving the Gordon Natural Area, the east branch of Plum Run flows through a steep-sided meadow south of Tigue Road where beef cattle could occasionally be seen grazing. The east branch joins the main stem of Plum Run at the end of this small valley just south of where Tigue Road meets Lenape Road, PA Route 52.
Onwards towards the Brandywine

Plum Run near the intersection of Lenape Road and Tigue Road. Photo: Walt Cressler

Plum Run continues to flow towards the southwest, parallel to the southeast side of Lenape Road. It then passes under Birmingham Road near its intersection with Lenape Road. This is the site of historic Strodes Mill, and the former “Home of Strodes Farm Fresh Sausage Scrapple.” Strodes Mill was built in 1721, and was acquired by John Strode, a Quaker farmer, in 1737. The Strode family operated it as a grist mill for almost 150 years. In the late eighteenth century, it used the innovative belt-driven system designed by the pioneering inventor Oliver Evans of Wilmington. The Strodes Mill crossroads was at the center of the British line in 1777 as General Charles Cornwallis arranged his men before they marched off to engage in the Battle of Brandywine. The mill then supposedly provided flour to George Washington’s Continental troops at Valley Forge as they encamped that winter outside Philadelphia, now occupied by the (temporarily) victorious British. In the nineteenth century, Joseph C. Strode operated the mill and was known as “our scientific neighbor” for his patented hydraulic rams. He then became the headmaster of the East Bradford School for Boys, housed in a large serpentine stone building on a hill just across Lenape Road. The school later became a private residence. The mill stayed in the Strode family until they sold it in 1878. The subsequent eleven owners tried different mill-related businesses, including a graham and whole wheat flour mill, a plaster mill, and a cider mill. In the 1950s, it was briefly operated by Pepperidge Farm. Since 1990, it has been home to the Strodes Mill Art Gallery, and for a time housed the decoy shop of Harry J. Waite, Jr.
In the nineteenth century, Marshall Strode established a butcher shop and pork processing plant in the barn across Birmingham Road from the mill. The population of hogs from the surrounding farms was pressed into service to support the business. Marshall’s son, A. Darlington Strode, who was already in the creamery business, took over the butchering operations in the 1870s and sold the sausage and scrapple from a market stall in West Chester. His scrapple may have been in direct competition with the Entriken family’s product. By the 1970s, hogs were being brought from St. Louis aboard double-decker trucks at the rate of 75 to 100 animals twice a week. The Strode scrapple and sausage business lasted until 1987, where it had been a popular brand at the Reading Terminal Market in Philadelphia, selling 5,000 pounds of scrapple a week at the height of its popularity. In the late 1980s, the crossroads property and its buildings were purchased by real estate developer Mark Rowan. He was the owner of several residential properties in West Chester, and the developer of several East Bradford Township neighborhoods, including Plum Run, Plum Tree, the Moors, and the Highlands residential developments. Plans were made to create a small commercial center with a bank and convenience store at Strode’s crossroads, but to retain the historic buildings. These plans were thwarted by a flagging economy. The barn and surrounding property subsequently deteriorated, and Mark Rowan died before any further efforts could be made to develop it. The desire to preserve its historic character persisted in the community. In 2015, his estate sold the property to East Bradford Township with the assistance of state, county, and local funds. The transaction was facilitated by the efforts of local preservationist Linda Kaat, who formed the Friends of Strode’s Mill for that purpose. The purchase included the barn, the springhouse, and the surrounding seven acres of wetland. Plans were made to renovate the dilapidated barn and make it into an interpretive history site, to add a bridge over Plum Run, and to install hiking and biking trails to potentially connect with the proposed Brandywine Trail Corridor. Previously, about 120 acres and eleven buildings at the crossroads had been registered with the National Register of Historical Districts as the Strode’s Mill Historic District, which aided in these further preservation efforts.
There is a small serpentinite outcrop on the west side of Lenape Road across from the gallery at this intersection. Serpentinite is a greenish metamorphic rock that is derived from the Earth’s mantle. It originated just beneath ocean crust that was thrust onto the edge of the continent during a tectonic collision with a chain of volcanic islands that began about 430 million years ago during a mountain-building event called the Taconic Orogeny. Those mountains have long since eroded, exposing the greenish serpentinite at the surface. It was a popular building stone in the late nineteenth-century. Much of it was obtained from Brinton’s Quarry, located in the Radley Run watershed just south of Plum Run.

