

Historic Mines of Chesapeake & Ohio Canal National Historical Park

The Chesapeake and Ohio Canal National Historical Park stretches 184.5 miles along the Potomac River in Maryland from Washington, DC, to Cumberland, Maryland. The park contains 4 quarries, 3 mine systems, and 13 natural caves. Limestone, marble, and Seneca sandstone were quarried for use in the construction of the canal, which was in operation 1828-1924. Gold mining was also an important enterprise along the canal. Today, these geologic features provide habitat for wildlife such as, bats and endemic aquatic invertebrates. This article focuses on the historic association of the quarries and mines and their related natural resources of the Chesapeake and Ohio Canal.

Gold Mining

Gold mining in the Great Falls area of Maryland began about 1867, shortly after its discovery near Washington, DC, during the Civil War. A 100-foot mining shaft is located near the present intersection of Falls Road and MacArthur Boulevard and is known as the Maryland Mine. The whole system is called the Great Falls gold mines and consists of two separate mines, the Maryland Mine and the Ford Mine, each containing several shafts. Most of the underground development and production in these mines, now on federal park land, took place between 1915 and 1940, after a company acquired 2,100 acres which included most of the known gold vein systems. Mining operations in the area ceased in 1940, with

incidental prospecting and minor production occurring through 1951. Altogether, the mines around Great Falls produced the majority of the 5,000 ounces of gold from Maryland throughout the whole mining period. In 1940, miners were paid \$1,200 per ounce of gold.

Remaining cultural resources associated with the Great Falls gold mines include the remains of the Ford Mine that collapsed in 1890 and the three shafts of the Maryland Mine. The two most recent shafts, 135 and 210 feet deep respectively, are plugged and are within a fenced enclosure closed to the public.

Quarry Mining

Upriver from the Great Falls gold mines lies the Seneca Mill located near Seneca, Maryland. The stone cutting mill was associated with the canal and it operated from about 1850 to around the early 1900s. The red and gray sandstone milled here was used in many of our nation's most prominent buildings such as, the Smithsonian Castle and the White House. The sandstone cut in the mill was quarried along the canal, as was marble from sites near White's Ferry, Maryland, and at Cedar Point Quarry near Violettes Lock.

Also along the canal near Dickerson, Maryland, lies the Frederick limestone breccia, also called Potomac breccia, calico marble, and Potomac marble. These high quality stones, mined from this vicinity, were first used in the rotunda pillars of our nation's Capitol.

Limestone Mining

An important limestone mining operation along the Chesapeake and Ohio Canal was located on Round Top Hill which rises over 1,300 feet above the Potomac River near Hancock, Maryland. The limestone was mined from seven primary mine openings and was used for making natural cement for the masonry structures of the canal. Round Top Hill Cement Mill, located just below the cliffs, was in operation from 1837 to the early 1900s. Some of the mines probably originated as natural cave openings into the Tonoloway Limestone. The largest mine in the Round Top system has 500 feet of passage and is 20 to 50 feet high. Today, three of the mine openings lie within Chesapeake and Ohio Canal National Historical Park, with the remaining mines located on adjacent State of Maryland land.

1890s photo of Seneca Quarry workers.





Portions of the cement mill ruins are still standing such as, the chimney, kilns, and structure walls.

The Round Top Mines are also important for another reason; the mines are providing habitat for hibernating bats. Three species, Big brown bat, Little brown bat and Eastern pipistrelle, currently hibernate here. In the past, researchers have recorded three other bat species in the area, including the Indiana bat (a federal endangered species), the Eastern small-footed bat (former candidate for federal listing), and the Keen's Myotis (declining in the Northeast). Additionally, six rare aquatic cave invertebrates have been recorded, including two isopods and an amphipod known only to occur in these mines plus troglobytic (cave-adapted) spiders and springtails of unknown species.

Vandalism, destruction of wildlife, and pilfering of historic artifacts have been documented from the Round Top Mines. For example, 11 Eastern pipistrelles were found shot in one of the state-owned mines in 1993 just 50 feet from the park boundary. There is also potential danger to humans from rockfall, unstable footing, and flooded areas in the mines. For these reasons, Chesapeake and Ohio Canal National Historical Park decided to close the three park mines.

Bat gates were installed in the entrances of these mines in July 1994. Roy Powers, from Mountain Empire Community College, designed bat-compatible gates for National Park Service resource managers in order to effectively prohibit human access to sensitive or hazardous caves or mines, while at the same time encouraging movements of wildlife or natural air flows. The specific "bat-friendly" features of the gates include 5-inch vertical spacing between the horizontal bars, providing enough room for bats to fly in and out, but not enough space for humans to squeeze through. [It should be noted that Burghardt (1996) recom-

mends that four-inch vertical spacing be maintained between bars on the lower part of the gate to preclude very small children from gaining entry.] Heavy-duty anchoring and construction and a dual locking system all work to deter persistent vandals. Two of the Chesapeake and Ohio Canal owned mines were fitted with doors and special locks that allow authorized people to enter for resource studies or other appropriate reasons. One mine known not to contain resources was permanently closed. The State of Maryland plans to also gate the mines that are under its jurisdiction this summer.

Bat count data was collected by Fisher and Fisher (1998) in the Round Top mines before and after the bat-compatible gate installation to help evaluate any changes in the hibernating bat population. The four state-owned mines remained ungated throughout the data collection period (1994-1997); the three National Park Service-owned mines were gated in July 1994. Overall bat populations remained stable and no change in the number of bats using the gated or ungated mines was detected. However, a decline in the number of Eastern pipistrelles using Round Top was noted in 1996-1997, which was consistent with other counts in the region. A new bat count conducted in the Round Top mines in February 1998, indicates that the number of pipistrelles has returned to normal.

References:

Fisher, J.C. and Judy Fisher, 1998, *Round Top Mine Survey Final Report 1997*, Chesapeake and Ohio Canal National Historical Park.

Burghardt, John E., 1996, *Bat-compatible Closures of Abandoned Underground Mines in National Park System Units*, National Park Service, Geologic Resources Division.

Dianne Ingram is a Natural Resources Management Specialist at Chesapeake and Ohio Canal National Historical Park, Sharpsburg, Maryland. Her job entails natural resource issues such as, natural resource inventories, wetlands monitoring, and agricultural leasing. She can be reached at 301-842-3279 phone, 301-842-3224 fax, email: Dianne_K._Ingram@nps.gov.

Doug Stover is the Chief of Cultural Resources Branch at Chesapeake and Ohio Canal National Historical Park, Sharpsburg, Maryland. He oversees the Branch's management of 1,276 historic structures, mines, museum collections, cultural landscapes, and archeology. He can be reached at 301-739-4200 phone, 301-714-2232 fax, email: Doug_Stover@nps.gov.