Farther downstream, a small tributary flows into Plum Run and joins it on the Chesterdale Farm. This farm was established in 1719 and now serves as a private country residence. It has a farmhouse built from the local serpentinite rock in addition to a large field stone barn. In 2012 the Brandywine Valley Association was refurbishing this part of the
watershed as part of its Red Steams to Blue Program. This was part of a major restoration initiative of the Plum Run watershed that took place from 2009 until 2014. The Pennsylvania Department of Environmental Protection had awarded funds for the Plum Run Watershed Renaissance Initiative to the Chester County Conservation District to work in partnership with the Brandywine Valley Association. The purpose of the initiative was to install best management practices on seven private properties along the impaired stream in order to reduce stormwater runoff and sediment, improve water quality, reduce downstream flooding from the impervious surfaces of West Chester, plant a continuous riparian buffer, and engage landowners and the public. The intention was for Plum Run to go from impaired (red, on the stream map) to unimpaired (blue).

Installing a rock deflector to prevent erosion along Plum Run at Chesterdale Farm, 2012

Chesterdale Farm, 2012 Photos: Walt Cressler

On the northeast side of Lenape Road is a large open space associated with the Edgemill Way housing development and a sign that says “Steeplechase at Radley Run.” Farther downstream, Plum Run flows past another housing development built along Lenape Road called, oddly enough, the Radley Run Mews. Radley Run is the next tributary below Plum Run on the east bank of the Brandywine River and its watershed is just to the southeast of this location. Apparently, the name Radley Run has more historical resonance than Plum Run, and its name has been adopted by real estate promoters outside the strict boundaries of its subwatershed. Radley Run does seem to have an even more intimate association than Plum Run with the Battle of Brandywine, the most dramatic historic event to occur in the area. This geographic overextension of historical name association is a miniature version of what has happened to the Brandywine valley as a whole. The cachet of the Brandywine name has been dubiously adopted
by entities outside of its watershed, in Delaware County at its Penn State University branch campus, for example.

As it enters Birmingham Township, Plum Run flows through the Radley Run Country Club and refreshes the water traps of its golf course. This is a further small example of watershed name misappropriation. In any case, the course was opened in 1965 and was designed by Alfred H. Tull. Between 1921 and 1970, he was a pre-eminent architect of 85 golf courses in the United States, Canada, and the Caribbean.

At the southern margin of the golf course, Plum Run flows under Creek Road which hugs the east bank of Brandywine Creek. At that point, the road is also known as Historic Route 100. It carries travelers south along the Brandywine deeper into Wyeth country. After flowing for its remaining few hundred feet, Plum Run enters Brandywine Creek itself. The confluence is just downstream from the Brandywine Picnic Park. Previously known as Lenape Park, it had its start in the late nineteenth century as a popular destination for picnics, family and business gatherings, canoeing, and other recreation and amusements. The park has provided first employment opportunities for many young residents in the area over the years.
Plum Run then merges its waters with the Brandywine River and makes ever wider and deeper connections in time and space. After flowing past Andrew Wyeth’s house and through the landscape made familiar worldwide by his paintings, and after flowing past the du Pont family estates and the remains of pioneering industry along its banks, the Brandywine flows into the Christina River among the high-rise global bank headquarters and chemical factories of Wilmington, Delaware. The Christina River then enters the Delaware River where small ships arrived in the 17th century to establish the short-lived colony of New Sweden. The river widens into Delaware Bay and its waters get saltier as it opens onto the Atlantic Ocean and the rest of the world.

The waters of Plum Run merge with those of the storied Brandywine
Photo: Walt Cressler, 2012

Addendum:
How was Plum Run named? Was it named for the wild plum trees that grew along its banks, gracefully waving plumes of blossoms in the spring breeze, and providing a bounty of fruit in the summer? Well, please let me know if you see any…maybe we should plant some.

American Plum (*Prunus americana*)
Photo: Wikipedia Commons, Homer Edward Price

*Last updated: 10 December 2015*
References


